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CNOOC UGANDA LIMITED

ENVIRONMENTAL AND
SOCIAL IMPACT
ASSESSMENT FOR THE
KINGFISHER FIELD
DEVELOPMENT AREA,
UGANDA

Submitted to:

The Executive Director National Environment Management Authority
NEMA House, Plot 17/19/21 Jinja Road, P. O. Box 22255 Kampala, Uganda



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CNOOC UGANDA LIMITED

KINGFISHER FIELD DEVELOPMENT AREA PROJECT, UGANDA - SOCIO-ECONOMIC ASSESSMENT

Submitted to:

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Executive Summary

This report presents the Socio-economic Impact Assessment for the CNOOC ESIA for Kingfisher 3A Block, Hoima District in Uganda (13615730-12964-15) and has been undertaken by Golder Associates in association with Eco & Partner Consult (Ltd). The ESIA has been conducted in accordance with all relevant Ugandan legislation, as well as the International Finance Corporation (IFC) Standards (2012).

The report related to the SIA is divided into eight chapters, viz.:

Chapter 1: Introduction;

Chapter 2: Methodology, including the description of the affected environment;

Chapter 3: Baseline Data, including in respect of the regional and local study areas;

Section 4: Human Rights Assessment, including risks and vulnerabilities;

Section 5: Impact identification, assessment and mitigation/optimisation measures for the Kingfisher Central Processing Facility Local Study Area;

Section 6: Impact identification, assessment and mitigation/optimisation measures for the Feeder Pipeline Local Study Area;

Section 7: Cumulative Impact Assessment Focus Areas; and

Section 8: Conclusions and Recommendations

For the purposes of the SIA, a regional study area and two local study areas have been defined. The regional study area has been defined as Hoima and Kikuube Districts and the sub-counties of Kyangwali (Buhuka, Butoole and Kyangwali parishes); Kabwoya which has Kaseeta parish in Kikuube District and Buseruka (Kabale parish) in Hoima District. The two Local Study Areas (LSAs) are (i) for the Central Processing Facility situated in the Buhuka Parish within the Kyangwali Sub-County and (ii) the Feeder Pipeline area comprising 24 villages within vicinity of the pipeline within a portion of Kyangwali Sub-county (Buhuka, Butoole and Kyangwali parishes) and Kabwoya Sub-county in Kikuube District; and Buseruka Sub-county (Kabale parish) in Hoima District.

Secondary data was collected and reviewed, including a substantial number of studies previously undertaken within the Albertine region, the most recent Uganda Bureau of Statistics census data (2014), data from the Relocation Action Planning for this project, as well as a review of recent aerial imagery through GIS. Primary data collection included focus group discussions, key stakeholder interviews, a sample household socio-economic survey, village level questionnaires and a land use constraints mapping ground truthing exercise.

Based on projections from the 2002 census, the population of Hoima¹ District was expected to grow to 349,204 persons (50.4% males and 49.6% females) by 2014. However, the recent figures from the Uganda Bureau of Statistics (2016), based on the National Population and Housing Census of 2014 shows that the expected growth has been surpassed significantly, with the Hoima district population being measured at 572,986 persons (467,042 (rural); 105,944 (urban)) at the time of the 2014 census. This rapid increase was mainly due the high fertility rates, early marriage patterns (2% of males and 3% of females are married between the age 10 to 14) and immigrants from other parts of Uganda as well as internationally.

There is a relatively equal male to female ratio in the Hoima and Kikuube Districts population, with a higher ratio of female to male in the 20 to 39 years as well as in the 60 plus age groups. Almost 60% of the District's population is below 19 years of age and only 13.59% is above the age of 40 years. Hoima and Kikuube Districts includes a multitude of ethnic groups with a significant shift in the proportional distribution of ethnic groups over the past one and a half decades. Whereas the National Housing and Population Census done in 2002 showed that the indigenous Banyoro and Bagungu formed the largest ethnic groups (comprising about 77% of the population) in 2003, followed by the Alur and Jonam (7%) and Bakiga (4%) this has changed comprehensively, with the project household survey (2013) indicating that 68.9% of household heads reported that they were from the Alur tribe.

¹Kikuube District was carved out of Hoima District in 2015. Most of the literature reviewed in developing this report makes reference to Hoima District.





Village level surveys undertaken during 2017 found that all villages in the Buhuka and Kabaale parishes indicated a predominance of Alur, whereas the Butoole Parish indicated that the Bakiga group comprised the large majority of ethnic presence in 80% of villages, followed by the Banyankole. Out of seven affected villages in the Kaseeta Parish three indicated a predominance of Lugbara, two the Bafumbira, one predominantly comprised of Bakiga and one of Banyankole. Based on the 2013 household survey, it was strongly suspected that some of the Alur households may originate fairly recently from the Congo, with nearly one third of households having moved into the area in the previous five years at that stage and a further near one-third having moved into the area in the previous ten years. The influx of migrants from the Congo was confirmed by the immigration office in Nsonga as well as LC Is from the settlements alongside Lake Albert. The majority of household heads are married in the project areas, with approximately 6% being single mothers and approximately 5% being widows. The local study areas also house a mixture of religious beliefs.

There are continuing indications of tensions between tribal groups in some of the villages first picked up in 2013, which are reported to be driven largely by issues surrounding village leadership and land disputes. However, disputes within villages are strongly fuelled by and/or aggravated by the reported abuse of alcohol and drugs which is a substantial problem, particularly in the KCPFLSA. At the time of the household survey, land related conflicts accounted for 14% of disputes, though there are reports that there has been a substantial increase in land-related disputes in the past two years due to speculation around land, in part fuelled by opportunistic land speculation in both LSAs. It is hoped that the formation of the Buhuka Communal Land Association in the KCPFLSA will be successful in mitigating against further land speculation.

The formation of Hoima Municipality in July 2010 resulted in sharing of a number of education resources which reduced the amount of primary schools and teaching staff, overloading existing educational infrastructure and compromising teacher to pupil ratios which, in some areas are said to be as high as 1:100. All parishes have a shortage of safe drinking water. Commonly reported diseases include respiratory tract infections, malaria, diarrhoea, HIV/AIDS, eye diseases, malnutrition, skin diseases and dental diseases and in general, the Kingfisher LSA has a health profile that is significantly more compromised than that for Hoima and Kikuube as districts. No formal waste disposal services or facilities exist in Kikuube and Hoima Districts. The majority (approximately 98.9%) of the population in Hoima and Kikuube Districts use wood fuel as the most dominant source of energy, symptomatic of the lack of adequate social infrastructure in the district and the LSAs, and the lack of capacity to meet demands.

Education facilities are also lacking in both local study areas. All schools in the LSAs are under-resourced and understaffed, and many children drop out after completing primary school. There appears to be significant gender parity in attendance of schools at all levels although there is a statistically small difference between the percentage of males that finish schooling versus girls in both LSAs.

The district has four main types of land uses namely; agriculture, settlements, forest conservation and wildlife conservation.

Subsistence farming and small scale commercial farming are the main economic activities in Hoima and Kikuube Districts. Both the crop farming and livestock sectors in the various sub-counties are faced with a number of challenges, including unpredictable rainfall, increases in vermin attacks and crop diseases, rudimentary farming practices and land degradation. This, coupled with the demands of high levels of in-migration and associated need for land as well as land take for developments including that related to the project, is leading to shortages of land for cultivation. There is increasing environmental degradation and deforestation because of increases in clearing of land for farming practices as well as for wood fuel and other basic subsistence needs.

Inhabitants of the Buhuka Parish villages directly depend on subsistence fishing activities as a source of food, livelihoods and a cash income. The fishing sector is being threatened by declining catches mainly due to the use of destructive fishing methods such as illegal fishing gear, fishing in breeding areas, non-compliance with regulations and inadequate control of catches.

The main economic activities of villages in the KCPF local study area are fishing and related selling of produce (nearly 70% of households engage in this) and cattle keeping. There is evidence of radical exploitation of fishing for sale into the interior via the escarpment road, with fish catches also being sold locally at markets





and at distant trading posts such as Panyimur, Ntoroko and Bwera. There are numerous reports of declining fish numbers, driven by unsustainable fishing practises and an increasing population engaging in fishing activities. Livestock keeping accounts for a smaller percentage of households but is a substantial socio-economic challenge on both regional and local scale. Livestock numbers are large and there is clear evidence of a high degree of overgrazing already in both the local study area and the sub-county. Very few households grow agricultural produce in the Buhuka Flats, and rather purchase this from suppliers from the top of the escarpment who bring their produce to the daily markets in the LSA. In the FP study area, most villages are involved in subsistence agriculture as well as semi-commercial (cash cropping) to varying degrees. Intensive commercial farming has been encouraged in the area and is increasingly becoming a common feature. All villages are involved in similar economic, semi-commercial and livelihood activities. Semi-commercial agriculture is predominantly related to cotton, tobacco and coffee cash crops. A wide range of other crops are produced, both for sale in the local markets, to traders and for subsistence consumption

The Kingfisher Local Study Area encapsulates 11 fishing villages located on the shore of Lake Albert in the Buhuka Parish, of which five are located in the Buhuka Flats and the remaining six are located to the north and south of the Buhuka Flats. The total estimated household count in the local study area was estimated to be 2,831 in 2013. Hoima District Planning processes estimated that the population in this LSA would have increased to 7,593 people by 2017. However, the village level survey undertaken for this project showed a reported population of 13,600 – almost double that estimated for planning purposes. Increases in population totals in the Buhuka Flats have been driven by a multitude of factors such as regional instability, attractive livelihood opportunities to engage in fishing on Lake Albert subsequent to the building of the escarpment road and, more recently, interest in capitalising from opportunities related to oil and gas developments. The Feeder Pipeline SLA covers 24 villages in 6 parishes located in the Kyangwali, Buseruka and Kabwoya sub-counties. As is the case on the Buhuka flats, the population of the Feeder Pipeline LSA is reported as having grown exponentially to a total of 48,290 across the four parishes, exceeding estimates by more than double.

Apart from endemic poverty and vulnerability, health, food security and education are three of the most prominent social challenges faced by communities in the local study area. Nearly two-thirds of surveyed households had a single household member who had been ill enough to seek medical assistance within the two weeks prior to the survey, whilst nearly half of households had two household members who had been sick enough to seek medical assistance. Common diseases and illnesses include malaria and water-borne diseases such as diarrhoea, dysentery and bilharzia. These diseases are particularly linked to poor sanitation practices in the KCPF LSA as well as poor water supply infrastructure in both areas. Health facilities in both study areas mainly consist of drug shops that serve large populations, with the closest public health facility located further than five-kilometre radius, particularly for households in the FPLSA, and the closest level III health centre for the KFLSA situated in Nsonga. All health centres are under capacitated and understaffed. The household survey established that approximately 60% of households had experienced hunger in the previous six months, exacerbated in both LSAs by factors related to seasonality of agricultural crops and/or fish catch and lack of storage activities and storage facilities.

Communities in the Buhuka area are anticipating that the oil and gas development will provide employment and economic development which will benefit the communities. The main stated needs of the communities are infrastructure-related, including for water, a local road network, education and health facilities. The need for jobs is also a frequently stated need, however at times accompanied by the proviso that payment should ensure higher payment than is currently offered by CNOOC in order to make it more profitable than fishing currently is. There is less direct demand from villagers in the Feeder Pipeline SLA, although the same needs for infrastructure, services and employment opportunities are cited. Communities in the Buhuka area are concerned about land take and that the project will result in displacement of households, as well as expressing concern about noise pollution and CNOOC staff potentially contributing to social problems such as prostitution. Although communities along the feeder pipeline have the same concerns about land take and the potential displacement of households, there is a real concern about in-migration into the area, as well as related to safety issues emanating from the proximity of the pipeline. There is evidence of disinformation aggravating the situation.

From a human rights perspective, the Ugandan Human Rights Commission had undertaken an extensive assessment process during 2013 into the impact of CNOOC in this regard and was satisfied that no violations



had occurred. CNOOC is a signatory to the UN Global Compact and, as such, has pledged itself to the core values related to anti-corruption, human rights, labour standards and the environment. Areas of potential concern moving forward, including fears and issues raised by stakeholders during the consultation process, have been incorporated as a directed process as part of the mitigation measures proposed. The most significant negative socio-economic impact that is expected to arise from the proposed project is an increase in population influx. The rapid influx of migrants directly from the Congo as well as from within Uganda into the Kingfisher LSA is rapidly creating a fragile and brittle social situation in lakeside villages which will need to be addressed as a priority by the GoU in partnership with CNOOC. A Community Development Plan is being developed to manage key development challenges as a collaborative effort between CNOOC, government and civil society. If handled properly, the impact could potentially have positive impacts in that it could bring new skills and expertise into the area and provide a larger economic base to operate from, therefore stimulating economic development and growth. However, the increased population will also place significant strain on already severely under capacitated and lacking social infrastructure, amenities and services, and could increase competition for scarce resources. This impact is expected to commence during the construction phase and will continue throughout the operations phase of the project. In order to mitigate this impact, an Influx Management Plan is being developed to manage population influx as a collaborative effort between CNOOC, government and civil society. Furthermore, the proposed project will result in the displacement of a number of households and the loss of land within both study areas, although significantly more so in the Kingfisher local study area. Other negative socio-economic impacts include the increased demands placed by the introduction of a workforce and community health and safety impacts, the impacts on sense of place as well as that related to light and sound.

The proposed project offers significant positive socio-economic impacts through its provision of employment opportunities and the economic benefits at both a local, district and national level. Such economic development is expected to stimulate direct and indirect markets, and the improved road access will provide easier transport of goods and services between markets – further enhancing the opportunity for economic development. There is significant opportunity for CNOOC to play a direct role in the development of human capital for Uganda through diverse pathways. The proposed community development activities will offer opportunities for buffering against the diminishing resource base, to address nutrition and food security, water supply improvements and livestock and agricultural management programmes.

Cumulatively, the proposed Kingfisher Field Development Area (KFDA) project is expected to form part of the Lake Albertine oil development, which is expected to influence the regional socio-economic environment substantially. This is primarily expected to be driven by changes in the economy of the area from an agricultural and fishing livelihood to provision of services and maintenance related to the oil industry. The cumulative effect of attracting population (influx) is also expected to be more pronounced and therefore it is recommended that a regional influx management plan is developed. Displacement and loss of land is also expected to potentially disrupt a substantial number of communities. There will be a need for a coherent approach to planning, services delivery and development within the entire area to prevent fragmentation and instability. Should the proposed project not proceed, the potential benefits arising from employment and economic development will not be realised. The population influx will continue as currently, and community development will not occur.

The proposed KFDA and associated feeder pipeline are expected to offer significant positive benefits to the local and regional communities and economies, with the potential to channel the population influx into a positive development rather than a negative impact. This will, however, require significant efforts from CNOOC, its partners, government, civil society and communities.



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APPENDICES

APPENDIX A

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Rapid Health Impact Assessment

APPENDIX C

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Assessment





1.0 INTRODUCTION

China National Offshore Oil Corporation (CNOOC), the largest oil and gas producer in China, is a government owned Company, operating directly under the State-owned Assets Supervision and Administration Commission of the State Council of the People's Republic of China. The headquarters for CNOOC are in Beijing. Since its founding in 1982, it has evolved from a purely upstream oil and gas exploration company to an international energy company with promising primary businesses and a complete industrial chain.

In early 2012, CNOOC through its subsidiary CNOOC Uganda Limited purchased a one third interest from Tullow Oil Plc (Tullow) in Exploration Areas (EA) 1, 2 and 3A of the Lake Albert Basin, with the intention that it would subsequently operate EA3A and Tullow and Total S.A. would operate EA 2 and EA 1 respectively. In September 2013, the Ugandan Government awarded the first oil production license to CNOOC Uganda Limited (the proponent), to start the development of the KFDA, with commercial production expected to commence in 2020.

This report presents the updated Socio-economic Impact Assessments for the CNOOC ESIA for the KFDA as well as for the associated Pipeline development from Buhuka through to Kabaale in Kikuube Hoima Districts in Uganda. The Assessments have been undertaken by Golder Associates (international consultant) and Eco & Partner Consult (Ltd) (national consultant). The SIAs as well as the broader ESIA have been conducted according to the International Finance Corporation (IFC) Standards (2012), and all applicable Ugandan legislation.

This specialist study report includes the following sections:

- 1) Introduction;
- 2) Terms of Reference;
- 3) Baseline environment;
- 4) Human Rights assessment;
- 5) Socio-economic impact assessment – Kingfisher Production Facility;
- 6) Socio-economic impact assessment – Pipeline;
- 7) Mitigation and management measures;
- 8) Limitations;
- 9) Recommendations and Conclusions; and
- 10) References.



2.0 TERMS OF REFERENCE

The terms of reference for the social impact assessment are as follows:

- Determine the current social and economic conditions within the study area;
- Analysis of qualitative data collected during focus group discussions;
- A detailed socio-economic baseline;
- Identification of the generic and likely direct and indirect socio-economic impacts; and
- Mitigation measures will be proposed to mitigate negative impacts and to enhance positive impacts, and associated management plans will be developed to manage the impacts.

The methodology that was employed during the socio-economic assessment is outlined in the following sub-sections.

Socio-economic baseline studies have included three main activities:

- Literature review and secondary data collection;
- Primary data collection; and
- Data management: synthesis, interpretation, analysis and presentation.

2.1 Scoping report

The scoping report identified the following scope of work to be completed:

- A detailed socio-economic baseline including biodata, socio-economic status/activities, livelihoods, land tenure systems and land holding, cultural sites, society set up, and other information important to evaluate potential impacts;
- Identification of the generic and likely direct and indirect socio-economic impacts (e.g. the regional influx of migrants and inflationary pressure, effect on land and livelihoods, other socio-economic effects);
- Recommended mitigation measures to minimize the potentially negative impacts and to enhance the potentially beneficial impacts; and
- Development of management plans that will support the proposed mitigation measures in enhancing the positive impacts.

2.2 Scope of work

The scope of work for the SIA was designed to address the relevant requirements of the:

- National Environment Act, CAP 153;
- National Environment (EIA) Regulations, 1999;
- World Bank Operational Policies 4.01; and
- IFC 2012 guidelines and standards (PS 1, PS 5).

The SIA has been carried out in accordance with IFC requirements and Ugandan legislation as expressed in the Terms of Reference and approved by the National Environment Management Authority (NEMA). Issues and concerns are as identified during community consultations conducted in November 2013, March 2014 and November and December 2017. The SIA has assessed impacts associated with the construction, operation and decommissioning phases of the project, according to various infrastructure.





The geographical scope of the SIA covers Kikuube and Hoima Districts and Kyangwali, Kabwoya and Buseruka sub-counties (“regional study area”) and the site-specific issues in immediate project footprint (“Kingfisher Flats Local Study Area” and “Feeder Pipeline Study Area”).

A detailed assessment on community health and safety has not been included in the scope of this study as a detailed health impact assessment is in place, but a general assessment of community health, safety and security impacts is provided. The CNOOC Policies and Commitments outlines procedures for the social management specifications and guidelines as well as the workers’ safety, health and environment policy.

2.3 Other Reports

Comprehensive Reports have been developed that provide (i) a Comprehensive Project Description (Report Volume 3 Chapter 1), (ii) the Environmental and Social Impact Assessment Public Participation and Scoped Issues (Report Volume 3 Chapter 4), and (iii) the Legal and Institutional Framework (Report Volume 3 Chapter 5). The contextual information contained in these reports have served as input into framing the Social Impact Assessment.

2.4 Methodology

The methodology to conduct the socio-economic impact assessment comprised the following activities:

- Defining and confirming of the study area;
- Data collection, including:
 - Foundational secondary data collection during 2013, and updating of existing data through desktop review during 2017 and 2018;
 - Primary data collection, verification and updating through key informant interviews, focus group discussions 2013 and 2017;
 - Foundational sample household surveys during 2013;
 - Village level data collection through village surveys undertaken in 2017.
- Data analysis and interpretation, in order to:
 - Further develop and update the socio-economic baseline;
 - Identify, assess and update socio-economic impacts; and
 - Develop and update appropriate mitigation measures to minimise negative impacts and enhancement measures to maximise positive impacts.

These activities are further detailed in the following sections.

2.4.1 Definition of the study area

For the purposes of the SIA, a regional study area and two local study areas have been defined. These are further defined below.

2.4.1.1 Regional Study Area

The regional study area has been defined as Kikuube and Hoima Districts and the sub-counties of Kyangwali (Buhuka, Butoole and Kyangwali parishes); Kabwoya which has Kaseeta parish in Kikuube District and Buseruka (Kabaale parish) in Hoima District. Where available, secondary data is presented for the socio-economic conditions within these administrative areas.





Figure 1: Hoima District as situated within Uganda (USAID)

2.4.1.2 Local Study Areas

The local study areas include the “Kingfisher Local Study Area” and the “Pipeline Local Study Area”. Two separate study areas have been defined as the Kingfisher Local Study Area comprises a non-linear infrastructure development, whereas the Pipeline Local Study Area comprises a linear infrastructure development.

Kingfisher Local Study Area

The “Kingfisher Field Development Area” (hereafter referred to as the Kingfisher Local Study Area, or the Kingfisher LSA) study area, is geographically located along the eastern border of Lake Albert and is ~15 km long by 3 km wide with an area of 32.3 km². It is situated in the “Buhuka Flats”, a flat area of land between the escarpment and Lake Albert in Buhuka Parish, which is the area where the majority of project infrastructure will be developed. This infrastructure includes the well-pads, the CPF, the drilling camp, the permanent camp and the EPC contractor main camp, inter alia.

The Kingfisher LSA focuses on the villages of Kyabasambu, Kyakapere, Nsonga, Nsunzu and Kiina as the villages closest to the proposed infrastructure (and which are located in the Buhuka Flats) and the villages of Busigi, Kyenyanja, Ususa, Kacunde, Senjojo and Sangarao adjacent to the proposed infrastructure (which are neighbouring the Buhuka Flats areas to the north and south) (see Figure 9). Table 1 below provides an overview of the villages that fall within the direct project footprint, as well as those that are adjacent to the project footprint.





Table 1: Sub-county, parish and villages within the Kingfisher footprint

| Sub-county | Parish | Village Name |
|--|--------|--------------|
| Villages within project footprint area | | |
| Kyangwali | Buhuka | Nsonga |
| Kyangwali | Buhuka | Nsunzu |
| Kyangwali | Buhuka | Kyabasambu |
| Kyangwali | Buhuka | Kyakapere |
| Kyangwali | Buhuka | Kiina |
| Villages adjacent to project footprint area both north and south | | |
| Kyangwali | Buhuka | Busigi |
| Kyangwali | Buhuka | Kyenyanja |
| Kyangwali | Buhuka | Ususa |
| Kyangwali | Buhuka | Kacunde |
| Kyangwali | Buhuka | Senjojo |
| Kyangwali | Buhuka | Sangarao |

Pipeline Local Study Area

The Feeder Pipeline runs from the CPF storage tanks to a delivery point near Kabaale. It leaves the battery limits of the CPF on the east side of the plant, turning northward to the base of the escarpment, where it turns directly east up the escarpment. From this point, the pipeline is routed north-eastward in gently undulating terrain, extensively cultivated and interspersed with rural settlements. The route passes south-east of Hohwa and Kaseeta villages and passes immediately north of the planned Kabaale Airport, turning eastward to the delivery point at Kabaale. The total length of the pipeline is 46 km (see Figure 9).

The pipeline passes through 3 sub-counties, 6 parishes and near 24 villages (refer to Table 2).

Table 2: Sub-counties, parishes and villages within vicinity of the pipeline

| Sub-county | Parish | Village |
|------------|--------------|--------------|
| Kyangwali | Kyangwali | Hanga II A |
| Kyangwali | Kyangwali | Hanga II B |
| Kyangwali | Kyangwali | Kibale |
| Kyangwali | Kyangwali | Ngoma |
| Kyangwali | Kyangwali | Nyasenge A |
| Kyangwali | Kyangwali | Nyasenge B |
| Kyangwali | Kyangwali | Kyangwali |
| Kyangwali | Kyangwali GR | Kyarusheshe |
| Kyangwali | Butoole | Kasoga |
| Kyangwali | Butoole | Kyarujumba A |
| Kyangwali | Butoole | Kyarujumba B |
| Kyangwali | Butoole | Tontema |
| Kabwoya | Kaseeta | Ndongo |





| Sub-county | Parish | Village |
|------------|--------------|------------|
| Kabwoya | Kaseeta | Hohwa |
| Kabwoya | Kaseeta | Nyairongo |
| Kabwoya | Kaseeta | Nyaseke |
| Buseruka | Kyangwali GR | Kitegwa |
| Buseruka | Kabaale | Kabakete |
| Buseruka | Kabaale | Kamukeduke |
| Buseruka | Kabaale | Kataaba |
| Buseruka | Kabaale | Kijumba |
| Buseruka | Kabaale | Nyamasoge |
| Buseruka | Kabaale | Kitegwa |
| Buseruka | Kabaale | Nyaihara |

2.4.2 Data collection

2.4.2.1 Background

An extensive, detailed Household Socio-Economic Survey was undertaken in 2013 in support of the SIA. This survey has provided a rich baseline to work from and to determine what changes have taken place over the past four years. In addition, the Ugandan National Population and Housing Census of 2014, provides additional secondary data to allow update of some of the baseline data used in the 2013 SIA Report.

From a review of the 2013 SIA, coupled with discussions and information from recent datasets, it was clear that there was a need to focus on data gathering approaches that would allow a far more finely woven understanding of the current situation in the study area from a qualitative perspective. A strongly quantitative data approach must be balanced with a qualitative emphasis to ensure that a coherent picture can be drawn of the social and human rights situation currently in the SLAs, as well as in respect of its changing nature.

As well, there has been a need (from the Social as well as the Human Rights perspective) to engage stakeholders (including villagers) on a participative basis and, through this process of engagement, to source relevant primary data and to understand the nuances of daily living within the study areas.

The purpose of the primary data gathering process was to verify and update relevant aspects of the baseline information set out in the 2013 SIA, including (i) how the situation at local level may have changed over the past four years; and (ii) if and how access to services and infrastructure may have changed over this period. As well, the research process would need to promote a thorough understanding of the needs, fears, concerns, aspirations and constraints of stakeholders in the area without prescribing responses, creating uncertainty and/or fear of discrimination, the potential for censure and/or victimisation or allow the perception of project related promises and the creation of unsustainable expectations.

2.4.2.2 Process

The study utilised both primary and secondary methods of data collection through a mixed methods approach. Collection was done during 2013, which provided a foundational basis for the Social Impact Assessment process, and during 2017, which served to update and extend data gathered previously. Primary data collection involved using household surveys, key informant interviews, focus group meetings, village level consultation meetings, records review and narratives. The household survey covered a total of 300 households in five sub-counties in the three study districts. Key Informant Interviews following a semi structured questionnaire were conducted for; LC 1 officials, Sub County chiefs, Chairperson Area land committee Chairperson District Land Boards and Resident District



Commissioner. Structured village level surveys were undertaken in 35 villages across all three sub-counties.

Steps involved in collecting data included:

- Collection and review of secondary data used;
- Primary data collection including:
 - Transect and observational walks or inspections (observation of selected social and behavioural patterns such as latrine usage, etc.);
 - Qualitative interviews with key informants and informal discussions or meetings with the local residents;
 - Meetings with key informants;
 - Qualitative focus group discussions with communities;
 - Sample household surveys;
 - Village level surveys;
 - Rapid participative assessment; and
 - Land use mapping.
- Data entry, verification, triangulation and preparation for data analysis.

2.4.2.3 Secondary data collection

In order to collect relevant data for the proposed project, a set of socio-economic indicators was developed based on various best practice guidelines, legislative guidelines and the terms of reference from NEMA.

These indicators that are used to quantitatively and qualitatively define the socio-economic environment and to measure potential socio-economic impacts and future socio-economic changes include:

- Governance and administrative structures;
- Community and household demographic profiles and characteristics, including:
 - Demographic data related to household and population characteristics;
 - Citizenship;
 - Religion;
 - Health;
 - Education; and
 - Economic- and livelihood activities;
- Public and social infrastructure, services and utilities;
- Social order, security and crime;
- Economic characteristics;
- Land use, capability, tenure and availability;
- Community concerns and issues; and
- Community expectations regarding the project.

Based on these identified indicators, both secondary and primary data were collected.



Secondary data that was collected included literature related to the proposed project and the surrounding environment. Key documents included (amongst others):

- National Development Plan II
- Hoima District Development Plan;
- Topographic, land cover and satellite maps;
- Guidelines for Environmental Impact Assessment for Uganda;
- Other relevant legislation and regulations;
- Uganda Bureau of Statistics (UBOS)
- The Health Impact Assessment;
- The Cultural Heritage Impact Assessment; and
- Other biophysical and environmental specialist studies (e.g. noise, visual, soils).

Additional literature concerning industry best practice and guiding principles of internationally recognised charters/ institutions and /or bodies was also reviewed, including:

- International Association of Oil and Gas Producers (OGP);
- International Finance Corporation (IFC), particularly Performance Standards 1-6;
- The Energy and Biodiversity Initiative's ("Integrating Biodiversity Conservation into Oil and Gas Development"); and
- International Petroleum Industry Environment and Conservation Association (IPIECA).

Secondary data was analysed and used to inform primary data collection methodology and instruments.

2.4.2.4 Primary data collection

Primary data collection for the Production Facility as well as the Pipeline study areas occurred through key informant interviews, focus group discussions, household surveys, rapid assessment, village meetings and village level data sheets. Intensive primary data collection was undertaken during 2013 and 2014, with further primary data collection activities conducted over a period of 23 days starting on the 17th of November up to the 9th of December 2017, specifically aimed at updating all data wherever possible.

Qualitative data collection

Qualitative data was obtained through field observation, focus group discussions and key informant interviews.

Field Observation:

Field visits to both of the study areas during 2013 and again in 2017 provided a good understanding to the local circumstances. Visual observation of types of livelihoods, existing water supply and sanitation facilities, road network, education and health facilities and services and housing conditions was conducted. This information provided additional background and context to focus group discussions and interviews.

Consultation Process:

The focus of the 2013 and 2017 consultation processes have been on human rights and other social issues. Interviews and interaction with local stakeholders were deemed to be a key requirement for understanding the context as well as for confirming and probing the issues and concerns that had been identified during the scoping phase. As well, to understand the positive and negative impacts that stakeholders believed would manifest. This has included a combination of in-depth one-on-one interviews with affected stakeholders, focus group meetings, questionnaire surveys, etc.





During 2017, 58 focus group discussions were undertaken at LCI, LCII, LC III and LC V levels within the Kingfisher study area. In the villages, focus group discussions were held with the youth, vulnerable people, women BMUs and local leaders. In addition, open community consultation meetings and discussions were held to ensure that input would be obtained from as broad and representative group of people as possible. The focus group discussions were conducted to inform the participants about the proposed project, gather baseline information, understand their concerns and experience in relation to the project and obtain input into appropriate mitigation and/or enhancement measures.

Table 3: Focus groups and key informant interviews in the Kingfisher Production as well as the Pipeline Study Areas

| Organisation/community | Administrative unit |
|--|----------------------------|
| Production Department Hoima District Local Government | Hoima |
| Beach Management Unit (BMU) Member-Kyabasambu, Kyakapere and Busigi Villages | Kyakapere, Hoima |
| Department of Education | Hoima |
| District Health Officer, Biostatistician and District Planner | Hoima |
| Kyangwali Sub-county Technical Staff and Political Leadership Consultations | Hoima |
| Buseruka Sub-County Political and Technical Staff Members Meeting | Buseruka |
| Hoima CDO Officer Meeting | Hoima |
| Education Department Meeting | Hoima |
| CSO/NGO Meeting (G.S) | Hoima |
| Hoima District Land Board Meeting | Hoima |
| Bunyoro Muslim Council Meeting | Bwikya Parish |
| Traffic Department (CID Officer) Meeting | Hoima |
| Civil Society Organisation Meeting | Hoima |
| Hohwa Village Meeting) | Hohwa |
| Kabwoya Sub-County Meeting | Kabwoya Sub-County |
| Rugonjo Village Meeting | Rugonjo Village |
| Hohwa Community Members Meeting | Hohwa Village |
| Bunyoro Kitara Kingdom | Bunyoro |
| Anglican Church of Uganda Meeting | Hoima |
| Hoima District Engineering Works Department Meeting | Hoima |
| Human Rights Commission (HRC) Meeting | Hoima |
| Izahura Community Meeting | Izahura Village |
| Nyamulimirwa Community Meeting | Kyangwali Sub-County |
| District Fisheries Division Production Department Meeting | Hoima |
| Nyantai Community Meeting | Nyantai |
| Kyabasambu (Men and Youth) Meeting | Kyabasambu Village |
| Kyabasambu (Women) Meeting | Kyabasambu Village |
| Kyangwali Sub-County Local Leaders Meeting | Kyangwali |
| Beach Management Unit (BMU) Member-Kyabasambu | Kyabasambu Village |





| Organisation/community | Administrative unit |
|---|----------------------------|
| Kyakapere Community Meeting | Kyakapere Village |
| Veterinary Department Meeting | Hoima |
| Lake Albert Nile Perch and Tilapia Fishers Association-, Nsonga, Nsunzu, Kiina, Kyabasambu and Kyakapere Villages | Nsonga |
| Buhuka Herdsmen (Nsunzu) Meeting | Buhuka Flats |
| Kyakapere Community Meeting | Kyakapere Village |
| Nsunzu Community Meeting | Nsunzu Village |
| Buhuka Communal Land Association (BCLA) Meeting | Nsonga |
| Kiina Community Meeting | Kiina Village |
| Hanga IIB Community Meeting | Hanga IIB Village |
| Buhuka Community Elders Meeting | Buhuka Flats |
| VGSLA/SACCO Meeting | Buhuka Flats |

Minutes of all meetings can be found in APPENDIX A.

Quantitative data collection

Household Survey:

During 2013 a household survey was undertaken to gain in-depth understanding of the intra-household situation within each of the two LSAs. Based on the size of the total population, a total target sample of 15% across all households per village was randomly selected for survey. While a total of 395 households had been selected for the survey, a total of 418 households eventually participated in the survey. The specific villages targeted for the survey, their total population at the time of the survey (2013), the initial target number of households for survey per village, as well as the actual number of households per village surveyed.

Table 4: Sample distribution of household surveys

| No. | Village Name | No. of Households Counted | No. of Target Households | No. of Households Surveyed |
|--|--------------|---------------------------|--------------------------|----------------------------|
| Villages within project footprint area | | | | |
| 1 | Nsonga | 361 | 54 | 57 |
| 2 | Nsunzu | 598 | 89 | 86 |
| 3 | Kyabasambu | 127 | 19 | 18 |
| 4 | Kyakapere | 469 | 70 | 75 |
| 5 | Kiina | 273 | 41 | 41 |
| Villages adjacent to project footprint area both north and south | | | | |
| 1 | Busigi | 117 | 14 | 13 |
| 2 | Kyenyanja | 135 | 17 | 31 |
| 3 | Ususa | 261 | 32 | 36 |
| 4 | Kacunde | 231 | 29 | 29 |
| 5 | Senjojo | 150 | 19 | 23 |
| 6 | Sangarao | 109 | 13 | 9 |
| | | 2831 | 395 | 418 |



Village Survey:

A checklist for capturing key village level demographic data was administered to all village chairpersons and LC members of settlements in both the Kingfisher as well as the pipeline study areas. The survey served to gain in-depth understanding of the manner in which the population profile had changed between 2013 and 2017, including establishing numbers of households per village, number of people, major cultural characteristics of each of the villages, as well as the degree to which each village had access to key social services, including educational and health facilities. Interviews were held with LC 1 chairpersons and members.

Key Stakeholder Interviews

Key stakeholder interviews were undertaken with Non-Governmental Organisations and Civil Society Organisations in Kikuube and Hoima Districts. Meetings were also held with the Hoima District Technical Planning Committee, the Land Board, different departments and divisions within the district municipal offices, civil servants from the Kyangwali Sub-county, representatives from the various parishes, lead agencies such as NEMA, DWRM, Department of OSH, Department of Museums and Monuments, the Human Rights Commission, the Bunyoro Kitara Kingdom and the BCLA inter alia.

2.5 Impact Identification and Analysis

2.5.1 Assessment of Impacts

There are virtually no standards or guide limits or criteria to assist evaluation of social impacts although key guidance to assist in assessing the magnitude and significance of social impacts is contained in the World Bank's social safeguard policies and procedures and in the IFC's Performance Standards on Social and Environmental Sustainability and accompanying Guidance Notes.

At the same time, international experience indicates that certain types of impacts occur relatively frequently in most development contexts and are usually considered significant unless demonstrated convincingly to be otherwise in a specific context. These are impacts related to land acquisition and physical and economic displacement; threats to health likely to lead to increase in morbidity and mortality rates; permanent reductions in livelihood and life chances/options for improvement; intra- and inter- community conflict; and threats to human rights. In the same manner, international experience by various organisations and institutions, including the International Petroleum Industry Environmental Conservation Association (IPIECA) inter alia, describes key impacts that can occur in the field of oil and gas developments.

In keeping with Ugandan and IFC requirements and guidelines, the assessment of impacts involved the degree to which the project is expected to affect Valued Environmental and Social Components (VECs). The approach to assessment is VEC-centred, as opposed to project-centred, and focuses on the impact or stresses that multiple projects or developments may have on the future overall health or status of the VEC. Indicators were therefore chosen to reflect the resulting (future) condition of the VEC.

2.5.2 Unit of Analysis

The community level served as primary unit of analysis, with further consideration of the impacts at a local and district (regional) as well as in some instances at national level (secondary units of analysis). The records (i.e. minutes) of interviews, focus group discussions and meetings held with, and the inputs and comments received from individuals and stakeholder groups, were analysed to identify themes or so-called 'natural meaning units' (Giorgio, 1985; de Castro, 2003). The meaning units, as reflective of perceived social impacts and specific sentiments of individual and stakeholder groups provided contextual understanding for interpretation and in respect of the rating of impacts.

2.5.3 Impact Variables

VECs within the study area were initially identified in the Scoping Report (Golder Associates, 2014). These were refined using the process outlined in the IFC Good Practise Guidance document (IFC, 2013), and with reference to the advice provided by the IFC advisory team for the project and based on inputs from stakeholders. The thresholds for social VECs were based on the Ugandan Constitution and



regulatory requirements, Human Rights requirements, IFC prescribed Performance Standards and Project standards related to socio-psychological carrying capacity, vulnerability and resilience.

The following Broad VECs had been identified for the SIA:

- Economic;
- Worker Health, Safety and Security;
- Community Health, Safety and Security;
- Environmental Intrusion;
- Land and Resource Use;
- Population, Infrastructure and Services; and
- Personal, Family and Community Life.

These specific categories have been informed by work during the Scoping phase as well as for the initial Social Impact Report during 2013/2014 and relate to the impacts associated with the construction and operational phases of the proposed development as approved by NEMA for this study.

2.5.4 Impact Rating

A formal impact assessment rating has been completed in accordance with that prescribed for this project by NEMA. This uses the guidance provided by the social and safeguard policies and procedures described by the World Bank and the IFCs Performance Standards on Social and Environmental Sustainability as a point of departure, where the significance of a social risk is defined as a combination of the degree of severity or the consequence of an impact resulting from a specific occurrence, and the probability of such an occurrence. The purpose of the impact classification has been to provide a system for ranking the significance of the impacts in a clear and repeatable way that permits comparison among valued components and categorises the overall impact level for each valued component prior to as well as post mitigation.

Based on the above, the rating is as follows:

Extent + Duration + Magnitude = Consequence

Consequence (Severity) x Probability = Significance

The following rating scale was adopted in respect of each of the rating components:

Table 5: Rating Scale

| Magnitude | Duration | Scale | Probability |
|--------------------------|---|-----------------|---------------------------|
| 10 Very high/ don't know | 5 Permanent | 5 International | 5 Definite/don't know |
| 8 High | 4 Long-term (impact ceases after closure of activity) | 4 National | 4 Highly probable |
| 6 Medium | 3 Medium-term (5 to 15 years) | 3 Regional | 3 Medium probability |
| 4 Low | 2 Short-term (0 to 5 years) | 2 Local | 2 Low probability |
| 2 Minor | 1 Transient | 1 Site only | 1 Improbable |
| 1 None/Negligible | | | 0 No chance of occurrence |

Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: +

Magnitude/Intensity

Magnitude describes the severity or intensity of the effect. To classify magnitude using an ordinal scale (that is, negligible, low, medium, or high) in a manner meaningful for social and individual components,





the effect size must be placed in the context of the valued component. Based on this, attempts to classify magnitude in a meaningful way depends on the historical and socio-ecological context of the valued component. This includes effects of previous and existing developments, population growth and changes of the valued component in the project area on a component-specific basis where appropriate. As an example, a 50% influx of newcomers into the project area from the baseline condition may cause an effect of high magnitude on some valued components, whereas a 5% influx may be sufficient in respect of others, depending on the context.

To derive an overall level of impact magnitude which contributes to understanding the expected outcome for the valued component in a more comprehensive context, the predicted effect intensity was assessed through a lens that factored in a sensitivity value for the valued component. For the purpose of this assessment process, sensitivity was deemed to represent the valued component's vulnerability and ability to buffer against change and stress. Magnitude (intensity) classification has, therefore, been based on the inferred or known ability of the valued component to accommodate the predicted change in condition due to the Project, based on available scientific literature, feedback from those directly impacted on by the development, critical observation and analysis, and consultation with experts. As such, this assessment process considered, amongst other aspects, the valued components resilience, Human Rights related issues and impacts, human capital and access to resources and social services, systems and networks.

Duration of the impact

Duration refers to how long an effect lasts. Duration is described in relation to the phases of the development of the Project within the district, although effects may last longer than the phases of the Project for some valued components. The following framework was used: construction, operations, decommissioning, and far-future.

For the purposes of this impact assessment, the far future is a duration criterion that is meant to capture effects lasting several generations after decommissioning and rehabilitation. This relates to effects that the Project may have on the area's environmental and social sustainability (or not), including cumulative impacts. An additional criterion related to reversibility is considered as a component of reversibility, as some effects may eventually be reversible.

Scale/Extent of the impact

The key criterion for assessment of scale or extent related to the geographical area that would be impacted or how large an area would be affected.

Consequence

The consequence of the potential impacts has been determined according to the main criteria set for defining the consequence of impacts, namely the extent, duration and intensity of the impacts.

Probability of occurrence

The probability rating describes the known or perceived probability of the impact occurring and is described in relation to the likelihood of the occurrence of the impact occurring, rated from a scale of zero probability (no likelihood) to 100% certainty or definite (impact will occur regardless of any prevention measures).

Significance

The significance of the potential impact on the VEC has been determined in accordance with the main criteria set for defining the degree of significance, derived from the multiplication of level of Consequence with Probability of Occurrence.



3.0 SOCIO ECONOMIC ENVIRONMENT

3.1 National Economic Context

According to Fentiman, Kamuli, and Afoyocan (June 2011), Uganda has seen dramatic changes during the past few decades. It has managed to put behind it the negative impact of the political turmoil of 1971-1985, which had a devastating impact on the country's economic and social infrastructure. In this regard Fentiman et al state that "A number of reformist programmes including The Poverty Eradication Action Plan (PEAP), Decentralisation, Poverty Action Fund (PAF), Civil Service reform and Universal Primary Education have contributed to Uganda's progress in making significant strides in improving human development" (p.4)

The overriding national planning framework for the Country is set out in its National Development Plan, which is aligned with the 2030 Agenda for Sustainable Development as well as the Ugandan Vision 2040. The broad focus of the NDP II is on "strengthening Uganda's sustainability for wealth creation, employment and inclusive growth,"¹ in accordance with five priority areas for investment, viz.: (Agriculture; (ii) Human Capital Development; (iii) Infrastructure Development; (iv) Minerals, Oil and Gas; and (v) Tourism.

The Harvard's Center for International Development (CID)² projects that Uganda can be expected to become the second fastest growing economy in the world (behind India) by 2026. The predictions are based on the Economic Complexity of the country's economy, which is directly aligned with the degree to which a country has progressed towards diversification of its economy.

The CID points out that countries at the top of the growth list are, simultaneously ranked amongst the poorest in the world, which highlights the ease with which a country that commences market diversification can grow from a lower initial income base. Therefore, it is acknowledged that the significant gains projected to be made by Uganda are, in large part, due to its current low ranking and the fact that it has not as yet achieved many of the income gains to be had from a diverse, complex economy.

At the same time, if it continues its labour shift from farming into limited manufacturing sectors and an associated more diversified export basket, Uganda is expected to show an annual Gross Development Product (GDP) of 7.5%. It is, therefore, critical that Uganda not fall into the trap of focusing its economy too specifically on oil and gas. Rather, that it ensures that the oil and gas industry becomes a part of a more diverse and complex economy.

Despite the fact that Uganda has shown solid economic growth, there is still significant and wide-spread poverty within Uganda. The UN Multi-dimensional Poverty Index (MPI) provides an accurate and comprehensive poverty gauge related to the intensity of household poverty levels on the basis of multiple indexes related to: (i) Health (Nutrition and Child Mortality); (ii) Education (years of schooling and number of children per household enrolled in school); and (iii) Standard of Living (Cooking Fuel, Water, Sanitation, Electricity, Flooring Type and Household Asset Base). Uganda has an MPI score that is lower than that for much of Africa, including Niger, Guinea and Ethiopia. Whilst the MPI confirms that Uganda is making progress towards reducing global poverty, it stresses that the biggest economic gains have been made in countries or regions where fertility rates have fallen relatively fast.³

¹ National Planning Authority (2015) Second National Development Plan for the period 2015/2016 to 2019/2020 (NDP II) accessed at <http://npa.ug/development-plans/national-development-plan-ndp/>

² Center for International Development (2014) How Should Uganda Grow? CID Working Paper No. 275, Harvard

³ Population Institute, Washington (June 2015, p.14).





Table 6 provides a comparison of Uganda’s status in respect of the MPI (ideal score = 1) as well as its global ranking in terms of population growth (19th highest in the world), as compared to Niger (ranked the country with the most rapid population growth in the world), as well as Guinea (ranked second)⁴.

Table 6: Comparative Population Growth: Uganda and Other Fast-Growing Countries

| Select Countries (for comparative purposes) | Multi-Dimensional Poverty Index (MPI) Score | Global Ranking | Percentage Increase from 2014-2050 |
|---|---|----------------|------------------------------------|
| Niger | 0.584 | 1/91 | 274% |
| Guinea | 0.548 | 2/91 | 106% |
| Ethiopia | 0.54 | 3/91 | 72% |
| Uganda | 0.359 | 18/91 | 155% |

In accordance with the NDP II, there is the aspiration to achieve a middle-income target of a per capita income of USD 1,039 by the year 2020. This will require sustained growth over the next two years that is higher than 10%, more than twice the current growth rate being achieved.

The unemployment rate has been measured as increasing from a low base of 1.9% in 2005/2006 through a 4.2% rate in 2009/2010 to a total of 9% of unemployment for the 2012.2013 period, with a male to female ratio of 46:54. The unemployment burden was marginally higher for rural areas (10% of people) than that compared for urban households at 8%. The unemployment rate in the Midwestern Region where Hoima and Kikuube Districts fall was reported to be 7.5%.⁵ As a comparison, the year on year unemployment figure for the United States of America for this period was close to 7%⁶.

Although the relatively low unemployment rate may have been a factor of definition⁷, the 2014 Action Aid Uganda Report which deals with unemployment amongst Ugandan Youth⁸ gives reason for concern from an economic as well as a stability perspective. The report finds that youth unemployment stood at a full 62% in 2014, while 12% of all Ugandan youth between the ages of 12 to 30 years (the defined Ugandan youth group) may be considered chronically poor, with the age group 12 to 17 facing a bigger disadvantage load and more severe poverty rates than that found amongst the youth group aged 18 to 30.

The Report points out that, given the fact that 80% of the Ugandan population falls into the 12 to 30 age group, there is cause for concern. “Despite being the majority of the population and the bedrock of the labour force, the optimal contribution of the youth to the development of the country is hampered by unemployment, low skill level, limited opportunities and vulnerability”⁹.

Additional factors that impact the economic stability of the country include the fact that, at current rates of deforestation, Uganda could lose all its forests by mid-century with severe repercussions for its poorest people, contributing to and exacerbating soil degradation, declining food security, disease and conflict. And although abundant oil and water resources could help drive economic development,

⁴ Population Institute, Washington (June 2015, p.14)

⁵ Uganda National Household Survey Report 2012-2013

⁶ US Government (2015) Regional and state unemployment—2014 annual averages accessed at https://www.bls.gov/news.release/archives/srgune_03042015.pdf

⁷ In this instance, unemployment is defined as people who are not employed but are actively seeking employment. A more realistic figure would be obtained by focusing on the percentage of the population not in employment, education or training (NEET) population.

⁸ AAU, DRT, UNNGOF (2012). Lost Opportunity? Gaps in Youth Policy and Programming in Uganda

⁹ Ibid





progress will be negatively impacted by climate change and environmental degradation. "Internal conflict could also hinder development, as could a reduction of foreign assistance as a result of the proposed anti-gay legislation".¹⁰

3.2 Social Context

Uganda has been identified as the eight fastest growing country in Africa¹¹ According to the 2014 Uganda Population and Housing Census (UPHC) results, the total population of Uganda was 34.6 million persons in 2014. This represents an increase of 10.4 million persons from the 2002 census. During this period, the population of Hoima and Kikkube Districts grew from 343,618 people in 2002, to 572,986 in 2014, more or less in line with the growth at national level. At the same time, it is uncertain to what extent population totals take on board the number of refugees who have attained Ugandan citizenship, or the number of refugees who have entered Hoima and Kikuube and have opted not to enter a refugee settlement.

The country has been identified by USAID as having a high priority for family planning as well as for Maternal and Child Health Programmes (MCHs). Given the poverty and economic imperatives, it is welcome that "...the president of Uganda has recently retreated from his longstanding opposition to family planning, paving the way for the expansion of family planning services and information. Experiences in other developing countries have shown that such changes in government policy or position can have a significant impact on population trends and, as a consequence, reduce a country's demographic vulnerability. Given the importance of this factor in addressing Multi-dimensional Poverty, this policy change is an important one.

Table 7 provides a comparative overview of the Total Fertility Rate¹² for Uganda in relation to Niger and South Sudan, as well as the Natural Rate of Increase (the rate that equals to the population increase or decrease from births and deaths, without factoring in migration). From this, it may be seen that despite the fact that Uganda has a lower total fertility rate than South Sudan (5.9:7.0), the Natural Rate of Increase for Uganda is significantly higher than that of South Sudan.

Table 7: Uganda: Population Growth¹³

| Select Countries (for comparative purposes) | Total Fertility Rate (TFR) | Natural Rate of Increase | Population: Mid-year 2014 (millions) | Projected population 2050 (millions) | Percentage Increase from 2014-2050 |
|---|----------------------------|--------------------------|--------------------------------------|--------------------------------------|------------------------------------|
| Niger | 7.6 | 3.90% | 18.2 | 68 | 274% |
| South Sudan | 7.0 | 2.40% | 11.7 | 39.9 | 236% |
| Uganda | 5.9 | 3.40% | 38.8 | 104.1 | 168% |

Being one of the poorest countries in the world, Uganda faces an ongoing demographic challenge. Its population over the past 65 years has grown from 5 million to 38 million. The latest projections indicate the population could grow to 104 million by 2050. The prospect of economic opportunities such as those created by oil and gas exploration as well as political instability in countries like the DRC, are

¹⁰ Population Institute (2015: 44), Washington

¹¹ Ibid

¹² The term Total Fertility Rate is defined by the United Nations as the "average number of live births a woman would have by age 50 if she were subject, throughout her life, to the age-specific fertility rates observed in a given year. Its calculation assumes that there is no (child) mortality. United Nations Organisation (undated) http://www.un.org/esa/sustdev/natlinfo/indicators/methodology_sheets/demographics/total_fertility_rate.pdf

¹³ Population Institute (June 2015, p.31) Washington





contributing factors to this population growth insofar as that they act as pull factors for in-migration of refugees and migrants from other countries with fewer opportunities. “While political violence and lack of economic opportunities remain significant push factors (in the DRC), new opportunities in destination countries have also contributed to this growth” (Migration Policy Institute)¹⁴.

3.3 Institutional Governance Context

The local government structure in Uganda is based on a decentralised local government system (see Local Government Act, 1997) with a tiered system based on five administrative levels, from LC V to LC I, some of which (LC V, LC III and urban LC IV) have local government (decentralised power/authority), while LC I and LC II are only administrative levels without constituting local government entities. The leadership structure of the districts and urban councils consists of several levels, with the LC system (LCV at district level, LCIV at municipal level and LCIII at town council or SC level, while there is LCII at parish/ward level and LC I at cell/village level). The District Local Government (DLG) is governed by the District Local Council (DLC). The Urban Local Government (ULG) is directly administered by the Urban Local Council at the municipal and town council level. The LCV chairperson is the political head of the district, while the mayor is the political head of the municipality. The LCIII chairperson is the political head of the town council, division or SC. The Chief Administrative Officer (CAO) and Town Clerk are the technical heads of the civil servants in the district and municipal or town councils respectively. All local council representatives at the different levels are elected according to the Local Government Act, 1997.

Article 77 of the 1995 Constitution of the Republic of Uganda establishes the District Local Councils and spells out their functions in Article 79. The Local Government Act, CAP. 243 establishes the following Statutory Bodies:

- District Local Councils (DLCs);
- District Executive Committees (DECs);
- Standing Committees (SCs);
- District Service Commissions (DSCs);
- District Land Boards (DLBs);
- District Public Accounts Committees (DPACs); and
- Contracts Committees (CC).

The statutory Bodies of council are in place to offer support functions to the District Council. The council is composed of directly elected representatives from sub counties and town councils; and special interest groups as established by the Local Government Act, 1997.

3.4 Refugee Situation and In-Migration

Uganda hosts an estimated 1.3 million refugees. It is Africa’s largest refugee hosting country and one of the top five worldwide. Throughout 2017, Uganda responded to three concurrent emergency influxes: South Sudan, the Democratic Republic of Congo (DRC) and Burundi. The profile of new arrivals is characterized by a high proportion of women and children, currently representing approximately 84% of the new arrivals. The country has one of the world’s most compassionate refugee policies in the world, which grants migrants land to build a home and enjoy rights to travel and work that are practically unheard of elsewhere. This compassionate refugee policy has resulted in Uganda welcoming 800,000 people escaping conflict and famine in South Sudan.

¹⁴ www.migrationpolicy.org





The government continues to strengthen the refugee-hosting environment through the Settlement Transformative Agenda included in its five-year National Development Plan II (NDP II 2016-2020). The UN Country Team and the World Bank are supporting the Government of Uganda through the Refugee and Host Population Empowerment (ReHoPE) strategy, which is integrated into the UN Development Assistance Framework for Uganda (UNDAF 2016-2020). These strategic initiatives are aligned with the Comprehensive Refugee Response Framework (CRRF) of the New York Declaration on Refugees and Migrants. Uganda was the first country to officially roll-out the CRRF (UNICEF, 2018; UNHCR, 2018).

Refugees in Uganda moving from settlements, have been provided with arable land for crop production wherever possible. Drought has however hampered food production by both refugees and local farmers. The allocation of land to refugees has become an issue of growing complexity, given increasing land scarcity, growing refugee numbers and unresolved land issues. This is aggravated by the ready granting of Ugandan citizenship to applicants presenting at Nsonga in Buhuka and elsewhere. At Kyangwali, the growing refugee camp is likely to experience increasing pressure on land and suitable living arrangements.¹⁵

In May 2018, the UNHCR issued a statement that between mid-December 2017 and March 2018, the population in the Kyangwali Refugee Settlement had increased from more than doubled from 36,713 to 68,703 as a direct result of an influx of refugees specifically from the DRC.

With refugee settlements in Uganda almost at maximum capacity there are plans for new settlements to be built to deal with the continuing influx of people. A cholera outbreak in the settlements has left at least 42 dead and many hundreds severely affected.

The World Food Programme anticipates providing food and nutrition for up to 1.6 million refugees this year. Fighting in DRC between the Hema and Lendu communities has seen villages being burnt and dozens killed in the fresh outbreak of violence (ibid).

Without relief in sight, the cracks are beginning to show. Initially, the UN expected roughly 300,000 South Sudanese refugees to come to Uganda in 2017. Just three months into the year, the estimate rose to 400,000. As a single settlement, Bidi Bidi has become the world's largest refugee camp, and accommodates at least 270,000 refugees. It was closed to new arrivals in December 2017 to prevent overcrowding. Since then, new settlements have been opened roughly every two months.

Filippo Grandi, the UN's high commissioner for refugees, said Uganda was now "at breaking point". "Uganda has continued to maintain open borders," said Ruhakana Rugunda, Uganda's prime minister. "But this unprecedented mass influx is placing enormous strain on our public services and local infrastructure." At the South Sudan and DRC borders into Uganda refugees following a formal immigration process, wait for days to make their way through the system, the un-tenability is growing increasingly evident. "The pace at which people are coming is faster than the rate at which we are registering, so there's a backlog of unregistered persons," said Solomon Osakan, an official with the Ugandan government. "Unfortunately, funding has also not been going at the pace at which refugees are arriving."¹⁶

3.5 Regional Study Area

3.5.1 Location and Administrative Set up

The regional study area comprises Hoima and Kikuube districts located in the Western region of Uganda. Hoima District is bordered by Buliisa district to the north, Masindi district to the northeast, Kyankwanzi district to the east and Kikuube district to the west and south west. Kikuube district is bordered by Hoima district to the north east, Kagadi district to the south, Kakumiro district to the southeast and the Democratic Republic of Congo (DRC) across Lake Albert to the west.

¹⁵ UN High Commissioner for Refugees (April, 2017) Uganda Refugee Situation Report <https://reliefweb.int/report/uganda/unhcr-uganda-factsheet-march-2017bid>

¹⁶ Source: <https://www.theguardian.com/global-development/2017/apr/03/uganda-at-breaking-point-bidi-bidi-becomes-worlds-largest-refugee-camp-south-sudan>



Hoima district comprises one municipality (with four divisions of Bujumbura, Busiisi, Kahoora and Mparo), one town council (Kigoroby), and five sub-counties (Buseruka, Kigoroby, Kitoba, Buhanka and Kyabigambire) with a total district population of 572,986¹⁷. Kikuube district comprises five subcounties of Buhimba, Bugambe, Kiziranfumbi, Kyangwali and Kabwoya. The 2014 Census defined urban areas to include only the gazetted urban centres' (City, Municipalities, Town Councils and Town Boards). Based on this, there were deemed to be six urban councils in Hoima. However, 21 Town Boards were approved by the Minister of Local Government in October 2014¹⁸. Hoima Municipality is the main municipal, administrative and commercial centre of Hoima district, which serves the wider central Albertine Graben in western Uganda¹⁹.

3.5.2 Institutional Governance

In line with the Local Government Act, 1997, Kikuube and Hoima District Councils are composed of directly elected representatives from the various sub counties and town council; and special interest groups as set out in Table 8. The two elderly councillors (male and female) representing the whole district are not yet in place.

Table 8: Hoima District Council Composition by Constituency in 2015

| County | Directly Elected Councillors | | | Youth Councillors | | | People with Disabilities | | | Total | | |
|--------------|------------------------------|----------|-----------|-------------------|----------|----------|--------------------------|----------|----------|-----------|-----------|-----------|
| | M | F | Total | M | F | Total | M | F | Total | M | F | Total |
| Hoima MC | 4 | 2 | 6 | 0 | 1 | 1 | 0 | 0 | 0 | 4 | 3 | 7 |
| Total | 15 | 9 | 24 | 1 | 1 | 2 | 1 | 1 | 2 | 18 | 11 | 29 |

The Council has 5 standing committees, as well as the District Executive Committee (DEC) which monitors implementation of district development programmes and services delivery. Some councillors are reported to have performance capacity gaps which is said to lead to underperformance in the execution of their roles and functions, especially at lower levels.

3.5.3 Demographics

3.5.3.1 Population Size, Growth and Density

Based on projections from the 2002 census, the population of Hoima and Kikuube Districts was expected to grow to 349,204 persons (50.4% males and 49.6% females) by 2014, with an annual population growth rate of 4.87%²⁰. The more recent figures from the Uganda Bureau of Statistics (2016) (National Population and Housing Census, 2014), however, shows that the expected growth has been surpassed significantly, with Kikuube and Hoima districts population being measured at 572,986 persons (467,042 (rural); 105,944 (urban)) at the time of the 2014 census.

This exponential increase compared to estimates, is further borne-out by the figures from the Socio-Economic Village Level Survey undertaken in November and December 2017. The actual count exceeds even that of the 2017 figures of the Planning Unit, Hoima District. For example, the household survey places the Kyakapere population at 3,700²¹, whereas the Planning Unit's estimate was 1,402.

¹⁷ Hoima District Development Plan, 2015 - 2020 .

¹⁸ Ibid

¹⁹ Ibid

²⁰ Hoima District Local Government, 2011

²¹ Socio-Economic Village Level Survey for Kyakapere

(2017)





Increases in population totals are largely driven by in-migration and a decline in mortality rates, according to the Hoima Municipal Council²². This growth is in line with that projected by Golder Associates (2014), in their “Influx management strategy and framework plan: Kingfisher Project”. The Framework Plan had noted a 100% increase in settlements in the preceding 10 years, predicting a further equivalent influx due to “obvious opportunities such as the Kingfisher and other oil projects in the Albertine region” (p. i) (executive summary).

From Table 9 below, it can be seen that there is a relatively equal male to female ratio in Kikuube and Hoima Districts population, as an average. There is a higher ratio of female to male in the 20 to 39 years as well as in the 60 plus age groups.

From a stable development perspective, it is important to note that almost 60% of the District’s population is below 19 years of age and only 13.59% is above the age of 40 years.

Table 9: Total population by age group and sex, Hoima District, 2014

| Age group | Male | Female | Total |
|-----------------|----------------|----------------|----------------|
| 0-9 | 101,896 | 94,936 | 196,832 |
| 10-19 | 68,260 | 68,553 | 136,813 |
| 20-39 | 78,684 | 82,798 | 161,482 |
| 40-59 | 29,431 | 27,687 | 57,118 |
| 60+ | 9,635 | 11,106 | 20,741 |
| District | 287,906 | 285,080 | 572,986 |

In 1991, the population density of Hoima and Kikuube Districts was 56 persons/km², which was lower than the national average of 85 persons/km² at that stage²³. During 2011, the population density was estimated at 145 persons/km², which had increased to 176.8 persons/km² by 2014²⁴. This figure more than doubled at district level, increasing to “432 persons per square kilometre” (p.8) according to the Hoima Municipal Council Development Plan (2016-2020) (preliminary results). Similar to the population figures, the district has seen significant densification from 1991, with a five-fold increase. This is in contrast to the national population density reported to be in the order of 207 persons/sq. km in 2016, according to the World Bank collection of development indicators, compiled from officially recognized sources.

3.5.3.2 Population Movement and In-Migration

Lake Albert plays a key role in the socio-economic support of the Ugandan and DRC people. Population movement across the lake between the two countries is significant and there has been an upsurge in in-migration and settlement along the shores of Lake Albert from the DRC. Based on information from the Immigration Officer manning the Immigration Office at Nsonga, Ugandan citizenship is provided to Congolese citizens on a discretionary basis from this office, particularly if they already have other family members residing in Uganda (personal communication, December 2017).

According to United Nations High Commissioner for Refugees (UNHCR) and Office of the Prime Minister, “while there are still a significant number of new arrivals from the DRC, there are fewer arrivals coming across on Lake Albert. This is due to reports of movement restrictions on civilians in Ituri region, DRC, as well as bad weather on the lake. The average influx was reportedly down to 683 persons per

²²Hoima District Development Plan, 2015-2020

²³ Hoima District Local Government Report, 2011

²⁴ Uganda Bureau of Statistics (2014). National Population and Housing Census - Area Specific Profiles – Hoima District





day for the month of March 2018. From January to March 2018, the arrival of over 60,000 Congolese refugees has exceeded planned arrivals for the year. All new arrivals have been granted prima facie status and biometric registration is on-going. Over 2,500 unaccompanied and separated children have been identified²⁵. Unaccompanied children coming into Uganda were provided with appropriate care, including foster care where this was required.

In May 2018, the UNHCR issued a statement that between mid-December 2017 and March 2018, the population in the Kyangwali Refugee Settlement had increased from more than 36,713 to 68,703 as a direct result of an influx of refugees specifically from the DRC. It further noted that almost 70,000 people had arrived in Uganda from the DRC since the beginning of 2018 as they escape violence in the Ituri province, with the majority of refugees arriving by boat across Lake Albert.

It is uncertain what percentage of arrivals across Lake Albert was comprised of unaccompanied minors. As well, it is also not certain what proportion of Congolese found their way to one of the refugee settlements, or became integrated into settlements, particularly around Lake Albert. At the same time, it is clear (based on the growth rate for the Kyangwali Refugee Centre during the December 2017 to March 2018 period), that significantly less than half of these 7,000 DRC refugees (a maximum of 31,990) from the DRC arriving in Uganda via Lake Albert, found their way to this Refugee Centre.

In addition to migrants and refugees from other countries, the Hoima District has had in-migration from other areas of Uganda of persons seeking opportunities for survival and for profit. In this regard, in an interview in June 2017, Grace Mugasa the Mayor of Hoima Municipality Council stated that there had been a soaring population influx into the area since oil had been discovered. This massive increase in population had not been foreseen or planned for, so “our resources are depleted even before the year ends,”²⁶

Between 2002 and 2014, Hoima municipality has seen the second highest population growth rate for a local government unit at 10.7 per cent, after Wakiso district, according to the 2014 national population and housing census report. At least 100,126 people now live in Hoima town, according to figures from the Uganda Bureau of Statistics. As a result of the increased economic activity, Mugasa said, Hoima was upgraded to municipality status²⁷.

3.5.3.3 Population Age and Gender

In Hoima and Kikuube Districts, children under 18 years of age make up 58.2% of the population of 572,986. The ratio of males to females is more or less equal although this was not uniform across sub-counties. Early marriage patterns and cultural and religious beliefs preferring large families as a source of sustenance and as a form of social security have contributed to high fertility rates and population growth²⁸.

The high percentage of children between the ages of 0 to 8 years (31.9%) has significant development related implications over the development life span, and it will be critical for the Ugandan government to ensure that there are systems in place that will allow the development needs of this vulnerable group to be addressed. Fundamental aspects to be taken into consideration are, as an example, the fact that up to 75% of children within Kikuube and Hoima Districts to not have birth certificates, as compared to an approximate 33% nationally. Where the birth of children is not adequately recorded, planning cannot be adequate. It is not clear how it is intended to roll out the 2015 Registration of Persons Act at local level. What is certain is that it will require a well-resourced process.

²⁵ UN High Commissioner for Refugees (April, 2017) Uganda Refugee Situation Report <https://reliefweb.int/report/uganda/unhcr-uganda-factsheet-march-2017>

²⁶ Twaha, A (June 14 2017) Hoima Faces Pressures of Being an Oil-Bearing Town, accessed at <http://observer.ug/business/53335-hoima-faces-pressures-of-being-an-oil-bearing-town.html>

²⁷ Ibid

²⁸ Uganda Bureau of Statistics (2016). The National Population and Housing Census 2014 – Sub-County Report, Kampala, Uganda





3.5.3.4 Ethnicity, Citizenship and Religion

The National Housing and Population Census done in 2002 showed Hoima and Kikuube Districts (including the areas through which the road and pipeline route pass) to have a multitude of ethnic groups, with the indigenous Banyoro and Bagungu forming the dominant tribes comprising about 77% of the people, followed by the Alur and Jonam (7%), Bakiga (4%), Lugbara and Aringa (3%) and others (9%).

The Project Social Survey, undertaken in 2013²⁹ showed a rich cultural diversity with patterns that differed in the Buhuka Parish, where the main tribes at that point were the Alur (44%), Bagungu (28%), Banyoro (11%) and Banyankole (5%). Most household heads were reported to be from the Alur tribe (68.9%), with (89%) of these reporting being Ugandan, with 11.5% of respondents indicating that they were Bagungu. The Banyoro, Bakonjo, Baganda, Batoro, Bakiga, and Bamba were also represented, as well as Rwandan, and other Congolese and Ugandan tribes. A total of 83% of household heads interviewed stated that they were married.

Data collection and consultation during 2013 found that there was a substantial presence of Congolese nationals within the villages (42.4% of the population in Kyakapere, 22.4 in Kyabasambu and 6.3% in Nsonga³⁰. Whilst the majority of the population were from the Alur tribe, residents in the area believed that a significant (but unspecified) proportion of the Alur population in the area had originated from the DRC and had fled conflict in their country to settle in the Lake Albert area. According to informal discussions, the residents expressed the belief that such migrants/refugees were often uncomfortable about declaring their real nationality (for fear of being ostracised by the community or being repatriated by the Ugandan government)³¹.

Results of the 2013 socio-economic household survey, undertaken amongst a sample of households, indicated that the most spoken and written language at that stage was Alur (refer to Figure 2), corresponding with the largest tribe in the area. The second most used language in the area was Swahili represented by 31%.

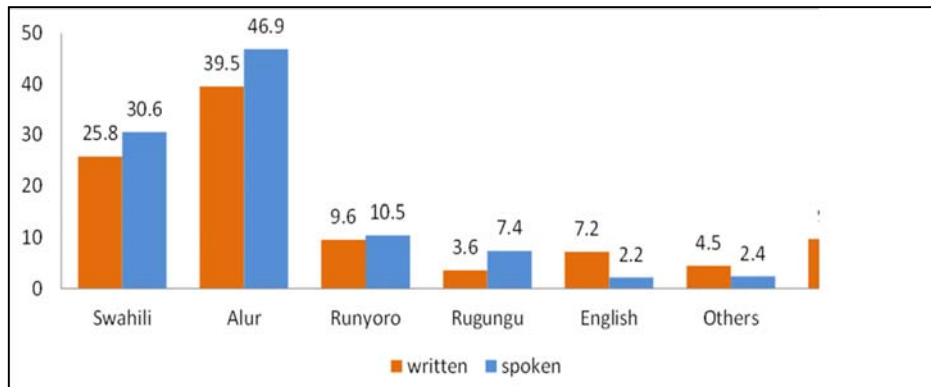


Figure 2: Distribution of household heads by languages spoken and written

During fieldwork undertaken in late 2017, LC I chairpersons who are responsible for village level governance, indicated that there had been a significant influx of migrants and refugees from the DRC who had taken up residence in villages along the Lake, and estimated that as many as 70% of the villagers residing in settlements along Lake Albert originate from the Democratic Republic of the Congo

²⁹ The Kingfisher 4 SIA (2013) found that Congolese Nationals made up 42.4% of the population in Kyakapere, 22.4% in Kyabasambu and 6.3% in Nsonga

³⁰ Golder/Eco & Partner (2013) Kingfisher 4 SIA

³¹ Golder/Eco & Partner (2014) Environmental and Social Impact Assessment for the CNOOC Uganda Ltd Kingfisher Project in Hoima District, Uganda





(DRC), with some harder to reach settlements being virtually completely made up of Congolese. Based on discussions with stakeholders, including the Nsonga Immigration Officer,³² the in-migration of migrants and refugees from the DRC is facilitated by the fact that a large percentage of Congolese already have family members who live in Uganda. As well, that there are significant language similarities and that Alur, in particular is spoken in villages on the Buhuka Flats as well as within the Ituri Province of the DRC, which lies immediately adjacent to Lake Albert. The Alur tribe, which forms part of the Luo group is one of the predominant tribes in the Buhuka Flats area and has member clans that reside both in Uganda as well as in the (DRC).³³

Although not yet very pronounced, ethnic tensions exist in the villages and the social team observed arguments about community leadership and in one case, fears of being excluded from focus group discussions. These tensions appear to be prevalent in the villages on the Buhuka Flats (Production Facility) as well as along the escarpment (Pipeline) and are reportedly increasingly driven by concerns about resource availability now and into the future, including land, as well as historic tribal tensions.

In a study undertaken by the Bunyoro Kitara Kingdom³⁴, reference is made to the manner in which patterns of settlement within Kikuube and Hoima districts, in particular along Lake Albert, are causing distortions in traditional populations. In this regard, it is stated in the Report that “Currently there is cultural dilution caused by immigrant ethnic tribes taking advantage of the oil boom. This development is upsetting social harmony due to conflict over the use of scarce resources including land. New settlements are making ever-increasing demands on the very limited public investments in the area for social amenities like schools and health facilities. This also results in tensions and calls for increased public investment into these amenities so as to cope with the growing volumes.” The Report further states that: “More important to note is that new ethnic groupings migrating into Bunyoro Kitara Kingdom are coming with large herds of domestic animals, grabbing Bunyoro lands and hiding behind rich government officials. The Omukama warns that whoever is acquiring even an inch of Bunyoro land is doing it illegally and will thus lose it at an appropriate time”³⁵.

Religious beliefs co-exist in the Local Study Area (LSA) including Anglican, Catholic, Moslem, Pentecostal and numerous other faiths such as Church of God, and Church on the Rock International. There are also African traditional churches, which include the Alur African Church (Lam the Kwaru), and Faith of Unity (Itambiro). According to the Hoima District Local Government (2011), Catholics were the largest religious denomination (44%) in Kikuube and Hoima Districts followed by Anglicans (41%), Moslems (5.1%) and Pentecostals (3.1%).

3.5.4 Health

3.5.4.1 General Aspects

In 2013, Hoima and Kikuube Districts had 54 health units including a government owned hospital with about 200 beds, located in Hoima Municipality. The Ministry of Health³⁶ further reported that there was a total of three level IV health centres (one run by an NGO), 32 level III health centres of which five were run by NGOs, and 18 level II health centres, with five of these being run by NGOs. These are distributed throughout the sub-counties.

³² Golder (2018) Stakeholder Engagement Report (Minutes of Meeting with the Immigration Officer, Nsonga, Buhuka Parish, Uganda

³³ The Africa Institute (undated) The Alur People. Accessed at <https://www.africa.upenn.edu>

³⁴ Yolamu Nsamba and other Cultural Leaders of the Bunyoro Kitara Kingdom (2012) Action Orientated Research to Strengthen Bunyoro Kitara Kingdom to Defend her Cultural Heritage from Negative Impacts of Oil and Gas Industry development in Uganda

³⁵ Ibid, 2012:16

³⁶ Ministry of Health: Health Infrastructure Division (2012:1) Master Health Facilities Inventory





Based on the 2014 population census, 73.2% of households live within a five kilometre radius of either a private and/or a public health facility, whilst 60.5% of households live within a five kilometre radius of the nearest public health facility.³⁷

In the order of 90% of the population surveyed as part of the 2013/2014 Socio-Economic Household Survey indicated that they lived within an 8km catchment area, and 94% of the population indicated that they lived within 5km of a government or PFNP health unit. Access to healthcare facilities has been facilitated by the improvements in the road infrastructure, including the building of the escarpment road. At the same time, the Buhuka Health Centre II is the only facility found in Buhuka Parish and all the communities within Buhuka Parish depend on this facility. Distances travelled to reach the facility range from 100 metres to 10 km, depending on the village. The need to travel longer distances to access health services is supported by data obtained via the Uganda National Household Survey (2012/13, p.xii.), which reports that only “thirty five percent of Government health centers visited by persons who fell sick are within a radius of 5 km from the population”.

Table 10 provides an overview of the specific service delivery focus areas, provided by the various levels of health facilities³⁸

Table 10: Service Delivery by Level of Health Facility

| Level of Health | Unit Target population | Services provided |
|---|------------------------|--|
| Health Centre I (Village Health Teams) | >1,000 | Community based preventive and Promotive Health Services. Village Health committee or similar status |
| Health Centre II | >5,000 | Preventive, Promotive and Outpatient Curative Health Services, outreach care, and emergency deliveries. |
| Health Centre III | >20,000 | Preventive, Promotive, Outpatient Curative, Maternity, inpatient Health Services and Laboratory services |
| Health Centre IV | >100,000 | Preventive, Promotive Outpatient Curative, Maternity, inpatient Health Services, Emergency surgery and Blood transfusion and Laboratory services |

Some NGO facilities within the broader project area include the Bujumbura Health Centre, Muntebe, Azur Clinic, Kabalega Medical Centre, EDPA Medical Services, Divine Clinic, Doctor’s Clinic and the Supreme Moslem Council Health Centre etc. (Lewis, Kityo and Kagoda, 2006).

Table 11 presents basic comparative demographic and health indicators for Hoima and Kikuube Districts for 2011³⁹ and 2014⁴⁰, as well as at national level for the same periods.⁴¹ Generally, Hoima District’s health indicators are less favourable in comparison to national Ugandan indicators, with a higher prevalence of HIV/AIDS in Hoima and Kikuube Districts, inter alia, said to be due to high levels of commercial sex trade at the fishing villages on Lake Albert.

³⁷ UBOS (2017) National Population and Housing Census 2014:Area Specific Profiles –Hoima District

³⁸ Ministry of Health: Health Infrastructure Division (2012:1) Master Health Facilities Inventory

³⁹ Hoima District Local Government Report, 2011

⁴⁰ The Republic of Uganda; Hoima District Local Government; District Development Plan 2015/2016 – 2019/2020; June 2015; <http://npa.ug/wp-content/uploads/2017/05/Hoima-DDP-2015-2020.pdf>

⁴¹ Republic of Uganda; National Population and Housing Census 2014; Main Report; https://www.ubos.org/wp-content/uploads/publications/03_20182014_National_Census_Main_Report.pdf



**Table 11: Basic Demographic and Health Indicators for Hoima and Kikuube Districts**

| Indicators | Districts (2011) | Districts (2014) | Uganda (2011) | Uganda (2014) |
|---|------------------|------------------|---------------|---------------|
| Population (No) | 523,300 | 572,986 | 33,000 | 34,634,650 |
| Population Density(Persons/Km2) | 144.9 | 156 | 123 | 123 |
| Growth rate | 4.7 | 4.3 | 3.5 | 3.5 |
| Sex ratio | 100 | 99.8 | 95.8 | 95.8 |
| Average Dependency Ratio | 108.4 | - | 113.0 | 103.3 |
| Average household size (no.) | 4.9 | 4.5 | 6 | 6 |
| Infant Mortality Rate (per 1,000 live births) | 87 | 53 | 49.5 | 43.9 |
| Child Mortality (under 5 years/1000) | 85 | 85 | 131 | 64 |
| Maternal Mortality (per 100 000) | 437 | 435 | 505 | 505 |
| Percentage of females aged 15-49 | 21.6 | 21.6 | 43.6 | 43.6 |
| Stunting (%) | 26.5 | 26.5 | 39 | 39 |
| Wasting (%) | 8.5 | 8.5 | 4 | 4 |
| Under weight (%) | 19.5 | 19.5 | 24.5 | 24.5 |
| Total goitre rate (%) | 25.7 | 27.9 | 33.8 | 33.8 |
| Fertility rate (%) | 6.9 | 6.7 | 6.6 | 5.4 |
| Life expectancy at birth (years) | 51.7 | 54.742 | 57.80 | 63.6 |
| HIV Prevalence rate | 6.4% | 8.2% | 6.1% | 6.1% |
| Population per doctor | 49,920 | 28,769 | 15,678 | 15,678 |

The overall life expectancy at birth for Hoima and Kikuube Districts increased from 51.7 in 2011 to 54.7 years in 2014⁴³ for both genders, as compared to a national average of 63.6 years, with a life expectancy at birth of 63 years (males) and 64.2 years (females).

The total fertility rate (TFR) for Hoima and Kikuube Districts has remained high at an average of 6.7 children per woman, as opposed to the 5.4 TFR at national level⁴⁴. Women of child-bearing age (15 – 49 years) comprise 21.6% (113,033) of the population in Hoima and Kikuube Districts. Nationally, the TFR declined from 7.1 children per woman in 1991 to 5.4 children per woman in 2014⁴⁵.

3.5.4.2 Key Health Indicators

Hoima and Kikuube Districts are characterised by the following key health indicators, inter alia:

- A life expectancy of 54.7 which is significantly lower than the National average of 63.6 years;
- High fertility rates of 6.3 per woman, as opposed to the national rate of 5.4;
- High numbers of people per doctor (28,769, which is almost double the National average). Currently the Buhuka Health Centre II is the only facility found in the Buhuka Parish. All

⁴² Although the UBOS 2014 Area Specific Profile for the Hoima District states that the current life expectancy at birth for Hoima residents is 63.6 years (which is the national expectancy rate), the national statistics which discusses life expectancy per district points out that it is 54.7 years as noted

⁴³ National Population and Housing Census 2014 Area Specific Profiles

⁴⁴ Population Institute (2015: 44), Washington

⁴⁵ Uganda Bureau of Statistic, 2014, p.16



communities within the Parish depend on this facility, with distances travelled to reach the facility ranging from 100 metres to 10 km, depending on the village;

- A range of commonly reported diseases that are similar to those experienced nationally. They include respiratory tract infections, malaria, diarrhoea, HIV/AIDS, eye diseases, malnutrition, skin diseases and dental disease. Bilharzia and onchocerciasis (also known as river blindness) are common along the shores of Lake Albert. Malnutrition, as well as a lack of clean drinking water and sanitation cause frequent occurrence of gastro-enteritis. Worm infestation and consequent anaemia are also widespread in the District (Lewis, Kityo and Kagoda, 2006);
- A child mortality rate (under 5 years/1000) of 85, which is significantly higher than the National average of 64;
- Maternal mortality is slightly less than the National average, with 435 deaths per 100,000 live births, as opposed to 505 at national level (however, the national average varies per source, with the stating that the national maternal death rate is as low as 343 per 100,000 live births. This is possibly attributable to different survey methods utilised; and
- Infant mortality rate: The infant mortality rate for Hoima is more than double that of the national average (88:43). The author emphasises that infant mortality is the most important indicator of health outcomes in a society as it reflects the infant and pregnant women's health, in addition to the state of health development within the society. "It is more sensitive to policy changes such as decentralisation than other health indicators like life expectancy and total death rate, and therefore is a better measure of health status."⁴⁶

3.5.4.3 Disease and Illness

During the 2013 socio-economic survey undertaken for the Project, nearly 70% of the households interviewed had experienced an illness in the previous 14 days which was severe enough to require treatment. Most of these were children less than 3 years of age. Figure 3 below shows that diarrhoea was the most frequently reported illness, followed by dysentery and bilharzia. The former two diseases are typically related to poor water and sanitation conditions – with the survey confirming that, where households treated their water before use, the prevalence of illness was reduced significantly.

Commonly reported diseases included respiratory tract infections, malaria, diarrhoea, HIV/AIDS, eye diseases, malnutrition, skin diseases and dental diseases. Bilharzia and onchocerciasis are common along the shores of Lake Albert. Malnutrition, lack of clean drinking water and sanitation cause frequent occurrences of gastro-enteritis. Worm infestation and consequent anaemia are also widespread in the district.

Most survey respondents (95%) were aware of the risks of HIV/AIDS, having been sensitised by Tullow and CNOOC health education efforts. Not all were as clear about the main causes of the disease with only 69.1% indicating that infection was due to unprotected sex with an infected person. Nearly 63% of the respondents said that they had lost relatives to HIV/AIDS. This is, on average, 3 persons per household. However, Fentiman et al. (2011)⁴⁷, report that Uganda is the only nation in the world that has substantially reduced its HIV infection rates, which has dropped from a high of 18% to an estimated 6.5% since 2001.

⁴⁶ Lewis, Kityo and Kagoda, 2006, as confirmed by the Kyangwali Sub County Health Inspector, 2017

⁴⁷ Fentiman, A., Kamuli, E., and Afoyocan, J. (June, 2011). *Gender in East Africa: Girls against the odds. The Uganda pilot study. Gender report 2*. The Centre for Commonwealth Education.



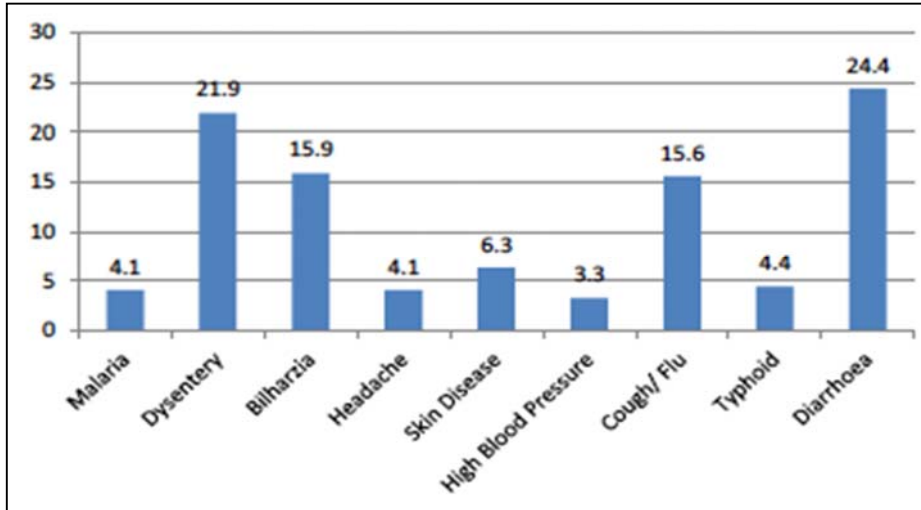


Figure 3: Illness Profile for the Study Area (2013 Socio-Economic Household Survey)

Malaria is a major problem for children under 5 years. Diarrhoea and cough are main problems and their incidence is higher among children aged 6-18 months. The Burden of Disease (BoD) profile appears to be maintaining more or less the same pattern over the period 2014 to 2017 across the baseline areas, with malaria, colds, skin disorders and urinary tract infections (UTI⁴⁸s) as the most common disorders. Dysentery and typhoid fever are more pronounced in Buhuka HC II and Kyangwali HC III catchment areas and is largely attributable to the sanitation gap and lack of access to safe water (see Figure 4 below). Figure 4 provides an overview of the Burden of Disease (BOD) in respect of the top ten reported diseases within the Project Area Sub-counties.

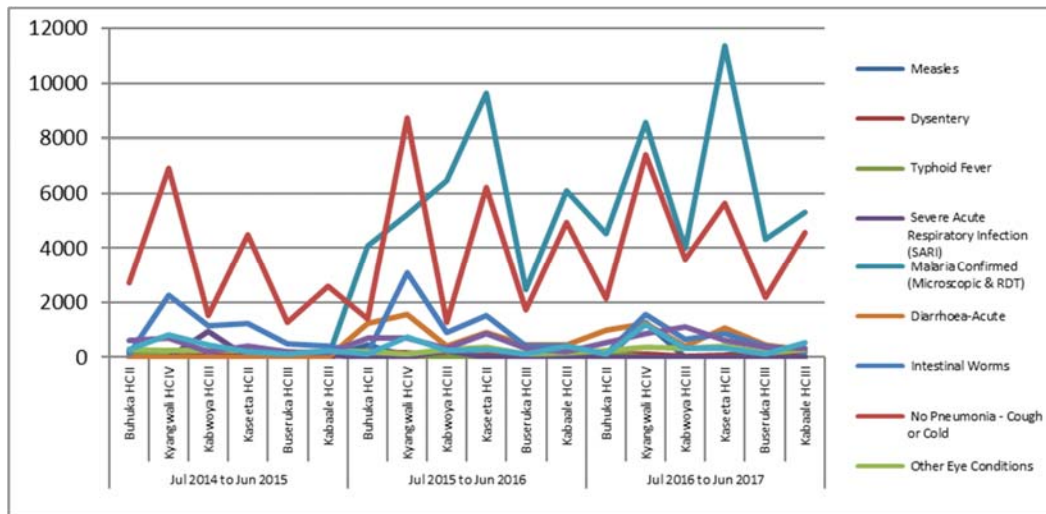


Figure 4: Burden of Disease (Top 10) in the Project Area Sub-counties⁴⁹

Field reports show a declining trend in cholera cases. This is attributed to key interventions in disease surveillance, water, sanitation and hygiene, social mobilization and case management by the Ugandan Government together with partner organisations such as UNICEF, WHO, UNHCR, URCS, Action Africa

⁴⁸ UTIs are frequently associated with sexually transmitted diseases (STDs) such as chlamydia, gonorrhoea, etc.

⁴⁹ District Health Office-Hoima District, 2017





Help (AAH) and MSF. A total of 36% of all cholera cases are children under five years of age. Over 76,000 people are estimated to be at risk of cholera in Kyangwali, which is known as a cholera endemic sub-county, with many hot-spot areas around the shores of Lake Albert. Social mobilization efforts are on-going in the affected areas.⁵⁰

3.5.4.4 Nutrition and Food Security

Based on information obtained as part of the Socio-economic Household Survey undertaken for the KFDA Project during 2013, villages in Kikuube and Hoima Districts and the LSA demonstrate poor food self-sufficiency with 59% of households having experienced hunger in the previous six months. Most of these were from Kyakapere village (44%) followed by Kyabasambu at 30%. Most of the households experienced hunger during the months of January (31%), March (12%) and April (21%). Other months of food insecurity were found to be from June to September.

The Kingfisher 4 SIA (2013) suggests that this food insecurity is linked to weather conditions (wind, temperature and precipitation) and resultant thermal stratification of the lake that impact fish harvests as well as impacting seasonality of agricultural production. Bumper fish harvests/catches (March and April) are probably related to stable temperature stratification in the lake, when fish move from the cold bottom water layers to the warm shallow or near-surface waters. From June through August, the water column is more fully mixed due to wind, reducing stratification and fish movement to the near-surface. Under these conditions, catches are lower, incomes poorer and food insecurity is more prevalent.

While temperature stratification in the lake has generally, in the past, supported high fish catches between March and April, it is the start of the rainy season and first season planting usually only commences at this point. Despite the potential increase in fish catch during this period, there is usually an absence of sufficient crops for harvest and/or stored crops at household level. Households are, therefore, obliged to “buy in” foodstuffs during this period and many have insufficient cashflow to do so. Mubiru and Kristjanson (2012: iii) state that: “Food security is a major issue in Hoima – only one-third of households reported being food secure throughout the year. One-tenth of these families face food deficits for over six months per year.” They further state (2012, p.21), “the monthly source of food for the family was queried, i.e. whether it came mainly from their own farm, or elsewhere for each month (in an average year). Households were also asked during which months of the year they struggled to have enough food to feed their family, from any source. Most households get their food supplies from their own lands throughout the year. The worst months for food supplies, when more than 20% of households get their food supplies mainly from off-farm sources (e.g. purchases, gifts/transfers, food aid) are March and April. These months mark the beginning of the rains after several months of dry season. Up to 40% of households suffer food deficits in March and April in Hoima and Kikuube Districts. 10% or more are not getting a sufficient amount of food for their families throughout the year”

3.5.5 Education

Uganda’s formal education system comprises seven years of primary schooling, followed by four years of lower secondary and two years of higher secondary education. This pattern is followed by three years of tertiary education.

The introduction of Universal Primary Education⁵¹ in 1997 saw a rapid increase in primary school enrolment. This has resulted in problems such as large class sizes; pressure on infrastructure and teachers as well as shortages of books and materials.

According to Fentiman et al. (2011), Uganda was the first African country to offer free secondary education. Notwithstanding this, the gap between primary and second school enrolment remains high.

⁵⁰ UNICEF (March, 2018). Uganda Humanitarian Situation Report. <https://reliefweb.int/report/uganda/unicef-uganda-humanitarian-situation-report-march-2018>. Accessed 1 May 2018.

⁵¹ In 1948, as part of the Universal Declaration of Human Rights, Article 26 was formulated as follows: “everyone has the right to education”, and that “elementary education shall be compulsory and free”. Despite this, Uganda (in tandem with a significant proportion of the Sub-Saharan Region) has yet to attain the minimum standard envisioned by the UN 70 years down the line.





Estimates are that only 25% of children make the transition from primary to secondary school. In addition, there is an alternative path of vocational and technical schools after primary. The age of entrance into primary school is 6 years.

Key challenges among schoolgirls in Western Uganda include pregnancy; early marriages, peer pressure from male peers, child labour and poor menstruation management. Whilst differences between urban and rural situations exist, access and distance to schools, types of livelihoods affecting participation, ethnicity, lack of parental involvement and kinship obligations are singly, or cumulatively evident causes for poor attendance and early drop-out.⁵²

The District Local Governments' education system aligns with the national government system of Universal Primary Education (UPE) and Universal Secondary Education (USE). The education department is composed of seven sub-sectors including the District Education Office, Inspectorate, Sports, Special Needs Education, Primary Education, Secondary Education and Tertiary Education.

Despite the introduction of Universal Primary Education, progress in terms of educational attainment in Kikuube and Hoima Districts has been slow. It inherently shares the complexities related to the delivery of adequate educational facilities and services experienced at all levels.

The formation of the Hoima Municipality in July 2010 resulted in sharing of a number of education resources. Primary schools were reduced from 164 to 131 and the teaching staff reduced from 1,591 to 1,252. This has resulted in problems such as large class sizes; pressure on infrastructure and teachers as well as shortages of books and materials. Even though there has been a significant increase in the number of primary schools from 131 in 2012, to 212 in 2016, available infrastructure (classroom blocks, pit latrine stances, teachers' houses and desks) is still inadequate owing to high enrolment rates. Currently, the district has only 890 classrooms instead of the 2,053 required and 20 permanent teachers' houses as opposed to the 293 that are needed.

At the time of the 2014 population census, more than one in four children in the districts between the ages of 6 and 12 years old was not in school.⁵³ As may be seen from Figure 5 below, the districts (together only with Kyangwali which has a massive refugee population) has the highest percentage distribution of children aged 6 – 12 years that are not in school in the country (between 26.5 and 33.4%⁵⁴). This is a distressingly low level of enrolment, even by Ugandan standards, where - nationally – more than 85% of boys and girls in this age group attend school. Clearly, this speaks to particular instability and vulnerability in the development area.

As identified during the 2013 socio-economic profile survey for the CNOOC Project, in addition to low enrolment, school drop-out rates in the Buhuka Parish were reported as high and a central problem facing education. Reasons for this phenomenon are reported to be related both to inadequate infrastructure as well as social factors. The closest secondary school to Buhuka Flats is in Kyangwali village - which until the opening of the escarpment road - could only be reached by trekking up the escarpment (a journey of more than an hour for adults). This situation has improved dramatically now that the new road has been built down the escarpment, making the journey far less onerous although still time-consuming. This is given the fact that access to the school inevitably still involves a long walk for most scholars on the Flats.

⁵² Fentiman et al (2011)

⁵³ National Population and Housing Census 2014 Area Specific Profiles –Hoima District

⁵⁴ National Population and Housing Census 2014 Area Specific Profiles – Hoima District



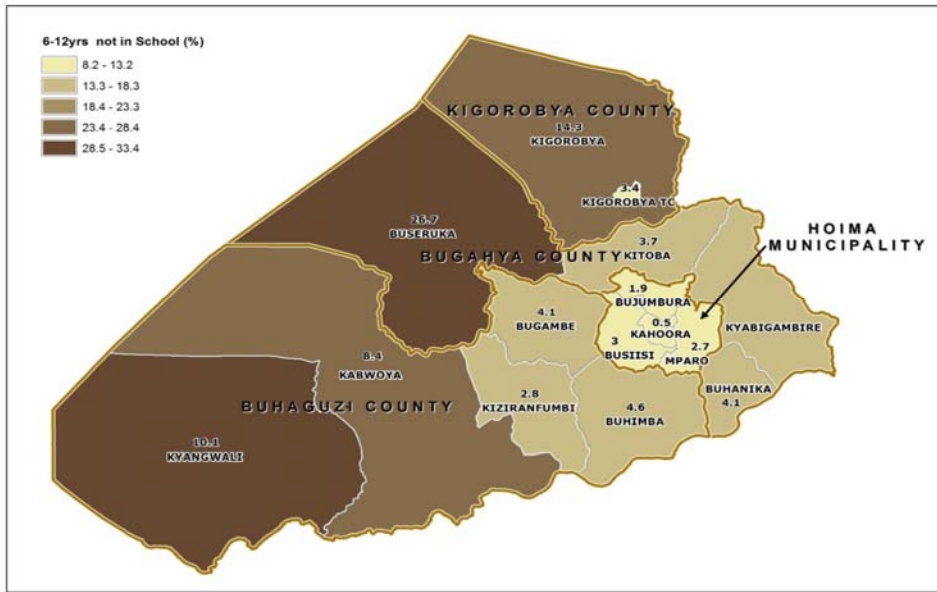


Figure 5: Percentage Distribution of Population Aged 6-12 Years Not in School; Hoima and Kikuube Districts, 2014⁵⁵

Poverty forces many families to draw their children into fishing or agriculture (particularly sugarcane farming) at a young age as part of their resource base, which prevents them from going to school. In addition, fishing demands contribute to school dropout rates as parents move continuously between landing sites to follow fish availability and catch. This obliges children to move with them, even if they are not directly involved in helping with this task.

At secondary school level, there are some deficits in gender parity with boys being provided the opportunity to access secondary education opportunities to a slightly greater degree than girls. Factors that could counter the achievement of gender parity include cultural expectations that girl children must marry young and have children, resulting in early marriages and pregnancies and associated dropout from school. There is, also, in and of itself the situation where unmarried girls who fall pregnant whilst at school are forced to drop out. Other factors such as issues related to menstrual hygiene management and inadequate water and sanitation facilities have been mooted as contributing factors. Finally, the fishing trade is accompanied by a high incidence of prostitution, which suggests that the need for money exposes young- and adolescent girls to the commercial sex trade, resulting in further drop-outs from school.

At the same time, despite a generalised sense that there is less investment in secondary level schooling for girl children in Uganda, there is significant parity between girls and boys in the rate of attendance of secondary school in Hoima and Kikuube (26.3% of male versus 26% of female child attendance). Equally, as may be seen from Table 12 below, there is very little percentage difference (3.2%) between male and female students who drop-out prior to completion of year S4⁵⁶. Failure to complete year senior 4 (S4) means that not even the O-level Uganda Certificate of Education (UCE) is achieved⁵⁷.

⁵⁵ Ibid

⁵⁶ National Population and Housing Census 2014 Area Specific Profiles – Hoima District

⁵⁷ Ibid





Table 12: Persons aged 15 and above not in school - highest level of education completed below S.4

| Persons | Number | Percent |
|---------|---------|---------|
| Total | 176,338 | 84.3 |
| Males | 88,593 | 82.7 |
| Females | 87,745 | 85.9 |

Overall, there is an extremely limited number of learners in Hoima and Kikuube districts that actually achieve their A-levels (the Uganda Advanced Certificate of Education), with only 2.3% of males and .8% of females over the age of 20 in Hoima and Kikuube districts who have completed their A-levels. It is important to note that the achievement of this certificate is a pre-requisite for tertiary level education.

Although poverty is seen as a key driver of the persistently high levels of school dropout, there is a steady call on the provision of private schooling facilities as a direct result of poor performance standards at public school (Hoima District Development Plan, 2015-2020).

As identified during the 2013 socio-economic profile survey for the CNOOC Project, most of the surveyed household heads (56%) had at least primary education (see Figure 6), although a substantial minority (25%) indicated that they had no formal education. Overall 2% of the sample indicated that they were in possession of a post-secondary qualification, 1% indicated another qualification, whilst none had received a tertiary education of any kind, including university. In a breakdown at village level, Busigi fared worst, with 46.2% of household heads having no education, while Kyenyanja fared best with only 16% of household's heads reported as not having received any formal education. Only Kyakapere and Nsonga indicated the presence of household heads with tertiary level qualifications (1.3% and 3.5%, respectively). On average, the survey study found that at least 4 members per household indicated that they were able to read and write.

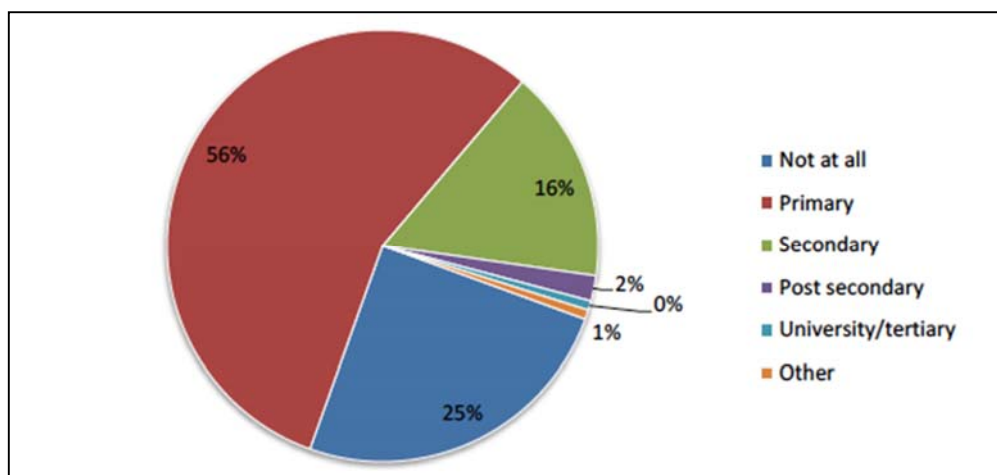


Figure 6: Level of education of household heads

There are obvious and well tested economic benefits, including the reduction of poverty attached to improvements in the provision of quality education. However, there are additional intrinsic spin-offs for a variety of reasons, including social benefits such as improved health outcomes, the tendency to have fewer children and greater investment in education for the next generation.





Given the long lead time from the first year of schooling to the point of entering a tertiary institution, Uganda will need to make haste in providing significant investment in the quality of education provided, as well as in the number of schools available at both primary as well as secondary level if it hopes to close the gaps in economic and human development outcomes required to achieve its development vision.

3.5.6 Roads and Communication

Based on information set out in the Hoima Development Plan (2016), the road network within Kikuube and Hoima Districts are made up of trunk, rural feeder and community roads with a total length of 1,915 kilometres. Roads are classified according to the type of surface and institution/authority responsible for their maintenance. Trunk roads are maintained by the Ministry of Works and Transport whilst feeder roads are a responsibility of the Local Administration. Community roads are a local responsibility.

The road network in the sub-counties in the project area is indicated in Table 13 below.

Table 13: Road network and classification in the project area sub-counties

| Sub-county | Road name | Length | Condition | Category |
|------------|--------------------------------|--------|-----------|----------|
| Kabwoya | Maya-kentomi | 6km | Bad | Feeder |
| | Kabwoya-Maya | 11.8km | Good | Feeder |
| | Hohwa-Kyarusesa-Butoole | 15.2km | Bad | Feeder |
| | Kawboya-Kihoroko | 15.2km | Bad | feeder |
| | Kihoko-Kitwe | 10km | Fair | Feeder |
| Buseruka | Nyabihukuru-Kasenyi-Nyakabingo | 6km | Good | Feeder |
| | Bisenyi-Kyakaboga-Rwomutonga | 7km | Bad | Feeder |
| | Kigaga-Kijumba-Katoke | 7km | Bad | Feeder |
| | Kitegwa-Zorobi-Ngemwa | 9km | Bad | Feeder |
| | Wambabya-Kabanda | 9km | Bad | Feeder |
| | Kiryamboga-Hoimo | 13km | Bad | Feeder |
| | Kabaale-Kataaba | 12km | Bad | Feeder |
| Kyangwali | Kyangwali-Refugee | 13km | Good | Feeder |
| | Kyangwali-Tontema | 13km | Good | Feeder |
| | Mbarara-Kololo-Kalugumba | 15.6km | Good | Feeder |
| | Kagoma-Kitoro-Kavule | 12.4km | Good | Feeder |

District feeder roads make up approximately 909 km of this, whilst 1,006 km are community roads. Currently only 32% of the entire road network in the district is in a good condition, 48% in a fair condition and 20% in a poor condition. The project area sub-counties have a less developed network and for a long period of time, some of its areas were unreachable due to physical barriers (escarpment).

There are paved trunk roads between Kampala and Hoima and Fort Portal. A gravel road network exists into the Counties and sub-counties, in varying states of repair. The recently constructed escarpment road, which runs from Ikamiro village at the top of the escarpment, to Kyabasambu Village in Buhuka parish, provides paved access to the KFDA on the Buhuka Flats from Hoima Municipality.





The major means of transport within the project area is comprised of passenger service vehicles/taxis (PSVs), pick-ups and trucks and commercial motorcycles (boda-bodas). Most people move about on foot, ride bicycles or use boda-bodas as taxis to access social services. Bus transport is limited and is only easily accessible to those located near the larger roads. Those closer to Lake Albert use water transport, which has now been facilitated by the construction of the road down the escarpment to the lake. A few people are reported to own cars (in the villages of Kataaba and Nyairongo).

3.5.7 Housing

The vernacular architecture (mud huts with separate kitchens) utilises local materials to make a round, mud-brick construction with a thatch roof and small openings – suited to the climate. This can be readily erected using local knowledge available to both refugee and host communities.

In addition, more and more frequently, local materials are used to make rectilinear, mud-brick constructions with a thatch roof or a zinc flat roof and small openings for windows as well as for doors. Such structures can be moved without too much effort.

Settlements in the LSA are characterized by a combination of semi-detached huts and rectilinear constructions built from mud with wattle walls. The 2013 Household Survey for the Project indicated that floors are predominantly compacted earth, with only 0.8% having a cement base. At that stage, approximately three quarters of houses were roofed with thatching grass, whilst the balance was roofed with corrugated iron. Around 32.9% of houses had one room while a further 31.6% had two rooms. The 2017 Village Survey done for this Project found that there was an increasing incidence of multi-roomed structures with as many as four and even five rooms (with every room deemed a separate dwelling unit), each with its own entrance, erected specifically to meet the increasing demand for rental accommodation on the Buhuka Flats.



Photograph 1: Clustered settlement in Kyenyanja



Photograph 2: A grass-thatched house in Busigi constructed with mud and wattle

3.5.8 Social Infrastructure, Services and Utilities

3.5.8.1 General Services Context

Social infrastructure and services refer to the community facilities, services and networks such as education, health care, and community management which help individuals, families or groups and communities meet their social needs, maximise their potential for development, and enhance community well-being.

Limited social infrastructure and facilities exist in Hoima and Kikuube in general as well as the villages in the local study area. The Kingfisher 4 SIA (2013) determined that, as a rule of thumb, churches, retail shops and water sources were located within a half a kilometre of homesteads. However, primary schools were found to be located on average about 3 kilometres relative to the homesteads while secondary schools were on average 16 kilometres but varied from village to village⁵⁸.



Photograph 3: Sport and Recreational Facilities in Buhuka Parish

⁵⁸ Environmental Assessment Consult (U) Ltd, 2013



Photograph 4: Places of worship in Buhuka Parish

3.5.8.2 Water Systems in the Districts

In the order of 60% of Kikuube and Hoima districts' population has access to safe water according to the Ministry of Water and Environment (MWE). This is down from around 72% in 2015/16 and 70% in 2013/14 financial years. However, access to safe water is only available to 32% of households in the Kyangwali sub-county, 42% in the Buseruka,⁵⁹ 49% in the Kabwoya and 63% in the Kigoroby sub-counties. In contrast, 95% of households are said to have access to a safe water supply in the Kyabagambire, Bugambe, Buhimba, Kiziranfumbi, Busisi, Kitoba and Buhanka sub-counties. The functionality rate in urban and rural areas is 71% and 72% respectively.

Water source facilities for the Buseruka, Kabwoya and Kyangwali sub-counties, which all fall in the proposed development area, are set out below in Table 14.

Table 14: Water sources in Buhuka Parish⁶⁰

| Sub-county | Parish | Water source/Technology | | | | | | | |
|------------|---------|-------------------------|------------|----------------|------------|----------------|------------|---------------------------|--|
| | | Springs | | Bore Hole | | Hand Dug Well | | Public Stand Pipes (PSPs) | |
| | | Functional | Functional | Non-functional | Functional | Non-functional | Functional | Non-functional | |
| Kyangwali | Buhuka | - | 1 | 1 | 3 | 3 | 22 | 05 | |
| | Butoole | 19 | 7 | 4 | 27 | 25 | - | - | |
| Kabwoya | Kaseeta | - | 9 | 7 | 12 | 11 | - | - | |
| | Nkondo | - | 11 | 10 | - | - | - | - | |
| Buseruka | Kabaale | 11 | 15 | 14 | 18 | 14 | - | - | |

⁵⁹ MWE: District Water Atlas, Hoima, 2017

⁶⁰ Hoima District Water Situation Analysis Report (Hoima District Office, 2017)



Hoima and Kikuube districts have 1,792 domestic water points and 2 piped water schemes. 286 water points have been non-functional for over five years and are considered abandoned.⁶¹ The main reasons for non-functionality have been classified as low yield (20%), technical breakdown (60%) and poor water quality (20%). The main water supply technologies are the shallow well, deep borehole and protected spring technologies. Piped water and rainwater harvesting constitute only 2% and 1% of supply respectively. Piped water supplies predominate around the main towns of Hoima Municipality (90%) and Kigoroby Town (72%).

3.5.8.3 Sanitation and Refuse Systems

No formal domestic waste disposal services or facilities exist in Hoima and Kikuube Districts, which has implications for health conditions of communities. The Hoima District Development Plan (2016) notes that solid waste management is an increasing problem, especially at rural growth centres such as Nsonga, Kyakapere, Kiina and Hohwa amongst others. The Plan identifies the need for improvement of solid waste management around the rural growth centres and fishing/landing sites, with a Public-Private Partnership (PPP) mooted as a potential management option.

While the average latrine coverage for Kikuube and Hoima Districts is estimated to be 71%, coverage for the Kyangwali Sub-County is estimated to be 59%. Sanitation related hygiene behaviour is low across the entire District, with an average of 21% of households surveyed reporting handwashing post latrine use. Kyangwali scores the lowest across all sub-counties with 12% of households reporting handwashing behaviour⁶².

3.5.8.4 Energy

Hoima and Kikuube Districts have a rich renewable energy resource base, with significant energy potential that could be exploited. Currently, energy sources being utilised in Kikuube and Hoima Districts include petroleum, electricity, wood fuel, solar energy, wind, geo-thermal and hydropower.

There are limited options at settlement level. Biomass energy represents over 97% use. Kerosene or paraffin is commonly used for lighting in lamps commonly known as tadoobas, despite the cost and the risk of fire, with fewer than 3% of all households having access to electricity supply.

Most people (approximately 98.9%) depend mainly on wood fuel, which they collect from the top of the escarpment and on the flats. However, firewood has become scarce and many people have resorted to using charcoal that is either sourced from manufacture points within the area or is brought in from outside Hoima and Kikuube, but usually manufactured relatively close to outlet. The prevalence of use of charcoal as main fuel source is both expensive and is having a devastating impact on the environment. The Population Institute (June 2015) confirms, "at current rates of deforestation, Uganda could lose all its forests by mid-century" (p.44). At the moment, most of the district is not connected to the national grid⁶³.

3.5.9 Social Order, Security and Crime

On a national level, the top ten leading crimes reported in 2014 were (i) Defilement, (ii) Common Assaults, (iii) Threatening Violence, (vi) Obtaining by False Pretence, (v) Theft of Cash, (vi) Criminal Trespass, (vii) Theft of Mobile Phones, (viii) Burglaries, (ix) Child Neglect and (x) Malicious Damage to property.

Of the above, all of the following crimes showed an increase in occurrence from previous years:

⁶¹ MWE: District Water Atlas, Hoima, 2017

⁶² Hoima District Development Plan 2016-2020

⁶³ Environmental Assessment Consult (U) Ltd, 2013





(i) Defilement (the most common), (ii) Common Assaults, (iii) Theft of Cash, (iv) Criminal Trespass, (v) Child Neglect and (vi) Malicious Damage to Property registered an increase in the number of cases reported and investigated.

Sexual contact outside marriage with girls less than 18 years of age, regardless of consent or age of the perpetrator is considered "defilement" under the law and carries a maximum sentence of death; however, such cases often are settled by a payment to the girl's parents. Perpetrators of sexual abuse often were family members, neighbours, or teachers.

Marriage of young girls by parental arrangement is common, particularly in rural areas, although the legal age for marriage is 18. Hoima and Kikuube districts are among the top 10 districts in Uganda in terms of the frequency of early marriages.

Child abuse remains a serious problem, particularly rape and sexual abuse of girls. According to the police annual crime report, defilement remains the most common crime. For cases committed against children, the district local government works with UNICEF and NGOs including the African Network for the Prevention and Protection against Child Abuse and Neglect to combat child abuse in the district. There are isolated reports of corporal punishment in schools since the 2006 ban on the practice.

There are limited data related to crime, security and social order for Kikuube and Hoima Districts, including in respect of data gathered by the National Police. Although there is a Police Division in Hoima, no specific crime data could be sourced due to an absence of available statistics.

The Annual Police Crime Report (2014)⁶⁴ Uganda Police (2014) Annual Crime Report makes mention of Hoima in terms of its contribution to aggravated robbery of cash (11 out of 221 cases) but is otherwise silent on the specific incidence and type of crimes within the District.

It does, however, provide an overview of areas of concern for the Albertine region for the 2014 period as follows, inter alia:

- Murders;
- Theft of police guns;
- Highway robberies (specified as in the Kiryandongo District);
- Targeted crimes against Boda Bodas;
- Piracy by DRC soldiers (specifically on Lake Edward as opposed to Lake Albert);
- Tribal conflicts (in particular between Alur cultivators and Balaalo cattle keepers);
- Uncontrolled movement of refugees;
- "Many Congolese on landing sites along Lake Albert"; and
- Threats of Allied Democratic Forces⁶⁵ (ADF) attacks from the DRC and their suspected movements within the Region (particularly Kabaale District).

Grace Mugasa, the Mayor of Hoima Municipality Council stated that there had been a rise in crime rates in the District since the discovery of oil. According to reports she had received, the majority of crime incidents were related to drug abuse, theft and prostitution. She believed that a significant cause of this increase in crime stemmed from the upsurge of people into the area seeking opportunities and resorting to crime to survive. "These days, we normally see many prostitutes in town, which was not the case before."⁶⁶

⁶⁴ Uganda Police (2014) Annual Crime Report

⁶⁵ The Allied Democratic Forces is a rebel group in Uganda and the Democratic Republic of the Congo

⁶⁶ Twaha, A (June 14 2017) Hoima Faces Pressures of Being an Oil-Bearing Town, accessed at <http://observer.ug/business/53335-hoima-faces-pressures-of-being-an-oil-bearing-town.html>





3.5.10 Household Asset Ownership

Three quarters (75%) of the respondents interviewed during the Socio-economic Household Survey for the Project, undertaken in 2013, reported that they own the house they live in. Most of the remainder indicated that they lived in rented houses or rented single rooms. Among those who own their houses, 93% of respondents indicated that they own the land as well. Most households (62.2%) reported that they purchased the land although the selling sources were not disclosed. 12% of respondents said that they had acquired the land through the customary laws of land transfer. Just over 10% of respondents said that they had acquired their current pieces of land through a lease from the sub-county.

The most commonly owned asset in the area is a radio (62.4%) followed by fishing nets (52.6%), boats (51.2%), land (49%), buildings (44.5%) and a bicycle (14.8%).

3.5.11 Economic and Livelihood Activities

3.5.11.1 General Economic Activity

According to the Hoima District Development Plan⁶⁷, 2015-2020, the percentage of people in Hoima and Kikuube districts who are economically active is estimated at 60%. Small scale agriculture is the main source of livelihood for about 90% of the population, both in terms of basic nutritional needs, income generating activities and social organization. It is the most important sector in the district economy as it provides employment for over 85% of its labour force and it accounts for about 71% of the district GDP.

Production systems appear to be zoned; with fishing and animal rearing more pronounced in the Buhuka Flats in the project area, while crop farming is common along the pipeline route where common crops include bananas (for food), bananas (for beer), sweet potatoes, Irish potatoes, cotton, soya beans, groundnuts, pigeon peas, beans, sorghum, maize. Traditional cash crops grown include coffee, cotton, tea and tobacco. Other crops have increasingly turned into non-traditional cash crops. Most agricultural production is carried out on small landholdings.

Subsistence farming and small-scale commercial farming serve as main economic activities in Kikuube and Hoima Districts. Crops are mostly used for household consumption or sale in community markets. Production is carried out on small farm holdings less than 1 acre in size. The most common crops include bananas (for food), bananas (for beer), cassava, sweet potatoes, Irish potatoes, cotton, soybeans, groundnuts, pigeon peas, beans, sorghum and maize. Tobacco farming is common in the Kabarole District, whilst commercial tea plantations exist in Kabarole. Tree plantations (pine wood, eucalyptus) are becoming increasingly popular in Kabarole and Hoima Districts (Uganda Electricity Transmission Company Limited (UJETCL⁶⁸)).

Kikuube and Hoima Districts also have abundant open water resources making fishing a major economic activity. Most fishing is done on Lake Albert, which covers about 2,268.6 km² (38%) of the district. Fishing has greatly influenced social and economic development in the sub-counties of Kigoroby, Buseruka, Kabwoya, and Kyangwali. There are 22 fish landing sites, which act as major outlets to the local markets. Lake Albert has the most diverse fish fauna species including Tilapia, Nile Perch, Ngaa, Ngassa, Lanya and Male (Uganda Electricity Transmission Company Limited (UJETCL)).

3.5.11.2 Agriculture and Animal Husbandry

According to the World Development Report on Agriculture for Development published in 2008, agriculture is critical if countries are to achieve their poverty targets and objectives. Some strands of research suggest that Hoima District is predominantly agricultural (See Mubiru and Kristjanson, 2012) and 100% of the people in the district depend on agriculture with crop production as a major economic activity, followed by poultry and livestock.

⁶⁷ Hoima District Development Plan, 2015-2020

⁶⁸ The UECTL data was gathered for the 2018 ESIA for the Proposed Hoima-Mputa Fort Portal-Nkenda 132 kV Power Transmission Line and Associated Substation and is the most recent trustworthy data that could be made available. Unfortunately, no definitive alternative data could be obtained, including from the Hoima District Production Department.





The Uganda Investment Authority/UNDP (2017) confirms that, in the districts of Hoima and Kikuube, the main economic activity is agriculture and that the major tradeable is Cassava, Maize, Sweet Potatoes and Rice. Agriculture engages about 63% of the working population and a large percentage of the refugees (90%) are engaged in economic activities. Agriculture is the main activity undertaken to generate income. Other activities include retail business; trade and casual work. At the national level, agriculture is Uganda's economic mainstay.

While the contribution of agriculture to total GDP has been declining over the years, the sector has continued to dominate the country's economy. Agriculture contributed approximately 22.9% of the total gross domestic product in 2011 at current prices (UBOS, 2012).

A number of households in the sub-county are engaged in rearing animals at subsistence level. Recently, there was an influx of cattle keepers from as far as Tanzania and Kasere areas, leading to a tremendous increase of cattle in the area up to Buhuka parish in the flats. In Buhuka, the cattle keepers were attracted mainly by the abundance of water from the Lake and open grasslands that are conducive for grazing animals (Kyangwali Sub-County Development Plan, 2011-2015).

Difficulties affecting farmers are unpredictable weather changes, vermin attacks, crop diseases, poor farming methods/techniques, environmental degradation/deforestation, poor infrastructure, poor health of household members, shortage of markets to sell produce at and a lack of water for livestock. Strategies put forward by sub-county administration to solve these problems include subsidizing farm inputs, the introduction of modern farming methods, training farmers in post-harvest techniques, the construction of dams, encouraging fish farming, sensitizing farmers about land degradation and the upgrading of local roads.

3.5.11.3 Fishing

Lake Albert contributes the second biggest proportion of fish catch in Uganda at 39%, after Lake Victoria which contributes 42% of the fish catch (UBOS, 2012). Kikuube and Hoima Districts have numerous fishing villages located along the shoreline of Lake Albert, which have high population densities. Inhabitants of these villages directly depend on subsistence fishing as a source of food, livelihoods and a cash income (ibid). Common fishing gear that has been observed includes gillnets, seine nets, and hooks.

The fisheries sub sector comprises of both fish farming and fishing on Lake Albert. Drying and salting of fish along the lakeshore is undertaken before selling the fish at markets in Hoima and Kikuube. Most of the catch is channelled through neighbouring districts or into the DRC and the north, which have easy access routes by boat. The fish caught in the district is spread over the 68 landing sites in the district, with the landing sites distributed quite evenly along the shoreline.⁶⁹

The fishing sector is being threatened by declining catches mainly due to the use of destructive fishing methods such as gillnets with small diameter holes, illegal fishing gear and fishing in breeding areas, non-compliance with regulations and inadequate control of catches.

3.5.12 Employment, Income and Poverty Analysis

Secondary and key informant data indicate that over 90% of the population in Homa and Kikuube districts resides in rural areas. The vast majority are comprehensively dependent on a rain-fed subsistence agricultural resource base and/or a natural resource base (for fishing, grazing, food and wood fuel inter alia).

Agricultural productivity in the district is low. The subsistence-based pattern of agricultural practices is reflected in very low incomes in Hoima and Kikuube Districts, with the annual average income per capita estimated to be USD 554,⁷⁰ which is just above half of the NDP II aspiration of achieving a per capita income of USD 1,039 by the year 2020. About 24% of the rural population in the districts of Hoima and Kikuube is estimated to live below.

⁶⁹ Environmental Assessment Consult (U) Ltd, 2013)

⁷⁰ Hoima District Development Plan, 2016-2020





the poverty line. Majority of the people (over 70%) are subsistence farmers who live marginally. Dwindling fish catch at the lake shores have made the situation worse within the Buhuka Flats.

The fact that, apart from fishing, crop and animal farming are key source of income is also reflected in the data from the Phase 1 and Phase 2 KFDA Resettlement Action Plans and confirmed by the UNARAP Report for the Kaseeta-Kyarusesa-Hohwa-Nyairongo road project as set out in the Table 15 below.

Table 15: Household Sources of Income and monthly income

| SN | Type of Activity | Hohwa-Butoole | Kabaale-Kiziranfumbi | Kaseeta – Rwera | Total |
|----|---|---------------|----------------------|-----------------|----------|
| 1 | Subsistence crop farming (crop/ animal, poultry) | 78%(248) | 88%(149) | 87%(107) | 82%(504) |
| 2 | Self-employment | 42%(135) | 42%(72) | 41%(50) | 42%(257) |
| 3 | Rental, interest, dividend income land/property income) | 12%(38) | 18%(31) | 14%(17) | 14%(86) |
| 4 | Salary employment | 6%(19) | 6%(10) | 3%(4) | 5%(33) |
| 5 | Large scale farming (10acres) | 5% (17) | 1%(2) | 4%(5) | 4%(24) |
| 6 | Wage-based activities/causal labouring | 6%(18) | 3%(5) | 2%(3) | 4%(26) |
| 7 | Fish farming | 0.3% (1) | 2%(3) | 2%(2) | 1%(6) |
| 8 | Public transfer/pension | 0.6%(2) | 0 | 1%(1) | 1%(3) |
| 9 | Charity/alms | 0.3%(1) | 0 | 1%(1) | 0.3%(2) |
| 10 | Private remittance/transfer (own children) | 0 | 0 | 0 | 0 |

From the above data, it is clear that the vast majority of people across the broad study area note that they are self-employed and/or involved in subsistence agriculture. On average, only 5% of the population is in salaried employment.

The insecure and subsistence nature of the type of self-employment as found in Kikuube and Hoima districts, which largely relies on seasonality and uncontrollable variables related to the natural environment (dry-land agriculture, livestock farming and fishing). In addition, there are inherent seasonal vulnerabilities attached thereto which creates an uncertain income generation environment.

The tenuous nature of employment in the Buhuka study area is coupled with the fact that, apart from the Bujumbura and Kamoora divisions of the Hoima Municipality, the Bugahya County has the highest percentage of youth who are aged between the ages of 18 and 30 who are neither at school, nor employed. Unemployment, poverty, limited social infrastructure and food insecurity all create a particularly unstable environment within the study area. Both Kyangwali and Kabwoya sub-counties show a far greater degree of stability with both showing between 4.3% and 7.3% of 18 to 30-year olds who are neither in school nor working.



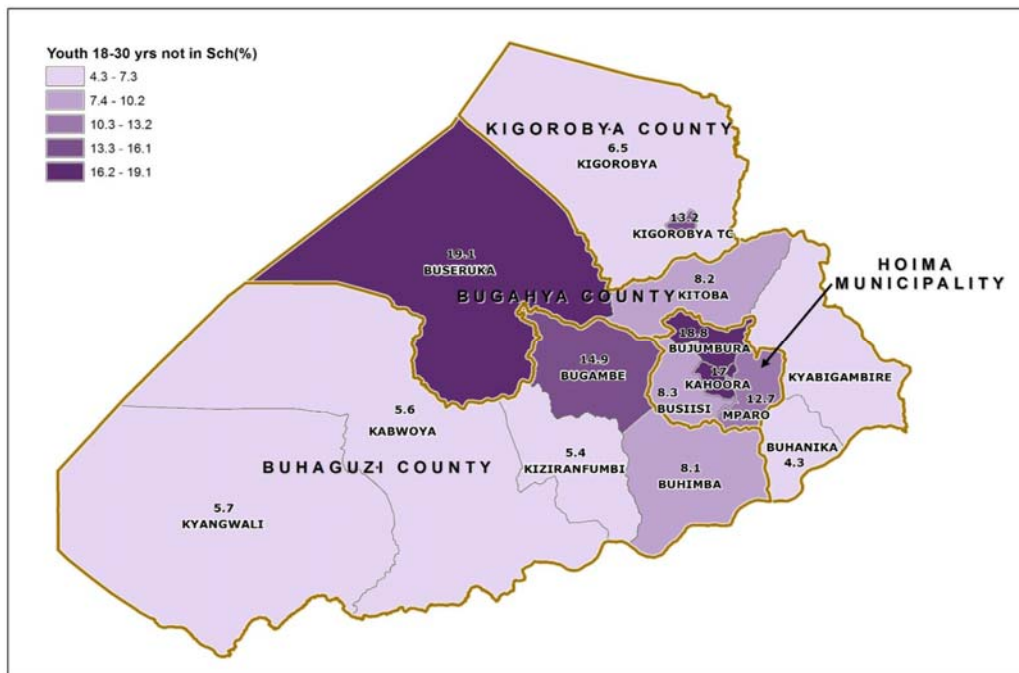


Figure 7: Population aged 18-30 years, not in school and not working – Hoima and Kikuube Districts

There are several drivers of poverty and, by its nature, poverty in Hoima and Kikuube areas is a complex multidimensional phenomenon influenced by climatic, cultural, gender, historical, social, political, economic, physical, age, communication and educational factors.⁷¹ Some of these drivers are discussed below.

Adult literacy rate is 71% and female-headed households represent 26% of the total. The multidimensionality of poverty implies that non-literate people become hard to reach; they get isolated from rapid information and development communication advances and become marginalized along the way. Female headed households are therefore more likely to be poor. On the shores of Lake Albert, there are 1.5 men for every woman. Child bearing begins very early; by age 17, 43% of all girls have either given birth or are pregnant with their first child and over 70% have given birth by age 19. Only 15% of married women use contraceptive methods, up from 5% in 1989, and there is a large unmet demand for family planning services. (FAO, Field Gender Diagnostic Study, 2003).

Women head 29% of total households. Although 83% of male headed households are currently married and living with spouse, 54% of the female-headed households are without spouses. The percentage of female headed households is higher in urban (33%) than in rural areas (26%). In addition to women headed households. 1% of households are headed by children under 18, due to various factors mostly by AIDS. Girls head 80% of child headed households. About 24% of the women in Hoima and Kikuube districts are employed, 26% are either poor, young to go to school or disabled or too old to work, 21% are still in school or 29% classify themselves as housewives. Nevertheless, women constitute 47% of the active labour force including wage employment, self-employed and unpaid family workers. The majority (77%) of working women are unpaid family workers (District Development Plan, Hoima District 2016-2020). Although 78% of the women control the family food stocks and determine the day-to-day outflow of food from storage, decisions to market are usually made by men (70%) or jointly by husband and wife (15%). Under customary tenure, men inherit the land and women gain access to land through marriage. The patterns of inheritance that result tend to exclude women from the customary tenure sector. While 97%

⁷¹ Hoima District Development Plan, 2016-2020



of women have access to land in farming area; and 30% control proceeds, only 8% have leasehold and 7% have land title (District Development Plan, Hoima District 2016-2020).

3.5.13 Poverty, Local Vulnerability and Insecurity

Based on the UN MPI, it is clear that the broader study area within Kikuube and Hoima Districts (Kabwoya, Kyangwali and Buseruka sub-counties) shows a population that reflects deficits and intense and entrenched poverty on an extended multi-dimensional basis. This includes in respect of:

- 1) Income, material well-being and poverty rate.
- 2) Formalised employment and GDP.
- 3) Environmental degradation and lack of a sustainable natural resource base.
- 4) Education, including net enrolment in primary school, years of schooling attained and number of children who drop out prior to completion of secondary schooling.
- 5) Standard of Living, including in respect of cooking fuel, water, sanitation, electricity, flooring type and household asset base).
- 6) Gender equity and parity, including in respect of female participation in household decision-making.
- 7) Health, including in respect of communicable diseases, nutrition, child mortality.
- 8) Social infrastructure and services, including schools and health services.
- 9) Social safety networks and access to welfare and social support services.
- 10) Social cohesion, including intergroup and cultural cohesion.
- 11) Security, specifically in respect of rule of law, number of refugees and internally-displaced persons.

“Vulnerability can be assessed at personal and household level. At personal level, vulnerability is a state of being in which a person is likely to be in a risky situation, suffering significant physical, emotional, or mental harm that may result in his/her human rights not being fulfilled”⁷²

The vulnerability parameters identified from key informant interviews, secondary sources (including the 2014 national census) and community engagements indicate that the following social groups are highly vulnerable; youth, refugees and minority migrants, persons with disabilities (PWDs); unemployed; the chronically ill; female household head; child-headed families; and the elderly/advanced age. At the same time, it is vitally important to note that the population within the study area, particularly in the Buseruka and Kyangwali sub-counties demonstrate high levels of living within multi-dimensional poverty situations, exacerbating high levels of vulnerability and low levels of resilience and ability to recover from stress situations, including climate change related shocks and insecurities.

During the community meetings as part of the field work for this Project, women reported that not only were they denied the right to own land, but also were not in a position to make decisions on matters concerning land transactions and ownership. From a cultural perspective, male children are favoured above female children, and there is a spending bias in favour of boy children (e.g. payment for school fees). This partly explains why the rate of school dropout among girls is high as compared to that for boys, although it is interesting that there is a higher rate of enrolment for girls than for boys at primary school level. However, at secondary school level the reverse is true.

Although not confirmed, this may well be related to specific roles that male and female children fulfil within the household where male children usually assist with cattle herding, fishing and agricultural activities, whereas girl children (especially when they are somewhat older) have a specific role to fulfil

⁷² UBOS (2017) National Population and Housing Census 2014 Area Specific Profiles –Hoima District





Child-headed households as well as orphans are more likely to suffer abuse and neglect, the inherent marginalisation suffered by people with disabilities is exacerbated by discrimination and further marginalisation. Low literacy and formalised skills levels create a vicious cycle of low income and associated high levels of poverty which is difficult if not impossible to escape without reverting to mechanisms such as prostitution, crime and early marriage.

These vulnerable groups are likely to face disproportionate exposure to negative project impacts if mitigation measures and community development interventions don't include enhancing the adaptive capacity of such social groups.

Other vulnerabilities mentioned by the PAP households, but with a wider community application, were: nature-derived vulnerabilities associated largely with climatic change impacts such as unpredictable weather, prolonged drought and water source failure and failing crop yields and fish catches; social risks such as land conflicts around the project area; and life cycle risks related to old age and incapacitation.

The attainment of critical goals of the NDP II are fundamentally premised on ensuring Gender Equality, the Empowerment of Women and the achievement of Social Inclusion, including for the aged and the disabled. For this reason, the Social Development Sector Plan (2015/16- 2019/20) in support of the NDP II focuses on the following thematic areas, viz: (i) the promotion of Human Rights, (ii) Gender Equality and Women's Empowerment in the development process, (iii) Labour and Productivity, (iv) social protection and (v) community development.

3.5.14 Land Access and Tenure

The 1998 Land Act recognises four major types of tenure: customary, freehold, leasehold and mailo.⁷⁵ Two predominant land tenure systems found in the project area; In Buhuka flats, communal land ownership is the main and predominant customary tenure; while along the pipeline clan and individual owned customary tenure is more pronounced. Engagement with the LCs and community members within the flats indicate that Buhuka parish was originally a game reserve with few unlicensed landing sites. Former village chairpersons and other local leaders applied to Central Government through local authorities and Uganda Wildlife Authority (UWA) for recognition and degazetement. This request was then passed to parliament and the area was degazetted in 2001. Following the degazetment, some of the community members opted for individual ownership, while most of the other community members opted for a communal arrangement. Following a series of judicial engagements, the Buhuka Communal Land Association (BCLA) was formally approved by the Ministry of Lands, Housing and Urban Development (MLHUD) as comprising of the five villages of Nsonga, Kyabasambu, Kyakapere, Nsunzu and Kiina. Other neighbouring villages are not part of BCLA at the moment.

While communal land use around Buhuka flats (Nsonga, Kyabasambu, Kyakapere, Nsunzu and Kiina villages) is long standing practice, institutionalised communal management is relatively recent and is not very clear to some of the community members. Registered as the land owner, the Buhuka Communal Land Association is the de-facto representative of the project-land affected community; a mandate held in respect by the client and other stakeholders but also with some contestations by some of the community members.

Land use along the pipeline project area indicates that over 80% of the land is used for agriculture, characterised mostly as subsistence production with limited livestock and commercial farming. The major economic activities observed around towns/rural growth centres within the Hoima and Kikuube Districts are

⁷⁵Although the Land Act mentions four major tenure systems in the country, it, by implication, also recognises the legal status of *customary tenants* and *licensees/ sharecroppers*.





small-scale business activities and services. Land use at the Buhuka flats essentially comprises of livestock grazing, residential, social services and public use.

In Hoima and Kikuube Districts, forest conservation and wildlife conservation in protected areas occupies 20.9% of the total land area, which limits land availability for agriculture and other activities. The lack of a uniform land tenure system negatively affects land management, with land speculation having been exacerbated by the discovery of oil.

3.5.15 Tourism

Uganda's tourism is nature-based with about 80% of tourists coming to experience wildlife and scenery. The discovery of oil along Lake Albert creates a potential for conflict in a high biodiversity area, which is close to north-western tourism development areas such as the Murchison Falls and other areas of prime tourism potential in Uganda.

The Hoima District Development Plan has stated that the: The tourism sector has demonstrated high potential for generating revenue and employment at a low cost, the district has numerous tourism attractions including diverse nature based, faith based, culture and heritage, and eco-tourism. This plan will focus on exploitation and improvement of the following tourist attraction products: Chimpanzee tracking; Game viewing (Safaris); Avi-tourism (bird watching); Historical and Cultural sites / Monuments; These products are prioritized because they contribute the highest tourism revenue; some are unique to Bunyoro Kitara Kingdom hence giving the district a niche over other districts whereas others can be easily invested in⁷⁶

Countries such as Kenya and Rwanda have shown the tourism advantages and economic growth that can be achieved from a strategic focus on key existing attractions, national parks and protected areas, as anchors and key visitor attractors to the countries. An analysis of tourism in Uganda⁷⁷, undertaken by the World Bank, has shown that every tourism dollar spent leverages \$2.50 of Gross Domestic Product, which includes direct, indirect and induced value addition.

3.6 Kingfisher Local Study Area – The CPF and Ancillary Works

3.6.1 General Background

The bulk of the project, termed the Kingfisher Local Study area, is located in Buhuka Parish, Kyangwali Sub-County. Given that this is where the Central Processing Facility (CPF), the ancillary works and the various well pads will be constructed and operated, this area will be most directly affected by the Project.

Figure 9 provides an overview of the Local Kingfisher Study Area.

⁷⁶ Hoima District (2015) District Development Plan 2015 - 2020

⁷⁷ The World Bank, June 2013 101 Uganda Tourism Development Master Plan





Table 16: Directly Project Affected Persons in the Kingfisher LFA

| Village | Number affected households | Number of PAPs owning structures | Number of PAPs owning structures and living on the affected plots of land | Number of PAPs who are tenants |
|------------|----------------------------|----------------------------------|---|--------------------------------|
| Kyakapere | 31 | 24 | 13 | 7 |
| Kyabasambu | 4 | 4 | 1 | 0 |
| Nsunzu | 1 | 0 | 0 | 0 |

3.6.3 Demographics

3.6.3.1 Population Size, Growth and Density

As described in the methodology section, a Socio-Economic Household Survey, using a proportionate sample of households, was undertaken in 11 villages during the 2013/2014 period. An additional Village Level Assessment across all these settlements was undertaken during 2017, to confirm data previously acquired and to establish specific changes that may have occurred.

Within the Buhuka Parish, there are eleven villages that were included in the Local Study Area: Nsonga (A and B), Nsunzu (A and B), Kyabasambu, Kyakapere, Kiina (located within the Buhuka Flats and therefore in close proximity to the main Project infrastructure) and Busigi, Kyenyanja, Ususa, Kacunde, Senjojo and Sangarao (located adjacent to the Buhuka Flats and therefore ranging from directly within the project footprint to approximately 8 km from project infrastructure). These villages had a total estimated population of 2,830 households at that stage. General profiles and (where relevant) baseline information of these villages are provided, although no quantitative statistics are available for these villages.

In addition, data was collected from all directly affected households (31 households and 202 PAPS), as part of the socio-economic survey of households undertaken during October and November 2016 for the Relocation Action Plan, as published in the RAP Report⁷⁹. There were 26 affected households in Kyakapere, four affected households in Kyabasambu and one affected household in Nsunzu.

Based on the village level assessment, undertaken across all settlements in November and December 2017, the population numbers as obtained from LC I Chairpersons in each village/settlement are reflected in Figure 10 below.

⁷⁹ Surveys/Nomad Consulting KFDDA RAP Project 2016 – Phase 1 Resettlement Action Plan



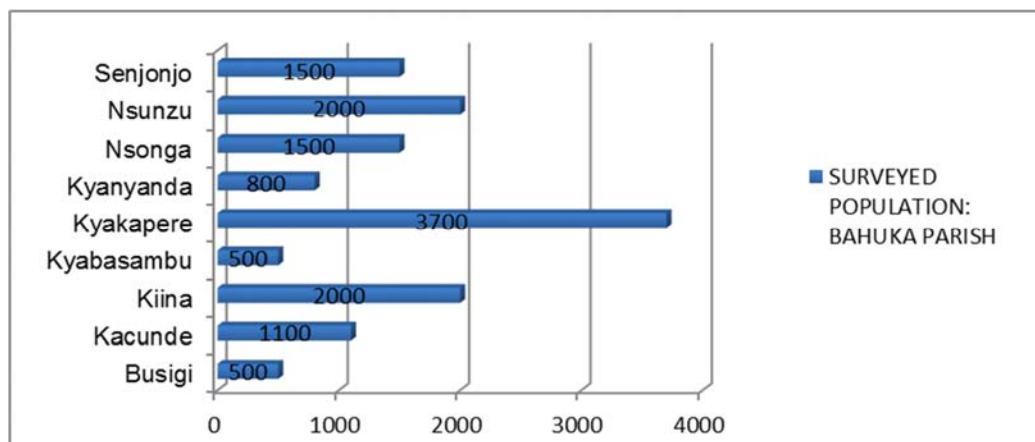


Figure 10: Buhuka Parish village population figures

When the population totals in the above graph are compared to that estimated to be in place in the Hoima and Kikuube Districts Planning processes, it is clear that there are sometimes very significant discrepancies between the numbers as reported on the ground, and those assumed for planning purposes. This has implications on a significant number of levels, including in respect of service delivery. Table 17 below shows to what extent there is a difference in figures, attesting to the exponential growth rate for villages such as Kyakapere and Kiina, while other villages such as Kyabasambu have not deviated from expectation.

Table 17: Village-level survey figures compared to Hoima District Planning Unit (2017)⁸⁰

| VILLAGE NAME | POPULATION: SURVEYED (2017) | POPULATION EST. (2017) |
|--------------|-----------------------------|------------------------|
| Busigi | 500 | 559 |
| Kacunde | 1100 | 656 |
| Kiina | 2000 | 1327 |
| Kyabasambu | 500 | 514 |
| Kyakapere | 3700 | 1402 |
| Kyanyanya | 800 | 909 |
| Nsonga | 1500 | 1864 |
| Nsunzu | 2000 | 1677 |
| Senjojo | 1500 | 145 |

Based on results from the 2013 sample socio-economic household survey for this project, household size in the sampled areas ranged from between 1 to 11 persons, with an average of 8 members per

⁸⁰ Source: Planning Unit, Hoima District





household⁸¹ The majority (68.4%) of surveyed households had 6-8 persons. One household, in Kyabasambu, had the largest household comprising 11 persons. This figure is substantially higher than the average district household size of 4.9 persons and the national average of 4.7 persons. It was observed that, in many families, there are more dependants than purely in terms of the nucleus family.

3.6.3.2 Population Movement and Migration

The Influx Management Plan⁸² for the project undertook an analysis of available aerial imagery for the time periods 2003, 2013 and August 2017, focusing on the growth in the footprint of each individual village (area based) and the change in the number of identifiable rooftops within each village. While it is understood that the rooftop analysis does not automatically speak to numbers of households given that a single household is likely to occupy more than one structure, it does provide a singularly important basis for noting changes in village level densification.

The image below provides an overview of the degree of densification that has taken place in each of the villages along Lake Albert as discussed further on.

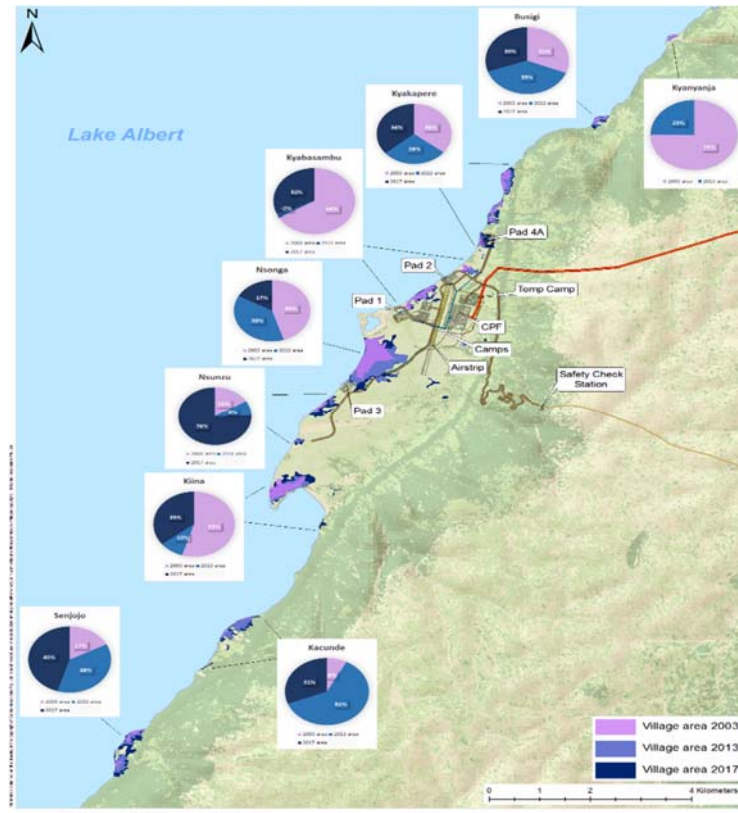


Figure 11: Buhuka Flats village level densification for the period 2003 to 2017⁸³

⁸¹ The average household size was calculated from the cumulative household population estimates and divided by the number of households who responded to this question

⁸² Golder (2018) CNOOC Influx Management Plan

⁸³ Ibid





“When evaluating the change in rooftops within these villages it is clear that the number of structures within all villages assessed have increased over the assessment period. However, when evaluating the growth trend, it is apparent that during the period 2003-2013 the rate of growth in the number of structures in villages falls within a comparable range (96%-175%), with the exception of Kacunde village, which had experienced an increase in the number of structures in the village over the same period from 59 to 256.⁸⁴”

It is also worth noting when comparing the increase in the number of structures in each village during this period that the lowest four rates of increase have been recorded in villages of the Buhuka flats with only the growth in Nsunzu Village (151%) being slightly higher than Kyanyanja Village (133%).

During the period 2013-2017 the dominant trend evident in the data is the increase in the growth rate of structures in Nsunzu village where the number of rooftops increased from 55 to 83 in the first 10 years of analysis and to 205 over the next four-year period; 151% for the first 10 years and 373% increase after the total period of 14 years. When comparing the increase in the number of rooftops within this village in 2017, in comparison to those present during 2013, the number of rooftops has increased by 247% over the four-year period. Over the same four-year period the village which showed the next largest change in number of rooftops was the fishing villages of Senjojo at 172%. No data was available for 2017 for the village of Kyanyanja which fell beyond the range of the 2017 image.

Based on data from the 2013 Socio-economic Survey of Households for this Project, more than half (57.5%) of the household heads indicated that they had migrated into the study area in recent years (subsequent to 2003). The main reasons given by household heads for migrating to Buhuka Parish were to find employment (77.3%) and to get married (5.5%). Despite many household residents moving into the area, nearly 32% of households have members who are reported to have migrated away from the area, mostly in search of employment or better opportunities.

Given historical insecurity in rural areas of northern Uganda and Kasese, numerous people have been internally displaced or have moved to protect their families, which may account for some of the in-migrants. Nevertheless, the main attraction for people moving into the area (in all of the villages) is finding economic opportunities, such as fish trade or related activities.

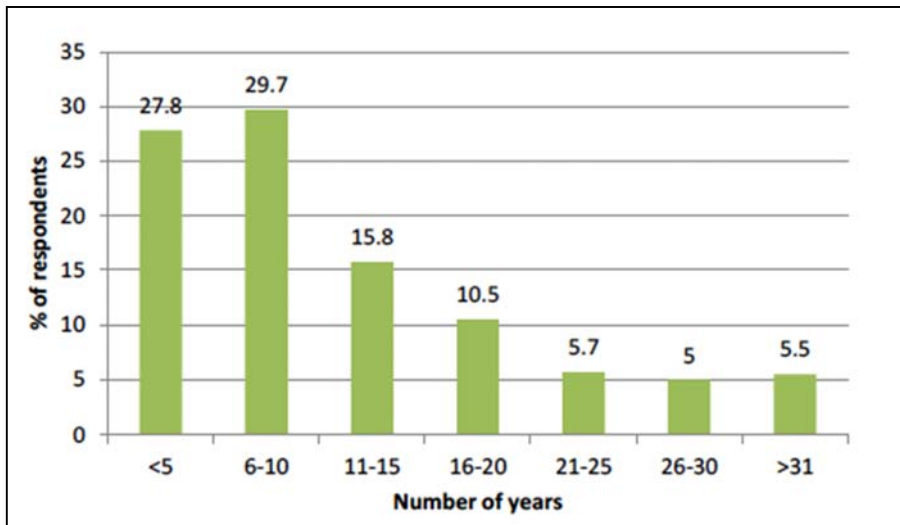


Figure 12: Immigrants (HH heads) by number of years lived in Buhuka Parish

⁸⁴ Ibid





What is very clear from observation is the degree to which there is new settling as well as associated settlement formation in the area between Senjojo and Ntoroko. Individual settlements with relatively extensive cash crops such as cotton and maize are also being put in place along this stretch of the Lake. There does not appear to be any control over settling, the degree to which lake-side and forest areas are being cleared, ownership of the land or origin of the people who are settling there. Obviously, over time, these areas will continue to see increased settling and erosion of the natural environment if not managed.



Photograph 5: Settlers and associated cash-cropping along south-western shores of Lake Albert

3.6.3.3 *Refugee Situation*

According to residents of the villages on the Buhuka Flats, there do not appear to have been any refugees from the Kyangwali Refugee Camp that had settled in any of the villages⁸⁵. While it was acknowledged that there had been a very significant number of migrants into the area originating from both within as well as external to Uganda, such individuals were not regarded as refugees.

It was, however, acknowledged that a number of villages provided refuge to persons who were being sought by police for one or other reason.

3.6.3.4 *Household size, Population Age and Gender*

Based on results from the 2013 Socio-economic Household Survey for this development, household size in the sampled areas ranged from between 1 and 11 persons, with an average of 8 members per household. This figure was substantially higher than the average district household size of 4.9 persons and the national average of 4.7 persons. Average male to female ratio was the same (4 male, 4 female). The population is youthful. 34% of households were between the ages of 18 and 35, while 25% were between the ages of 6 and 17 and 27.5% were ages 5 or less.

During the 2017 Village Level Assessment, it was found that the average number of members per household had shown a significant change down to an average of just over four persons per household.

⁸⁵ Based on the 2017 stakeholder meetings, focus group meetings with villages, interviews with villagers and members of the LC Executive as part of the Social Impact Assessment primary data gathering process



3.6.3.5 Ethnicity

A village level disaggregation of the main and secondary ethnic groups on the Buhuka Flats⁸⁶ is set out in Table 18 below.

Table 18: Village Level Disaggregation of Main and Secondary Ethnic Groups – Buhuka Flats

| PARISH | VILLAGE | MAIN ETHNIC GROUP | SECONDARY ETHNIC GROUPS |
|--------|------------|-------------------|---|
| Buhuka | Busigi | Alur | Acholi, Bakiga, Banyoro, Bagungu |
| | Kacunde | Alur | Banyoro, Bakiga, Bakonzo, Bamba |
| | Kiina | Alur | Bakiga, Banyoro, Banyakole |
| | Kyabasambu | Alur | Banyoro, Bagungu, Rwandese |
| | Kyakapere | Alur | Banyoro, Bakonzo, Bagungu, Lugbara |
| | Kyanyanda | Alur | Bakiga, Bagungu, Banyoro |
| | Nsonga | Alur | Banyoro, Balende, Bakonzo, Bagugu, Batoro |
| | Nsunzu | Alur | Bakiga, Banyoro, Bagungu, Batoro |
| | Senjojo | Alur | Bakonzo, Bakiga, Banyoro |

The above data show a continuation of the pattern previously found as part of the 2013 Socio-economic Household Survey for this Project. Based on data obtained from the sampled households at that stage, the majority of household heads indicated that they were from the Alur tribe (68.9%), followed by the Bagungu (11.5%). In addition, at that stage, the Banyoro, Bakonjo, Baganda, Batoro, Bakiga, and Bamba were also represented, as well as the Congolese and other Ugandan tribes to a relatively smaller extent.

Of importance is that, it was already evident at that stage that results from the previous CNOOC related studies⁸⁷ had shown that there was already a substantial presence of Congolese nationals within the villages (42.4% of the population in Kyakapere, 22.4 in Kyabasambu and 6.3% in Nsonga). At that stage, residents in the area stated that, whilst the majority of the population was from the Alur tribe, that most of the Alur population were originally from the Congo and had fled conflict in their country to settle in the Lake Albert area. According to informal discussions, the residents believe that these respondents had become naturalised Ugandans (or were dual citizens) and were often uncomfortable declaring their 'real' nationality (for fear of being repatriated by the Ugandan government).

⁸⁶ Socioeconomic Village-level Survey (2017) as part of the primary data collection and stakeholder engagement process for this SIA

⁸⁷ Kingfisher 4 SIA, 2013





Results of the 2013 Socio-economic Household Survey indicated that, for the group sampled, that the most spoken and written language was Alur (refer Figure 13), corresponding with the largest tribe in the area. The second most used language in the area is Swahili represented by 31%.

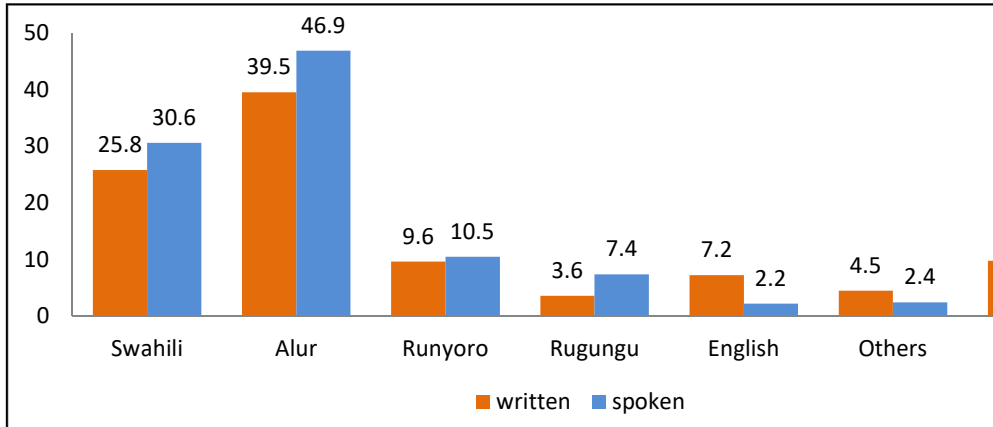


Figure 13: Distribution of household heads by languages spoken and written

Fieldwork activities in 2017 for this project confirmed the 2013 observations of the presence of ethnic tensions in a number of villages on the Buhuka Flats. As previously, the main focus of the tension related to arguments around community leadership and, on a fairly consistent basis, fears of being excluded from focus group discussions. In at least one instance during the 2017 fieldwork process (Kiina), it was evident that the LC Chairman was unable to fully enforce order and ensure the organised running of the community consultation process.

3.6.3.6 Marital Status

According to the results of the 2013 Household level Socio-economic Survey, the majority of the surveyed household heads (83%) were married and the remainder (17%) were either single, separated, widowed or divorced (Figure 14).

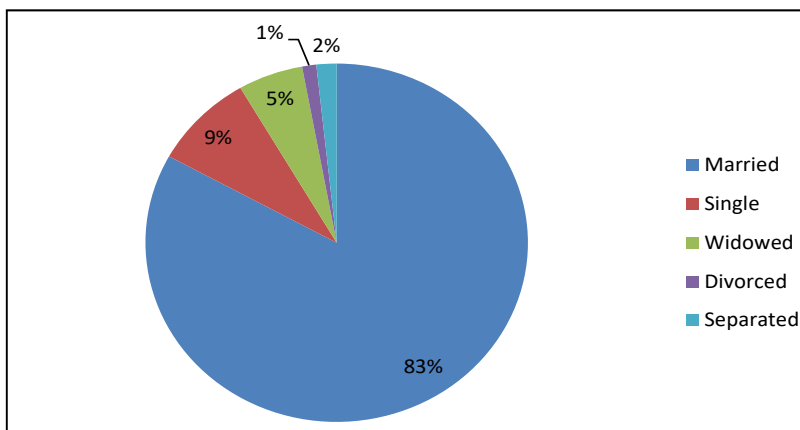


Figure 14: Percentage distribution of household heads by marital status





Of the 17% that were not married, 6.3% of respondents indicated that they were single mothers whilst 5% indicated that they were widows, with the balance being unmarried males. Although it had been stated that there were child-headed households in the study area, none could be identified either during the 2013 or the 2017 fieldwork process. Based on their circumstances, both the female-headed households as well as the widows could be considered to be groups who would be more vulnerable to changes arising from the proposed project.

3.6.3.7 Religion

According to fieldwork undertaken for the Kingfisher 4 SIA during 2013, various religious beliefs co-exist in the local study area including the Anglicans, Catholics, Moslems, Pentecostal and numerous independent churches such as Church of God, and Church on the Rock International. There are also African traditional churches which particularly include the Alur African Church (Lam the Kwaru), and Faith of Unity (Itambiro).

3.6.4 Health

3.6.4.1 Disease and illness

Results of the Socio-economic Household Survey undertaken in 2013 for this Project, indicated that 62.9% of the respondent households had at least one person who had been ill enough to require treatment in the previous 14 days. Generally, households reported more sick males than females (58% compared to 42%). The majority (41.6%) of sick individuals were children below 3 years of age, including slightly more male children (57% male and 43% female).

Findings furthermore indicated that 44% of the households had two people falling sick within the specified period, whilst a further 23% had up to three people seeking treatment within the specified period.

Diarrhoea accounted for most reported illnesses in all the patients (24.4% of households had one or more member with diarrhoea in the previous two weeks). Following diarrhoea, other reported sicknesses include dysentery (21.9% of households), cough/flu and bilharzia (15.6% and 15.9% of households, respectively), skin disease (6.3% of households) and typhoid fever (4.4% of households) (see Figure 15). Other sicknesses included pneumonia, chest pains and road accident injuries.

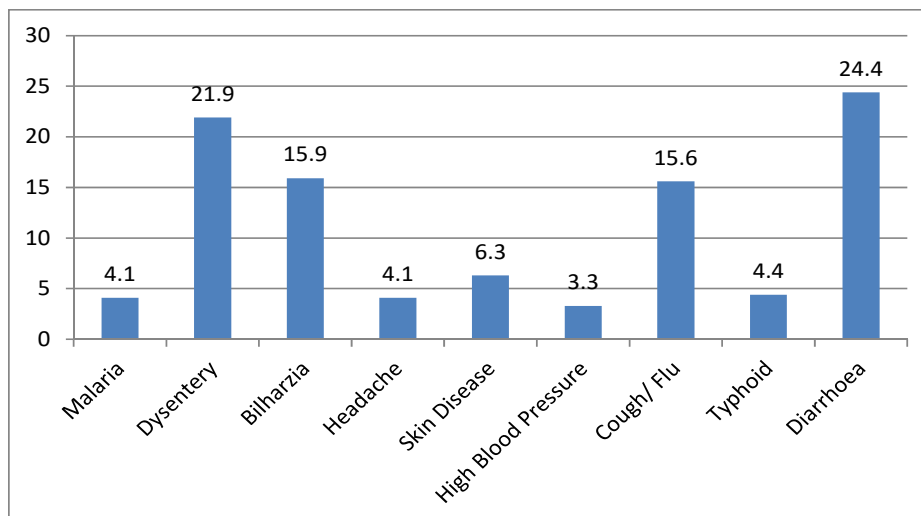


Figure 15: Type of illness suffered from in last 14 days





The most frequent illnesses that were reported are water-borne diseases (e.g. diarrhoea, dysentery, bilharzia) and as such a comparison was undertaken examining the households reporting cases of illness and water treatment methods. Of the 53.6% households that treat water, 45% reported having at least one member of their household seeking medical treatment (see Table 19 and Table 20).

Table 19: Water Treatment by Household

| Do households treat drinking water? | Frequency | Percent |
|-------------------------------------|------------|------------|
| Yes | 224 | 53.6 |
| No | 194 | 46.4 |
| Total | 418 | 100 |

Table 20: Method of treating water

| Method of treating water | Frequency | Percent |
|--------------------------|------------|--------------|
| Boiling | 220 | 93.2 |
| Filtering | 10 | 4.2 |
| Boil and filter | 6 | 2.5 |
| Total | 236 | 100.0 |

Respondents of the 2013 Socio-economic Household Survey for this Project were asked if they had had any sick person for a period longer than six months. They were further asked if they knew about HIV/AIDS and also if they had ever lost anyone to AIDS. Results from the survey reveal that the sensitisation undertaken by CNOOC and Tullow in communities regarding HIV/AIDS had reached 95% of the population. Out of that, 62.9% had lost relatives to HIV/AIDS. Respondents revealed that they had lost an average of 3 persons to the disease.

Knowledge about causes and prevention of HIV/AIDS in the area is depicted in Figure 16 and Figure 17 below.

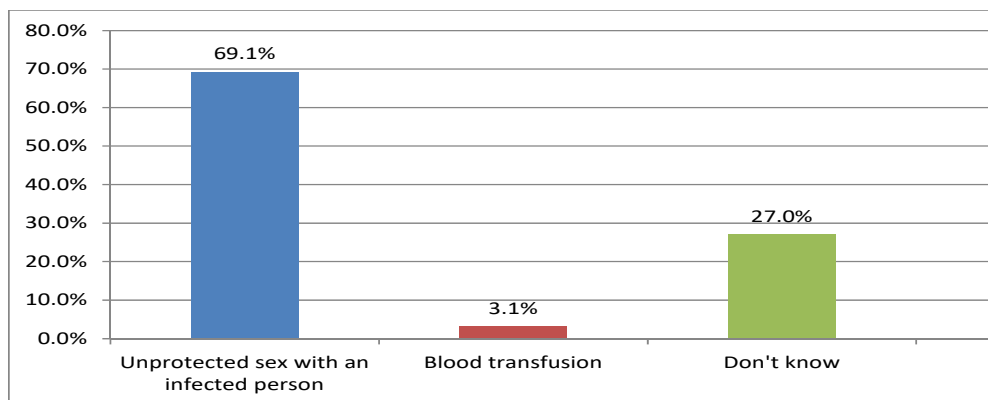


Figure 16: Percentage distribution of respondents indicating knowledge of causes of HIV



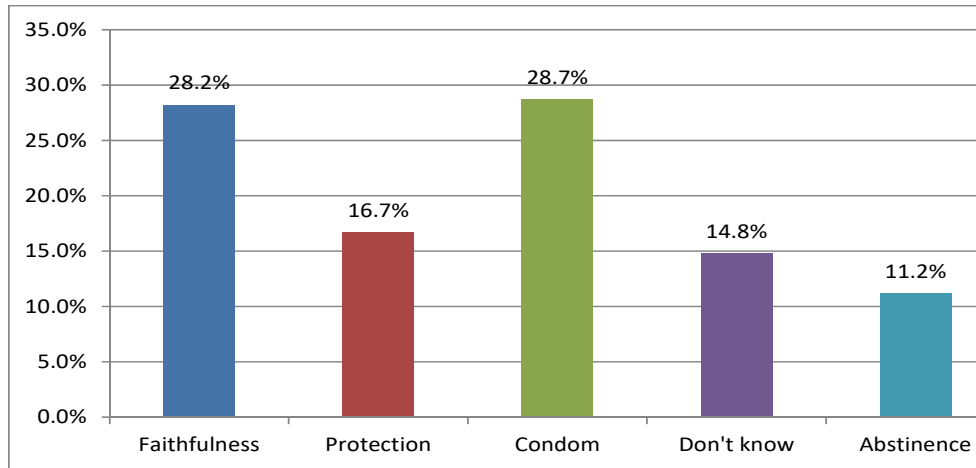


Figure 17: Distribution of respondents by preventive measures to HIV/AIDS

3.6.4.2 Nutrition and food security

Food security is generally a major issue in Kikuube and Hoima Districts. The baseline household survey by Mubiru and Kristjanson (2012) reveals that only one-third of sampled households were food secure throughout the year, while one-tenth faced food deficits for over six months per year. Women are known to play a critical role in food production. According to the research undertaken for the Kingfisher 4 SIA in the project area during 2013, both primary and secondary data suggested that food insecurity is linked with the ready availability of fish which was readily influenced by weather conditions (wind, temperature and precipitation) and resultant thermal stratification of the lake. During discussions and focus group meetings in 2017, all residents on the Buhuka Flats indicated that there had been a massive decline in the availability of fish, with silver fish having become the major catch. Although mature specimens could reach the size of a sardine, the vast preponderance of fish caught was of fingerling size.

An additional factor that played a role in food insecurity related to the seasonality of agricultural production. The survey for the Kingfisher 4 SIA (2013) determined that the villages in the project area demonstrated a high degree of poor food self-sufficiency with 59% of households having experienced hunger in the previous six months. The majority of households that had indicated that they had experienced hunger in the previous six months were from Kyakapere village (44%) followed by Kyabasambu at 30%. Of note, the majority of the households experienced hunger during the months of January (31%), March (12%) and April (21%).

3.6.4.3 Health Facilities within Buhuka Parish

Details regarding the various available public and private health facilities in each village within the Buhuka Parish are set-out in Table 21 below:





Table 21: Public and Private Health Facilities within Buhuka Parish⁸⁸

| VILLAGE | PUBLIC HEALTH FACILITIES | PRIVATE CLINICS/ PHARMACIES |
|------------|--------------------------|-----------------------------|
| Busigi | 00 | 01 |
| Kacunde | 00 | 01 |
| Kiina | 00 | 02 |
| Kyabasambu | 00 | 01 |
| Kyakapere | 00 | 03 |
| Kyanyanda | 00 | 02 |
| Nsonga | 01 | 05 |
| Nsunzu | 00 | 04 |
| Senjojo | 00 | 03 |

There are limited medical facilities within the LSA. Numerous drug shops are located in Buhuka Parish, which support the only health centre (Buhuka Health Centre III), located in Nsonga. This health centre services the entire parish (see Photograph below). The health centre has in-patient services but there are no mattresses for the beds and patients have to provide their own when admitted. Pregnant mothers suffer most because they cannot easily access the health centre for antenatal care. There are also no emergency services at the facility⁸⁹.



Photograph 6: Buhuka Health Centre III

⁸⁸ Primary data gathered during socio-economic survey of households in the Project (Footprint) Villages undertaken in 2017 ⁸⁹ Health Impact Assessment (2015) for the CNOOC Development



Photograph 7: A drug shop in Nsonga village

The most common health problem is malaria, for which people seek medical assistance at the government health facility located in the affected community at a parish level. There are also cases of cholera and typhoid in the rainy season where again help is sought at the health facility. Buhuka Health Centre is a level II health facility. This is the lowest health care level in Ugandan health structures, apart from the voluntary village level health teams. The health facility has basic treatment and preventive health services, and caters for a population of about 2000 persons in the Buhuka area

3.6.5 Education

The population within the Buhuka Flats is youthful. Of the households interviewed for the 2013 project survey, respondents indicated that 34% of the surveyed population was between the ages of 18 and 35, while 25% was between the ages of 6 and 17 and therefore within the age-group normally regarded to be of school-going age. A total of 27.5% of household members was reported to be below the age of five (830 out of 3,289).

Based on results of this survey, 52.81% of children (1,737 of 3,289) were below the age of 18, as compared to 58.2% for the District. Data from the RAP Report and the associated socio-economic survey of households undertaken during October and November 2016⁹⁰, indicate that a total of 25 directly affected households were interviewed. These households had a total of 67 children of school-going age between them, comprising a total of 52.5% in line with the findings of the sample socio-economic household survey.

The high percentage of children results in a higher demand for the provision and sustainability of social services, including in respect of schools. However, out of the 830 school going age children (6-17 years) in the fishing villages, 41% have never attended school and another 31% had dropped out of school for various reasons ranging from lack of money, early pregnancies, long distances to schools and no secondary school in the area. Others have engaged in fishing business from the age of 9 years at the expense of education. Without intervention, this lack of education therefore becomes a constraint to future opportunities to employ children from the local area.

School drop-out rates in the Buhuka Parish are significantly higher as compared to the (high) rate for Kikuube and Hoima Districts and must be regarded as a fundamental problem.

⁹⁰ Survesis/Nomad Consulting (2016) KFDA RAP Project Phase 1



The reasons are both infrastructure and socially related. The closest secondary school to Buhuka Flats is in Kyangwali village, which until recently could only be reached by trekking up the escarpment – a journey of more than an hour for adults. This situation is expected to improve now that the new road has been built down the escarpment, but it is still a long walk for most children in the Flats. In addition, fishing demands contribute to school dropouts as parents move continuously between landing sites to follow fish availability and catch, which obliges the children to move with them.

Poverty forces many families to draw their children into fishing at a young age, which prevents them from going to school. There are also cultural expectations that children must marry young and have children, resulting in early marriages and pregnancies and dropouts from school. Finally, the fishing trade is accompanied by a high incidence of prostitution, which suggests that the need for money exposes young- and adolescent girls to the commercial sex trade, resulting in further drop-outs from school.

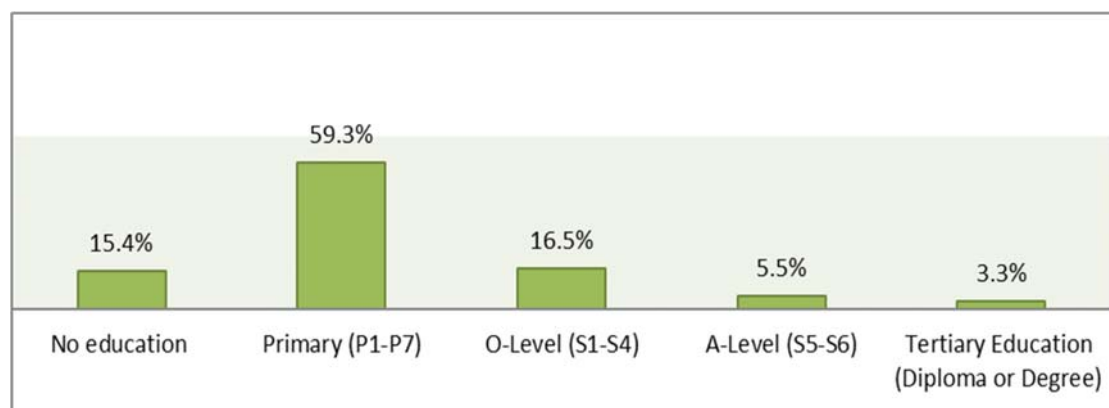


Figure 18: Level of Education of household members indicated in percentage

The introduction of the Education (Pre-Primary, Primary and Post-Primary) Act, 2008 makes it compulsory for children of school-going age to attend primary school. Despite this, there is extremely limited infrastructure and services, with schools sometimes having as much as one teacher for a hundred pupils. Despite the large number of potential pupils to draw from, the Buhuka Parish has only one public primary school with limited class rooms and teachers and six private schools. There are no secondary schools in the Parish.

Table 22 below provides an overview of the current situation:

Table 22: Primary and Secondary Schools within Buhuka Parish⁹¹

| VILLAGE | PRIMARY SCHOOLS | | SECONDARY SCHOOLS | |
|------------|-----------------|---------|-------------------|---------|
| | PUBLIC | PRIVATE | PUBLIC | PRIVATE |
| Busigi | 00 | 00 | 00 | 00 |
| Kacunde | 00 | 01 | 00 | 00 |
| Kiina | 00 | 00 | 00 | 00 |
| Kyabasambu | 00 | 00 | 00 | 00 |

⁹¹ Primary data gathered during socio-economic survey of households in the Project (Footprint) Villages undertaken in 2017





| VILLAGE | PRIMARY SCHOOLS | | SECONDARY SCHOOLS | |
|-----------|-----------------|---------|-------------------|---------|
| | PUBLIC | PRIVATE | PUBLIC | PRIVATE |
| Kyakapere | 00 | 01 | 00 | 00 |
| Kyanyanda | 00 | 00 | 00 | 00 |
| Nsonga | 01 | 02 | 00 | 00 |
| Nsunzu | 00 | 01 | 00 | 00 |
| Senjojo | 00 | 01 | 00 | 00 |

3.6.6 Social Services and Utilities

3.6.6.1 Access to Clean Drinking Water

The Buhuka Flats villages along Lake Albert are largely dependent on water from the Lake for washing, cooking and cleaning. While some households report using Lake water for drinking, others report purchasing water from water vendors. While there is an existing piped gravity water scheme, the district water engineer has described the system as “crude, poorly constructed, intermittently dysfunctional and generally regarded as unsafe (personal communication, 2017). This system is currently being upgraded by CNOOC, including the installation of hand pumps.

The socio-economic survey of directly affected households for the KFDA, undertaken during October and November 2016⁹², indicated that just over a third of PAPs (11 or 36.7%) used spring water for drinking, while the same number (36.7%), indicated that they drank water from a stream. There were eight (26.6%) households that obtained drinking water from the lake itself.

Clean and reliable water supply is an issue in most of the villages. Table 23 below summarises data gathered during the Village Level Survey as part of the SIA process undertaken during November and December 2017 with regard to the water supply for each village in the LSA. The stated water supply is in addition to access obtained directly to water from Lake Albert. As well, CNOOC had commenced fixing the broken-down gravity fed water supply system feeding hand pumps in each of the villages on the Flats. Although the current status is not known, CNOOC had undertaken to supply each village with a water supply system that would include five operational handpumps at various points in each village.

Table 23: Water Supply by Type – Buhuka Flats Settlements

| Settlement | No. of Water Protected Water Sources (Springs) | No. of Unprotected Water Sources (Springs) | No. of Boreholes | H/H connected to piped water |
|--------------------|--|--|------------------|------------------------------|
| Busigi Village | 00 | 00 | 01 | 00 |
| Kacunde Village | 00 | 00 | 00 | 00 |
| Kiina Village | 00 | 00 | 00 | 00 |
| Kyabasambu Village | 00 | 00 | 00 | 00 |

⁹² Survesis/Nomad Consulting (2016) KFDA RAP Project Phase 1





| Settlement | No. of Water Protected Water Sources (Springs) | No. of Unprotected Water Sources (Springs) | No. of Boreholes | H/H connected to piped water |
|-------------------|--|--|------------------|------------------------------|
| Kyakapere Village | 00 | 00 | 00 | 00 |
| Kyanyanda Village | 00 | 00 | 01 | 00 |
| Nsonga Village | 00 | 00 | 00 | 00 |
| Nsunzu Village | 00 | 00 | 00 | 00 |
| Senjojo Village | 00 | 00 | 00 | 00 |

3.6.6.2 Sanitation and Refuse Systems

The Hoima District Health Officer confirmed that all sub-counties with settlements that have landing sites on Lake Albert have poor sanitation. Low levels of latrine facilities are in part ascribed to difficulties in building dry sanitation systems due to poor soil texture (causing collapse of structures), lack of appropriate technologies for latrine construction using local materials and massive seasonal fluctuations in numbers of people residing within these settlements. This is exacerbated by the fact that there is a belief that defecation in the Lake ensures increases in fish populations as well as the stated cultural attitude amongst (mainly Congolese) immigrants that toilets are superfluous⁹³.

As identified in the RAP report⁹⁴, twenty-five households (83.8%) had access to shared latrine services either in the greater neighborhood or at the household level. Of the 25 households with latrines, there were 19 (76%) that had latrines without ventilation and six (24%) that had latrines with ventilation. Of the five households that had no access to latrines, four used the bush and one used the lake.

Most homes along the lakeshore do not have kitchen infrastructure and cooking is mostly done on verandas. Some of the shower shelters are positioned adjacent to the lake and all of the wastewater is discharged into the lake. Inhabitants have been observed bathing and washing kitchen utensils in the lake.

Sixteen households (51.6%) surveyed indicated that they disposed of waste in the bush, 11 households (36.7%) had private waste pits near their homes, and four households (13.3%) burnt their waste (RAP Report).

⁹³ Hoima District Water Office and villagers at Lakeside settlements, Personal communication, 2017

⁹⁴ KFDA RAP Project 2016 – Phase 1 Resettlement Action Plan





Photograph 8: Organic and inorganic waste pollution



Photograph 9: Pervasive evidence of improper waste management

3.6.6.3 Energy

Amongst the PAPs surveyed as part of the RAP, it was reported that the major source of energy for lighting was solar (40%) although some households used batteries (33%), whilst others used paraffin (20%). There were two households that relied on the moon for lighting. Four households used paraffin as an alternative to solar when needed. Most households (80.6%) used charcoal for cooking alternating it with wood. There were six households that used wood alone for cooking. Paraffin was never used alone for cooking⁹⁵.

⁹⁵ KFDA RAP Project 2016 – Phase 1 Resettlement Action Plan



Photograph 10: Deforestation and Charcoal Production above the Buhuka Flats

Table 24: Energy sources in the community

| Type | Source of energy for cooking (number of households using source) | Source of energy for lighting (number of households using source) |
|---------------------------------------|--|---|
| Charcoal | 25 | NA |
| Firewood | 17 | NA |
| Use both charcoal and firewood | 9 | NA |
| Solar/Battery | NA | 25 |
| Paraffin | NA | 13 |
| Use paraffin as a back up to solar | NA | 7 |

3.6.7 Housing

Apart from Kyabasambu, the villages in the Kingfisher LFA are characterised by high population density. In settlements such as Nsonga, Nsunzu and Kyakapere the majority of structures found alongside the main internal roads have a clear commercial nature and serve both a commercial and residential purpose. In the majority of villages on the Buhuka Flats there are significantly more semi-permanent and even temporary structures (wattle and daub) than the more permanent traditional round homes.

There are 31 Project affected households which were identified in the RAP Report and the associated socio-economic survey of households undertaken during October and November 2016. Residents' houses occur in a homestead setting. Usually there is a multi-purpose permanent or semi-permanent structure. If there is a sleep-only unit, there may be another unit which contains a semi-permanent



kitchen, a bath shelter, a plate drying rack and a latrine. Tenants' houses are usually a one room multi-purpose structure.



Photograph 11: Semi permanent structures used as a kitchen (left) and for accommodation (right)



Photograph 12: Permanent structure for accommodation and a kraal

Amongst the population sampled for the socio-economic household survey undertaken for this Project in 2013, fifteen households in Kyakapere reported that they had lived in their current homes for more than fifteen years. One household had lived in the current area for a period of more than five (5) years but less than 10 years. Nine households reported that they had lived in the current location for one to five years, whilst five households claimed to have lived in the area for less than one year.

Based on local custom and tradition, men are heads of households, and they determine location of the homestead, use and management of resources, as well as ownership of property. Of the 31 households surveyed, six (19%) were female-headed households. The age of the affected household heads ranged between 20 and 66 years.



3.6.8 Household and Household Assets Ownership

Of the 31 affected households identified during the relocation action planning process and based on the associated socio-economic survey of households undertaken during October and November 2016, fourteen of the households indicated that they comprise owner-occupied households, whilst eight indicated that they were tenant-occupied households. Three households had structures under construction, whilst another two households had minor structures that would be affected by the developments. A total of four households did not have residents living on the plot and there were three households where the owners lived elsewhere. One household had a sisal plants affected by the project. Furthermore, there were two households who indicated that they occupy rented houses that had not, as yet at that stage, been completed. One household owned rental units in the area.

Amongst the 31 affected households, there were 25 (80.6%) households that indicated that they owned mobile phones, 25 (80.6%) households that owned mosquito nets, 21 (67.7%) households that owned radios and 21 (67.7%) households that owned fishing nets.

A smaller number of households (see Table 25) own more expensive items.

Table 25: Ownership of household items

| Assets | # of households owning assets | % of household owning assets |
|--------------|-------------------------------|------------------------------|
| Mobile phone | 25 | 80.6 |
| Mosquito net | 25 | 80.6 |
| Radio | 21 | 67.7 |
| Fishing net | 20 | 64.5 |
| Boat | 19 | 61.3 |
| Bicycle | 7 | 22.6 |
| Motorcycle | 5 | 16.1 |
| Boat engine | 2 | 6.4 |
| Television | 2 | 6.4 |
| Plough | 1 | 3.2 |
| Laptop | 1 | 3.2 |

3.6.9 Social Order, Crime and Security

Based on consultation with residents in the fishing villages in the Buhuka flats during the 2013/2014 socio-economic household survey for this project, social order and community safety served as important values within the community. Villagers from the settlements had expressed concern about what they perceived to be a massive increase in levels of alcohol and drug abuse, gambling and prostitution. As well, increasing levels of tension between groups and increases in levels of crime, including rape and child defilement.

This situation was comprehensively confirmed during the Village level Socio-Economic Study undertaken during November and December 2017.

Table 26 below outlines respondents' views about the causes of disputes in the community as per the 2013/2014 study. Alcohol abuse is seen to be by far the most significant trigger factor, causing nearly half of all disputes. This phenomenon is still central to the disputes within settlements and has deepened over time. Following this in terms of trigger factors were land related disputes, witchcraft and family





issues. Residents also stated that other than sports, there are few recreational facilities for teenagers, which is perceived to be aggravating the under-age drinking problem on the Flats.

Table 26: Causes of disputes in the community

| Main causes of disputes | Frequency | Percent |
|-------------------------|------------|--------------|
| Land related | 91 | 13.7 |
| Alcohol | 331 | 49.8 |
| Witchcraft | 77 | 11.6 |
| Financial matters | 62 | 9.3 |
| Family issues | 71 | 10.7 |
| Others | 33 | 5.0 |
| Total | 665 | 100.0 |

Nearly 48% of surveyed households said that they were aware of a person in the village who had been arrested for crime. The most commonly reported arrests in the area were said to be due to fights and assault (reported by 55.3% of respondents to be the primary criminal activity). Theft cases were reported by 21.9% of the respondents and others, such as defilement, child abuse and adultery by 4.7% of respondents. The LC system is the most common means through which disputes and grievances are resolved.

3.6.10 Economic Activities

3.6.10.1 General Overview

Based on the socio-economic survey for this project undertaken during 2013, economic activity on the Buhuka Flats contrasted starkly with that at the District and National levels. While agriculture is a major economic activity in Kikuube and Hoima Districts, Buhuka Flats' economy is largely characterised by fishing and livestock (mainly cattle) keeping. Substantial fish processing and other trade across Lake Albert occurs.

At the time of the survey, retail trading activities formed the primary livelihood for 9.8% of the household heads. About 25% of all households indicated that they engage in trade outside of Buhuka Parish, with most of the of the items sold being fish produce (79.8%), while some traded in general merchandise and others in foodstuffs (9.2% and 11% respectively).

Based on the socio-economic survey of households undertaken during October and November 2016 and outlined in the RAP Report, the majority of adults from the 31 project affected households, reported being self-employed (37.3%), mainly in the business sector, while 12% were engaged in the fishing industry as indicated in Figure 19 below. There were 28 (30.8%) persons over the age of 18 years employed in the fishing sector. The adults included eight persons above the age of 18 years of age who reported that they were still in school.



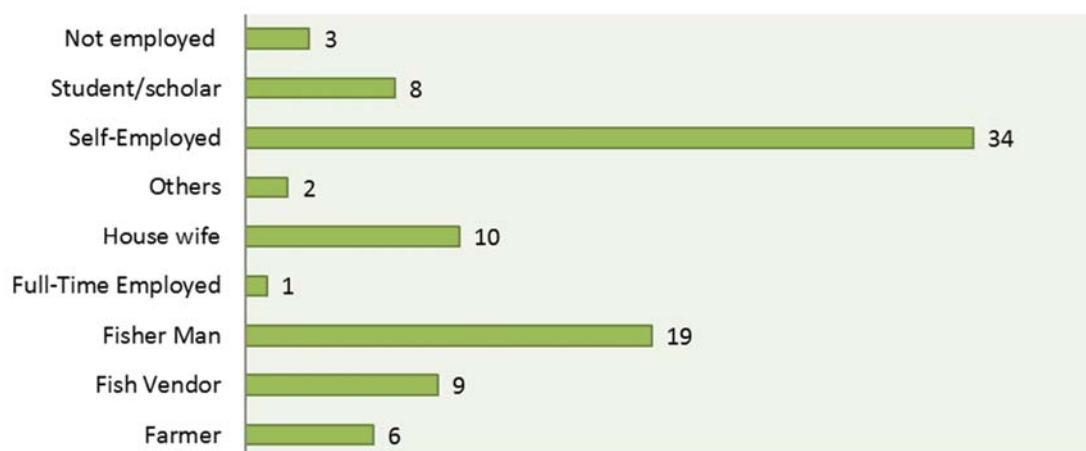


Figure 19: Employment status of adult household members in numbers

Retail trading forms the primary livelihood of 9.8% of the household heads. About a quarter of all households trade outside of Buhuka Parish, selling mainly fish produce (79.8%), while some trade in general merchandise and in foodstuffs other than fish.

Some household heads (6%) from the sample socio-economic survey indicated that they are civil servants, including teachers, police, religious organisations, NGOs and sub-county administrative officials. Eighteen of the interviewed household heads indicated that their primary livelihood is “teaching”, despite the fact that there are a limited number of school teachers in the area. It is therefore plausible that there are trained (but unemployed) teachers living in the local study area.

A small percentage of households from the 2013 survey indicated that they derive an income from harvesting firewood and making charcoal for sale as well as for own consumption.

3.6.10.2 Fishing

The fisheries sub-sector in Buhuka Parish consists of both fish farming and fishing on Lake Albert, drying and salting of fish along the lake shore and marketing and sale of lake fish into Hoima and Kikuube districts and beyond or into the DRC (which has ready access by boat). The fishing trade (including both fishermen and traders) traditionally forms part of the informal economic sector, and therefore earnings are largely undocumented. What is clear, however, is that earnings are undocumented, unpredictable in size and occurrence, with seasonal variations.

Whereas many of the population identified in the socio-economic survey of households, as undertaken during October and November 2016 (and detailed in the RAP Report), indicated that they are self-employed, the major economic activity in the area is fishing. Men catch fish in the lake while the women, in most cases, are fish vendors. Out of the 31 households, 90.3% (28) harvested fish both for sale and home consumption. This pattern appears to be generalised throughout all villages on the Flats. Silver fish is the most common fish caught in Lake Albert. There are fish markets in villages, and vendors with vehicles are sent to buy at source at the lake.

Fishing is a daily activity for almost all the households engaged in fishing. Between six and 12 hours daily are reported to be spent on fishing activities. Between 30kgs and 600kgs of fish can be caught on the lake during a single fishing expedition. Over the past 10 years, the landed catch size in the industry has declined significantly. Destructive fishing methods are blamed, such as the use of illegal fishing gear, fishing in breeding areas, overfishing and harvesting of undersized fish. Enforcement of





regulations on catch size or any other aspect of sustainability has been abandoned, as a direct result of instructions from central government to stand down.⁹⁶

The photographs below provide a comparison of average size of fish being dried during 2013, as compared with catch being dried during 2017. Although villagers report that a big fish is still occasionally caught, this is become increasingly rare, and usually only if four to five sets of nets are joined together and dropped to deeper levels of the Lake.



Photograph 13: Fish processing in 2013 (left) and 2017 (right)

What is particularly significant is that focus group discussions during 2013 indicated that relatively little of the fish catch at that stage was sold up into the escarpment. Village residents from the top of the escarpment were deemed to be more likely to travel to the Lake to catch their own fish for household consumption and transport it back to their houses than to purchase fish from the markets. This still holds true for a significant proportion of villagers who reside in settlements on the escarpment contiguous to the proposed feeder pipeline area. In addition, there are flourishing daily markets in place that sell a large variety of produce depending on the season, including agricultural products from outside the area.

However, large quantities of silver fish are now traded out of the Buhuka Flats area via trucks that trade as far as Kampala and even Kenya. On a single day, a 1,000 kg of silver fish of fingerling size can quite readily leave the Flats for Kampala and onward. Although this has had a significant impact on income generation, the unmonitored and uncontrolled exploitation of fish reserves will have devastating consequences for all villagers on the Flats.

3.6.10.3 Agriculture and Animal Husbandry

It was established during the socio-economic survey of households, which was undertaken during October and November 2016 and reported on in the RAP Report, that twenty-one households are engaged in animal rearing, including cattle, pigs and goats. Fifteen households rear poultry including chicken and ducks. Despite livestock rearing being small-scale, it is another source of income for the households. This prevalence and pattern of livestock rearing was confirmed during the fieldwork for the project undertaken in 2017.

⁹⁶ Personal communication, November 2017, Hoima District government officials.



Livestock kept by households include poultry, goats, pigs and cattle. Livestock graze on both customary and public land. Owners of livestock said that their main problems included animal diseases (58%), expensive medicines (38%), cattle theft (24%) and limited support from government (35%). Respondents also complained that oil firms import all their food from Kampala while purchasing nothing from them (Kingfisher 3 ESIA).

In the socio-economic household survey, goats were listed as the most commonly reared livestock (42% of households keep goats), and ducks and chickens are the most commonly kept poultry. Approximately 11% of households kept cattle with an average of 14 cattle per household – totalling 658 cattle grazing in the Buhuka Parish. (The Kingfisher 4 social baseline recorded 18% of households owning cattle, with an average of 24 cattle per household). There has been an influx of cattle herders into Buhuka Parish mainly from Ankole and Tanzania following the expulsion of Ugandan cattle herders from Tanzania. Rearing of livestock is communal on the open free-range land. The livestock has abundant water supply from the lake, which is crucial to keeping cattle and rearing ducks.

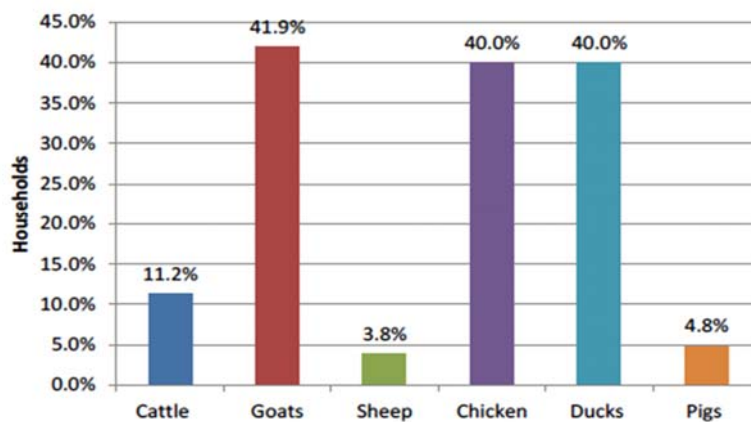


Figure 20: Percentage of households that keep livestock and poultry



Photograph 14: Cattle in the Buhuka Parish



Table 27 below provides an overview of the livestock numbers in the area during 2013. By the end of 2017, there had been a major increase in livestock numbers with significant overgrazing already in place.

Table 27: Livestock numbers in the area (2013)

| Livestock | Number |
|-----------|--------|
| Cattle | 266 |
| Goats | 671 |
| Chicken | 216 |
| Ducks | 235 |
| Sheep | 10 |
| Pigs | 540 |

Based on satellite image analysis, the Buhuka Parish has a total available grassland area of 854.1 ha. The FAO (Food and Agriculture Organisation) livestock unit conversion rate for Africa is 0.19 Livestock Units (LUs) per hectare – which equates to 5.26 ha that is required per LU. For Sub-Saharan Africa, one head of cattle is considered equal to 0.5 LUs, which then translates to 2.63 ha required per head of cattle (Food and Agriculture Organisation of the United Nations, 2003).

Based on this information, the carrying capacity of this available grassland in the Buhuka Parish is approximately 324 cattle. With a total of 658 cattle recorded in the sample socio-economic survey, this suggests that the total livestock from the sample of households alone at that stage in time, far exceeds the carrying capacity of the land.

The focus group discussions indicated that cattle keepers in Buhuka Parish range into neighbouring parishes to find grazing, which increases the total available area while impacting on the grazing available to the villages in the neighbouring parishes. The Kyangwali sub-county Development Plan (2011 – 2015) indicates that there are approximately 623 households in the sub-county engaged in livestock keeping, with an estimated total of 367,786 cattle in the sub-county. These numbers suggest that livestock keeping is a substantial livelihood activity in the sub-county, and that grazing land is going to become increasingly difficult to find if populations in the counties continue to increase.

While fishing and livestock farming are the predominant livelihood activity for villages in the Buhuka Flats, some villagers do grow crops on small plots, using rudimentary cultivation methods depending on the rainy seasons. Crops include beans (46.4%), groundnuts (17.5%), bananas (14.1%), cassava (8.7%) and others. Some of the food crops may be sold to raise money needed for other household commodities.

Besides cultivating in the backyard of their homesteads, 33.7% of the respondents surveyed during the 2013 household socio-economic assessment for this project reported that they had access to arable land away from their homesteads. Of these respondents, 70.2% said that the land was on top of the escarpment, while only 29.8% had plots of land on the Buhuka Flats. The Flats are in a rain shadow, experiencing long dry spells, which together with clay soils make them less favoured for cultivation than the land above the escarpment. Respondents reported that the average area of land being cultivated is 3 acres.



Food for household consumption is the main reason for cultivation, and crops include cassava, maize, beans, rice, and egg plants. Of these 12 households, 11 households also sold part of their produce, usually beans and maize. Two households grew other cash crops, one being tobacco and the other sisal.

Only one household had farming land on the affected plot, and this land produced food for household consumption. Other households engaged in farming have gardens away from the platform (affected plot) in other villages. Six households had trees, although these were not used for gain. Poor soils in the area and a dependence on rain for irrigation means that all households experience food shortages for several months between November and March every year.



Photograph 15: Backyard farming in Nsonga

Most respondents do not have a means of storing food with 65.8% saying they had no arrangements in their households. The most common storage facility for dry foods is a granary but none of these structures were observed during the study.

3.6.10.4 Household Income

The average income in the affected households surveyed for the relocation action planning process is reported to be in the order of three million (3,000,000) Uganda shillings (UGX) per month⁹⁷. There are nine households that earn less than one million (1,000,000) UGX in a month.

Households report that they spend money mainly on basic needs, medical fees and education. There are only 14 households that have monthly savings in a Savings and Credit Cooperative Organization (SACCO).

Table 28 provides an overview of household income for the directly affected PAPs within the Buhuka Flats study area.

Table 28: Household income of affected households

⁹⁷ KFDA RAP Project 2016 – Phase 1 Resettlement Action Plan



| UGX | Number of households |
|------------------------|----------------------|
| Less than 1,000,000 | 9 |
| 1,000,000 - <2,000,000 | 10 |
| 2,000,000 – 3,000,000 | 4 |
| Above 3,000,000 | 8 |

3.6.11 Land Access and Tenure

Communities in Buhuka Parish occupy the public land with sole possession of usufruct rights especially settlement, fish processing, recreation, and cattle grazing. All this land is held under the customary tenure system. “This means that it is private property, but the owners need no documents to prove ownership. Their claims to the land, and the boundaries of the land, are locally recognised, and this recognition is given the full protection of State law”.⁹⁸

In the Buhuka area, land is communally owned, although some persons claim that they have written permission from the village Chairpersons to occupy land, and some indicate that they had paid for the land. A total of 21% of households have had land conflict or pressure over landownership, with disputes arising mainly about ownership (40% of cases) and disputes about boundaries (44% of cases).

Several court cases were already ongoing between individual landowners and community members from various villages⁹⁹ at the time when oil exploration initiatives yielded positive results. Subsequently, a Community Land Association was formed and CNOOC was required to pay compensation for land into a trust fund. Although the Association had not been properly constituted, the perception that CNOOC was delaying payment into the fund resulted in the launch of a court case as well as the initiation of a comprehensive boycott of CNOOC activities in 2014.

Since this date, the Ministry of Land, Housing and Urban Development (MLHUD) begun to provide technical assistance, advice and support to community members residing on the Buhuka Flats. In July 2016, a general meeting was called by the MLHUD in collaboration with the Hoima District Local Government and local leaders, including CNOOC and community members, to address the stalemate that had been reached. This meeting resolved that, in accordance with the Land Act of 1998 and the land regulations, members from the Nsonga, Kyabasambu, Kyakapere, Nsunzu and Kiina villages should form the Buhuka Communal Land Association (BCLA) also referred to as BUCOLA. The members of the erstwhile Community Land Association would become members of the BCLA. It was the intention of the participants that this Committee will receive the money paid for compensation and administer the funds on behalf of the registered members of the Association.

⁹⁸ Land and Equity Movement in Uganda (LEMU) (Undated) Policy Discussion Paper 4: Does customary tenure have a role in modern economic development

⁹⁹ Minutes of the Meeting held with the Buhuka Community Land Association in 2017





3.7 Local Study Area – The Feeder Pipeline

3.7.1 General Background

The “Kingfisher to Kabaale Pipeline Area” (hereafter referred to as the Pipeline Focus Area) is geographically located along the proposed approximate 46 km pipeline route, commencing at the KFDA on the Buhuka Flats and terminating at the proposed government-developed refinery at Kabaale (see Figure 21 below).

The second phase of the KFDA project covers 24 villages in 6 parishes located in 3 sub-counties. The parishes are located in the sub-counties of Kyangwali (Buhuka, Butoole and Kyangwali parishes); Buseruka (Kabaale parish); and Kabwoya which has Kaseeta parish. In the respective parishes and villages there are 680 affected households¹⁰⁰. The feeder pipeline passes through 4 sub-counties and runs contiguous to the 24 villages as set out in Table 29 below.

Table 29: Sub-counties, parishes and villages within vicinity of the pipeline¹⁰¹

| Sub-county | Parish | Village |
|------------|--------------|--------------|
| Kyangwali | Kyangwali | Hanga II B |
| | Kyangwali | Kabaale |
| | Kyangwali | Ngoma |
| | Kyangwali | Nyasenge A |
| | Kyangwali | Nyasenge B |
| | Kyangwali | Kyangwali |
| | Kyangwali GR | Kyarushesha |
| | Butoole | Kasoga |
| | Butoole | Kyarujumba A |
| | Butoole | Kyarujumba B |
| Kabwoya | Butoole | Tontema |
| | Kaseeta | Ndongo |
| | Kaseeta | Hohwa |
| | Kaseeta | Nyairongo |
| Buseruka | Kaseeta | Nyanseke |
| | Kyangwali GR | Kitegwa |
| | Kabaale | Kabakete |
| | Kabaale | Kamukeduke |
| | Kabaale | Kataaba |
| | Kabaale | Kijumba |
| | Kabaale | Nyamasoga |
| | Kabaale | Kitegwa |
| Kabaale | Nyaihara | |

¹⁰⁰ Surveys/Nomad Consulting (2017) Kingfisher Field Development Area and Feeder Line Resettlement Action Plan Phase Two ¹⁰¹ Ibid





SIA: KINGFISHER FIELD DEVELOPMENT AREA, UGANDA

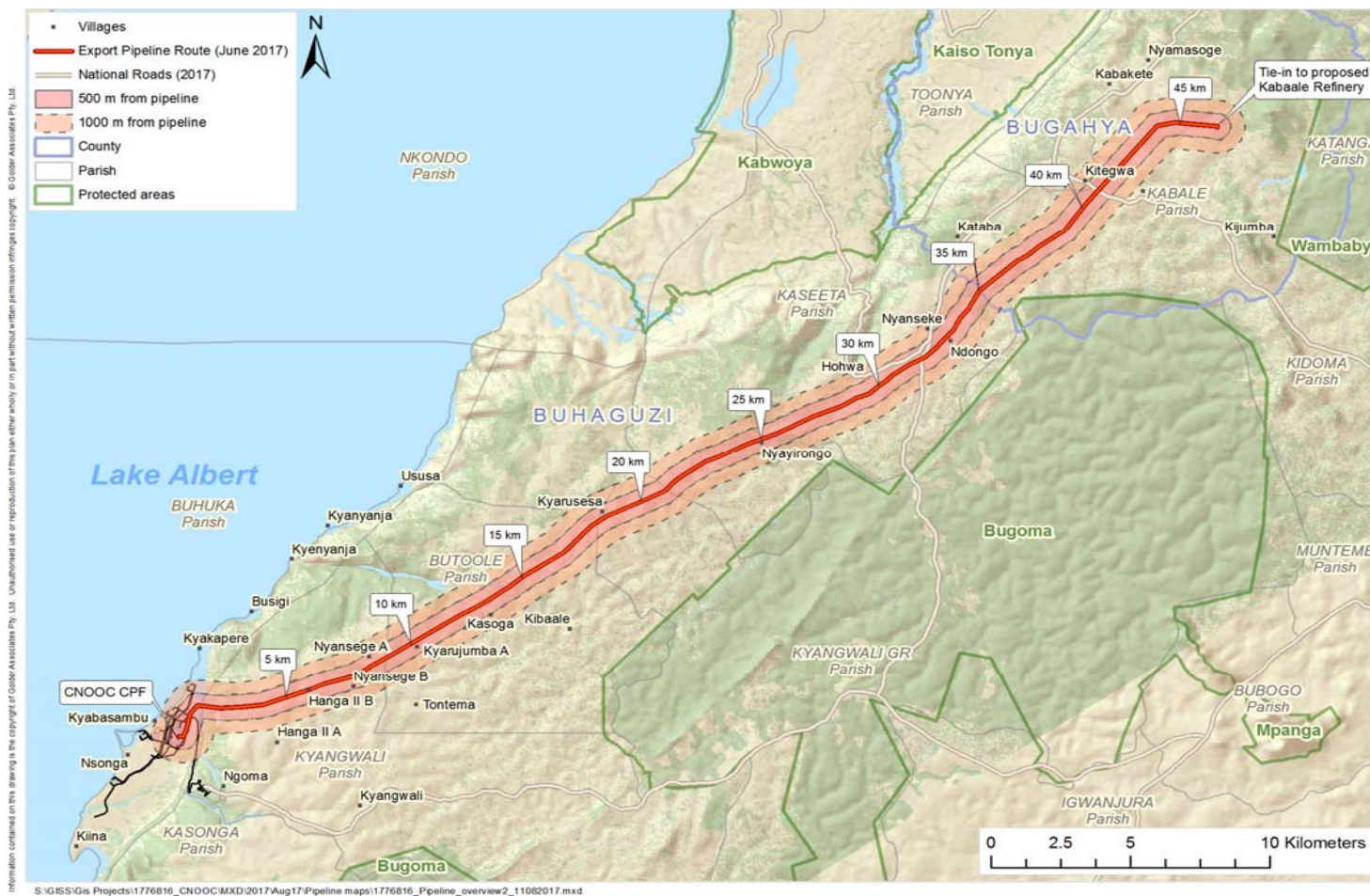


Figure 21: Map of the Pipeline Focus Area





Similar to the Kikuube and Hoima Districts profiles, most villages are heavily dependent on agricultural activities and the selling of agricultural produce. Although there had been limited trade between villages in the Buhuka Flats and villages on top of the escarpment, such as Ngoma village, with the steep escarpment and lack of access serving as limiting factors to trade, this situation had changed dramatically by 2017 subsequent to the opening of the escarpment road.

During the 2013 socio-economic household survey for this project, respondents from villages located along the pipeline route had indicated that social services were generally lacking, though villages located closer to the Hoima–Kyangwali road and settlements within trading centres such as Kabakete, Kamukeduke, Kitegwa, Nyanseke, Ndongo and Hohwa, generally had better social infrastructure such as schools and drug shops. This still served to be true at the stage that fieldwork was undertaken for this project during 2017.

The Hoima-Kyangwali road has recently been upgraded and tarred from Hoima to Hohwa, which has increased accessibility to the villages on the northern section of the pipeline. Villages on the southern section of the pipeline continue to have poor access roads – typically dirt roads that are heavily eroded during the wet season. The lack of access limits transport of goods and, therefore, the ability of villagers to reach larger markets outside their immediate area.

Most of the pipeline route is covered by natural grassland or by cultivated areas – including a variety of annual crops as well as numerous coffee, banana and sugar cane plantations.

3.7.2 Village Formation

According to inhabitants, most of the villages in the LSA were established between 1920 and 1990 (with the majority between 1970 and 1985, see Figure 22 below).

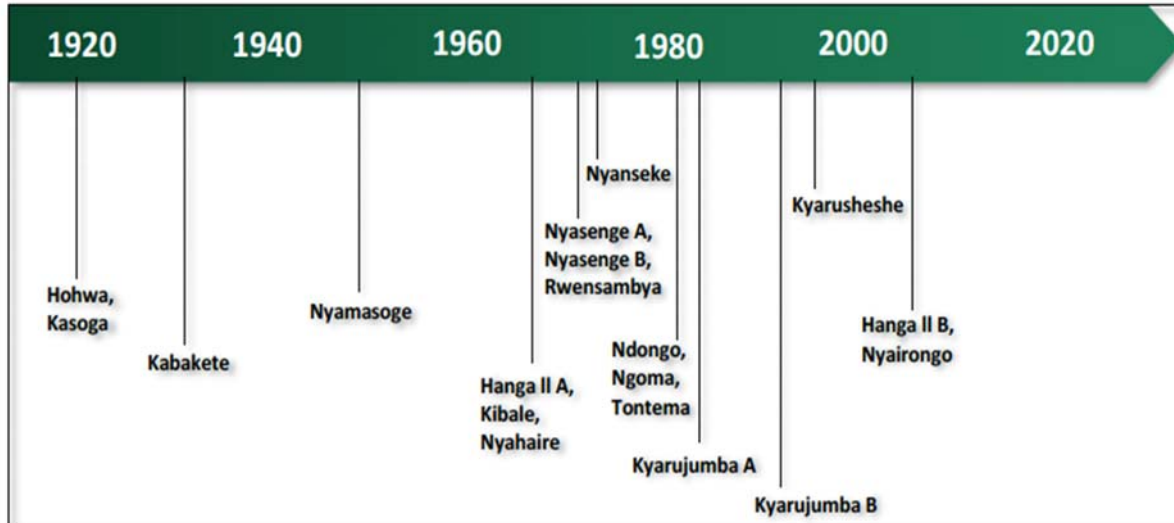


Figure 22: Age of villages along the pipeline LSA





3.7.3 Project Affected Persons

“The Project Affected Persons (PAPs) are individuals who are physically or economically displaced by land acquisition for the project. Individuals who are part of families affected by the Project’s development activities are collectively referred to as Project Affected Households (LARF, 2016). A PAP may have a right to one or more groups of assets including (a) rights to land, (b) ownership of crops and trees, (c) homestead property, (d) homestead structures, (e) graves, (f) shrines, and (g) other privately held physical assets located within the Project Area. There are 680 PAPs who are affected in this Phase of the RAP with a total of 55 homesteads and 48 structures which are inclusive of kitchens, bath shelters, pit latrines and barns”¹⁰²

Table 30: Summary of Affected Structures

| Facility | Homesteads | Other structures |
|------------------|------------|------------------|
| Feeder pipe line | 38 | 33 |
| Flowlines | 8 | 3 |
| Additional works | 9 | 12 |
| Temporary Camp | 0 | 0 |
| Total | 55 | 48 |

Table 31: Summary of Assets to be acquired

| Category affected | Number of assets |
|--------------------|------------------|
| Loss of structures | 55 |
| Loss of crops | NA |
| Loss of trees | NA |
| Graves | 46 |
| Annexed structures | 48 |

3.7.4 Demographics

3.7.4.1 Population Size, Growth and Density

As may be seen from the tables and figures below, the villages in the various Parishes along the pipeline LSA vary greatly in size. As is the case on the Buhuka flats, the population of the LSA has grown exponentially and by far exceeds estimates, often more than double¹⁰³. For example, the surveyed Kyenjojo population was 10,000 compared to the estimate (Ibid.) of 1,819¹⁰⁴.

There are some exceptions where these estimates are:

- higher than the actual count. For example, in the Butoole Parish, the 2017 estimate for Kyarujumba was 1,633, whereas the surveyed figure was 1,000; and

¹⁰² Survesis/Nomad Consulting (2017) Kingfisher Field Development Area and Feeder Line Resettlement Action Plan

Phase Two ¹⁰³ Golder Associates/E & P (2017) Village level survey for the project

¹⁰⁴ Hoima Development Plan (2016) Planning Unit, Hoima District





- almost on par with the household survey data, e.g. the 2017 estimate for Kataaba was 1,662 compared to 1,700 (survey).

Butoole Parish

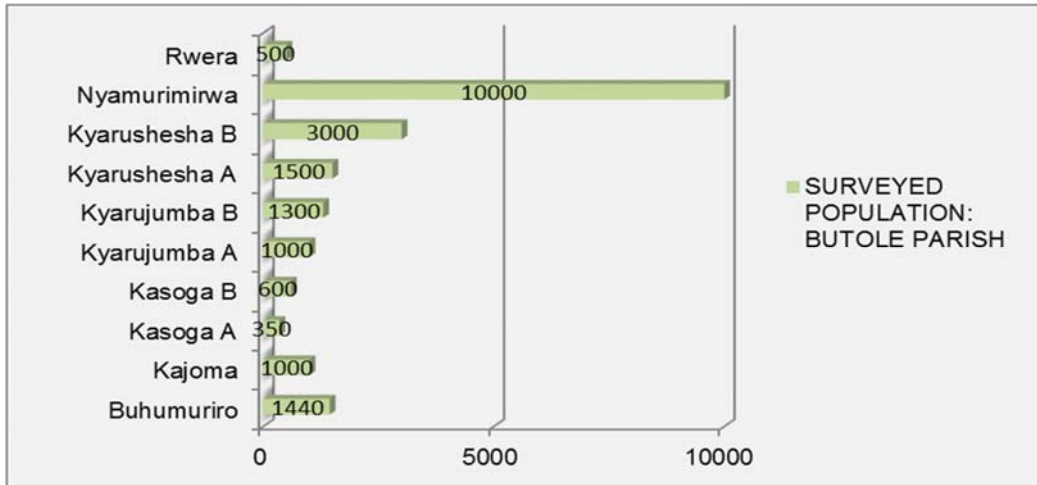


Figure 23: Butoole Parish Villages¹⁰⁵

Kabaale Parish

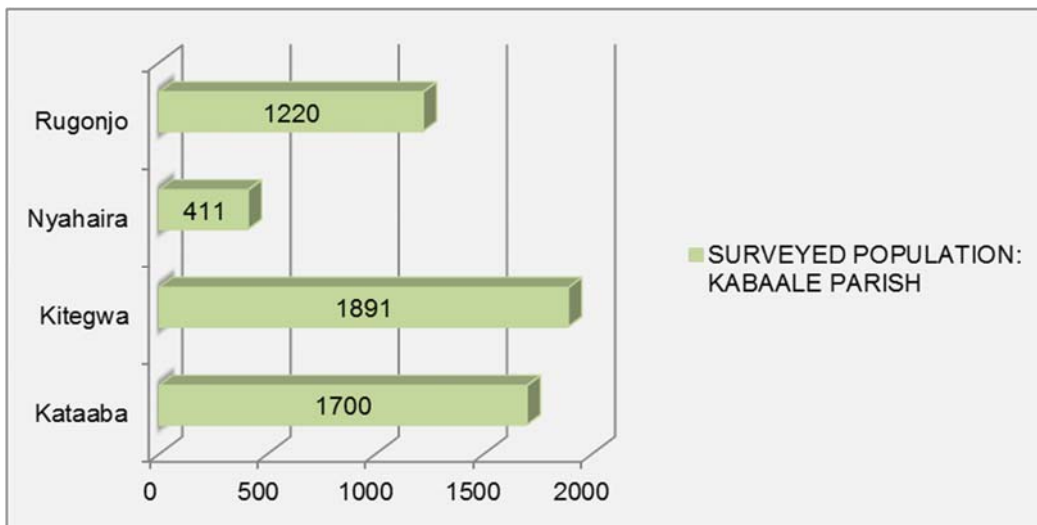


Figure 24: Kabaale Parish Villages¹⁰⁶

¹⁰⁵ Golder Associates/E & P (2017) Village level survey for the project

¹⁰⁶ Ibid





Kaseeta Parish

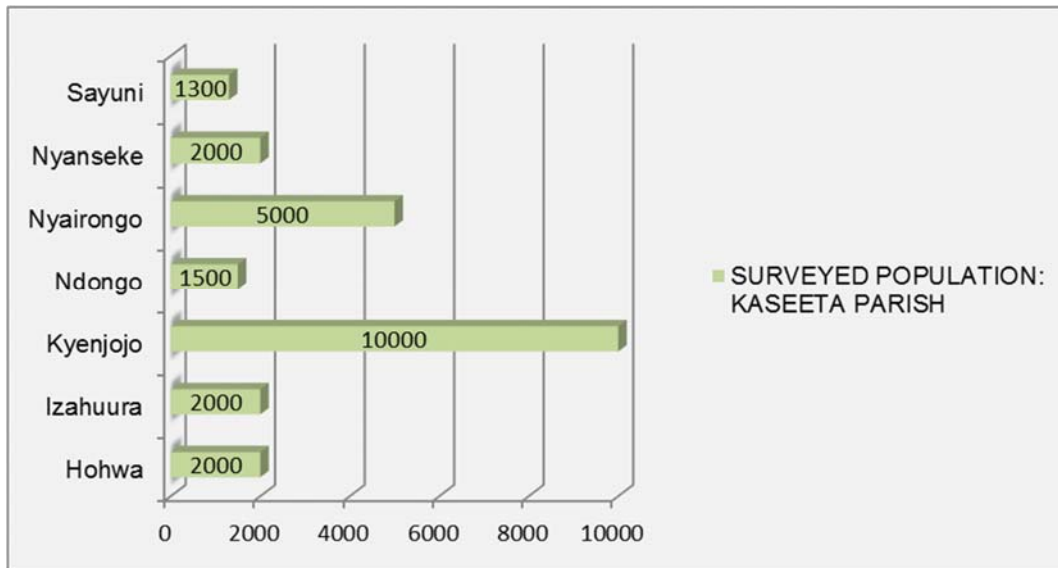


Figure 25: Kaseeta Parish Villages (surveyed)

Kyangwali Parish

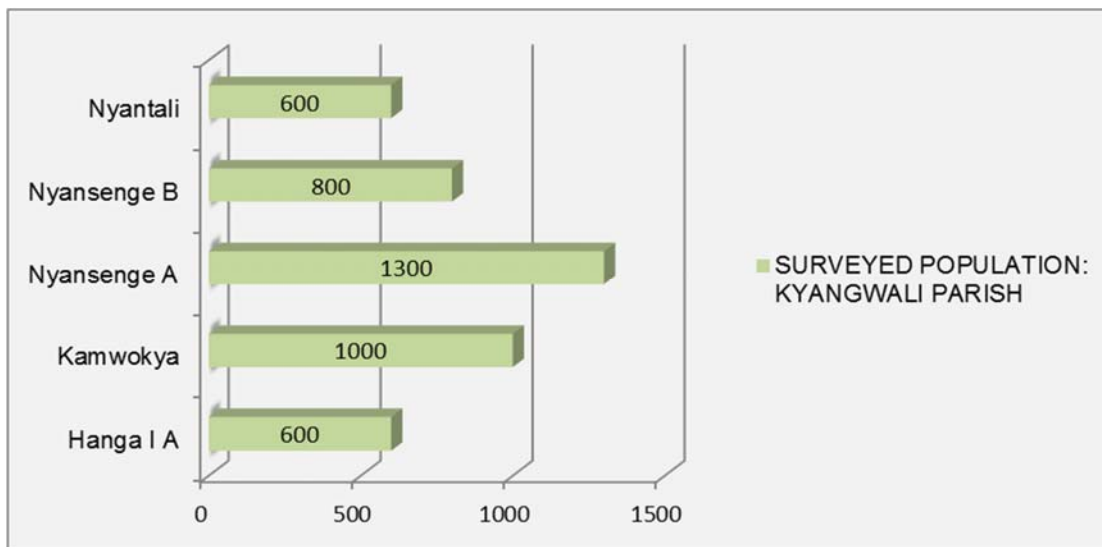


Figure 26: Kyangwali Parish Villages (surveyed)

3.7.4.2 Population Movement and Migration

Based on the 2013 socio-economic survey for this project, it was identified that the population in settlements along the route of the feeder pipeline had shown significant stability over time, specifically as it related to the average length of time that villagers had resided in the area.





It was important to establish how long the PAPs had lived in the area and had, therefore, developed stable ties and networks. The majority of households surveyed as part of the relocation action planning process had indicated that they had lived in the villages for more than 15 years though there were households that indicated that they had been residing in the area for less than a year¹⁰⁷.

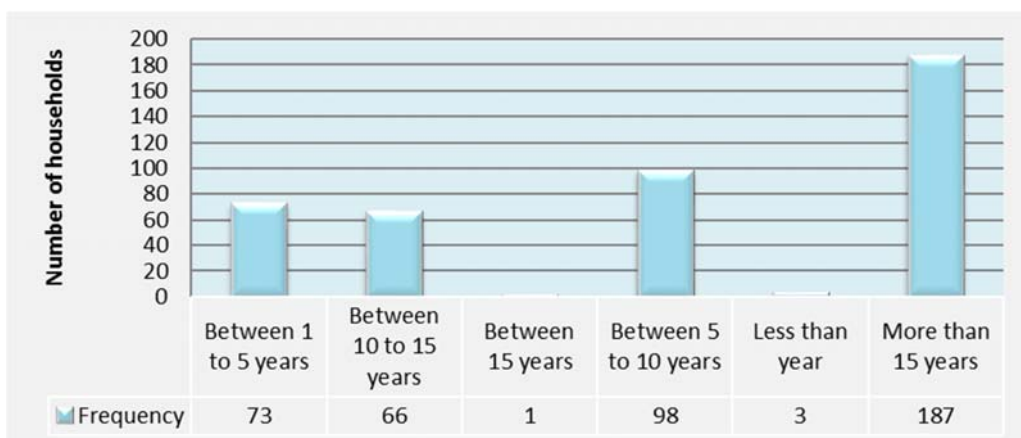


Figure 27: Duration of residence in LSA - PAPs¹⁰⁸

3.7.4.3 Population Age and Gender

The 680 households, which were identified in the socio-economic survey of PAP households undertaken during October and November 2016 and detailed in the RAP report, are mainly made up of nuclear family members. Where there are extended family, other relatives include grandchildren, siblings to the household head, cousins, sons or daughters--in-law, a parent and other relatives.

There was a gender balance in the households that will be affected by the project. There are 49.93% males in the 680 households.

Table 32: Population breakdown of PAPs in the feeder pipeline area

| | % of the population by gender (N=2949) | | |
|-----------------------|--|--------|-------|
| | Male | Female | Total |
| Household Head | 10.1 | 1.4 | 11.5 |
| Spouse | 0.1 | 12.7 | 12.8 |
| Children of household | 35.9 | 27.9 | 63.8 |
| Son/ daughter in-law | 0.03 | 0.7 | 0.73 |
| Grandchild | 2.1 | 2.2 | 4.3 |
| Parent | 0.1 | 0.4 | 0.5 |
| Brother/ sister to HH | 1.5 | 0.5 | 2.0 |
| Cousin | 0.1 | 0.2 | 0.3 |

¹⁰⁷ Survesis/Nomad Consulting (2017) Kingfisher Field Development Area and Feeder Line Resettlement Action Plan Phase Two ¹⁰⁸ Ibid





There are 59.1% persons in the affected households who are below the age of 18 years while 2.8% are in the older persons' age group of 60 years and above. That means that only 38.1% of the persons in the affected households are in what is regarded as the productive adult age group.

3.7.4.4 Ethnicity, Citizenship and Religion

The main ethnic and secondary ethnic groups per parish are set-out in Table 33 to Table 36 below:

Butoole Parish

Table 33: Butoole Parish main ethnic and secondary groups

| PARISH | VILLAGE | MAIN ETHNIC GROUP | SECONDARY ETHNIC GROUPS |
|----------------|---------------|-------------------|--|
| BUTOOLE | Buhumuro | Bakiga | Banyarwanda, Bafumbira, Batoro, Banyoro |
| | Kajoma | Bakiga | Bafumbira, Alur, Batoro, Banyakole |
| | Kasoga A | Bakiga | Bafumbira, Banyakole, Banyoro, Alur |
| | Kasoga B | Bakiga | Banyoro, Alur, Bafumbira, Banyakole |
| | Kyarujumba A | Bakiga | Bafumbira, Alur, Batoro, Banyakole |
| | Kyarujumba B | Bakiga | Bafumbira, Alur, Banyakole |
| | Kyarushesha A | Banyakole | Banyoro, Bafumbira, Bakiga, Bakonzo, Basoga, Alur |
| | Kyarushesha B | Banyakole | Rwandese, Banyoro, Bakiga, Bakonzo, Alur |
| | Nyamurimirwa | Bakiga | Bafumbira, Banyakole, Alur, Baganda, Batoro, Banyoro |
| | Rwera | Bakiga | Basoga, Banyoro, Banyakole, Rwandese, Alur, Baganda |

Kaseeta Parish

Table 34: Kaseeta Parish main ethnic and secondary groups

| PARISH | VILLAGE | MAIN ETHNIC GROUP | SECONDARY ETHNIC GROUPS |
|----------------|-----------|-------------------|--|
| KASEETA | Hohwa | Lugbara | Banyarwanda, Bakiga, Bagegere |
| | Izahuura | Bakiga | Banyankole, Bafumbira, Banyoro |
| | Kyenjojo | Lugbara | Banyoro, Alur, Abamba, Bakonzo, Bakiga |
| | Ndongo | Bafumbira | Banyoro, Lugbara, Bakiga, Rwandese |
| | Nyairongo | Bafumbira | Bakiga, Alur, Lugbara, Banyoro, Banyankole |
| | Nyanseke | Lugbara | Rwandese, Bakiga, Banyoro, Bakonzo |
| | Sayuni | Banyankole | Banyarwanda, Alur, Bakiga, Bafumbira |





Kyangwali Parish

Table 35: Kyangwali Parish main ethnic and secondary groups

| PARISH | VILLAGE | MAIN ETHNIC GROUP | SECONDARY ETHNIC GROUPS |
|-----------|-------------|-------------------|---------------------------------------|
| KYANGWALI | Hanga I A | Bafumbira | Alur, Banyoro, Bakiga, Rwandese |
| | Kamwokya | Bakiga | Rwandese, Banyoro, Alur |
| | Nyansenge A | Bakiga | Alur, Banyoro, Bafumbira, Bakonzo |
| | Nyansenge B | Bakiga | Alur, Banyakole, Banyoro, |
| | Nyantali | Alur | Bakiga, Bafumbira, Banyakole, Banyoro |

Kabaale Parish

Table 36: Kabaale Parish main ethnic and secondary groups

| PARISH | VILLAGE | MAIN ETHNIC GROUP | SECONDARY ETHNIC GROUPS |
|---------|----------|-------------------|---|
| KABAALE | Kataaba | Alur | Banyoro, Banyarwanda, Bafumbira, Bakiga |
| | Kitegwa | Alur | Banyoro, Bakiga, Lugbara |
| | Nyaihara | Alur | Banyoro, Bakiga, Balende, Bagungu |
| | Rugonjo | Alur | Banyoro, Lugbara, Lende, Rwandese |

Immigrants from Rwanda, the DRC and elsewhere are found in some villages although their numbers are probably under-reported, for fear of being victimised or deported. Some villagers complain about the influx of rich people into the area to claim land. Villagers try to discourage the in-migration of foreign people.

Fieldwork activities in 2017 for this project confirmed the observations of the presence of ethnic tensions in a number of villages across the escarpment. However, whereas in 2013 the tensions appeared to be more pronounced in the villages contiguous to the feeder pipeline than in those on the Buhuka Flats in 2013, fieldwork during 2017 found the opposite to be true. Where there was tension, as previously, the main focus of the tension related to arguments around community leadership and on a fairly consistent basis, fears of being excluded from focus group discussions as a component of historic tribal tensions. Additionally, tensions along the top of the escarpment are increasingly being driven by speculative land acquisition by immigrants into the area.

The major religions in the area are Roman Catholics, Anglican, Ow’busobozi which is an indigenous religion in Banyoro region and Islam.

3.7.4.5 Health

The most common illness in the project affected households is malaria with 82.2% of households confirming suffering from malaria in the six months before the survey¹⁰⁹. Diarrhoea is another common ailment in the area with 8.4% of households confirming having someone with it. The other health problems include high blood pressure, diabetes, typhoid, pneumonia, asthma and others. Though there are cases where households seek

¹⁰⁹ Surveys/Nomad Consulting (2017) Phase 2 KFDA Resettlement Action Plans RAP Report - Socio-economic survey of households undertaken during October and November 2016;





medical care from health facilities (67.5%) when they have persons with the different ailments, they also have alternatives that include: giving plenty of water and food (20.1%) to the patient; visiting traditional healers (9.6%), treating the sick person with herbs (6%); other a purchase treatment from a drug store, resorting to prayer and in some instances, taking no action whatsoever.

The persons who seek help from health facilities mainly go to government health facilities including Hoima regional referral hospital, Kabaale Health centre II, Kaseeta Health centre II, Kituti Health centre III or Kyangwali Health centre III.

The provision of health facilities in the LSA is shown in Table 37. Facilities are very limited and are a central concern in the communities. All of the villages make reference to the need for better and closer health care facilities.

Table 37: Inventory of Health Facilities

| PARISH | VILLAGE | PUBLIC HEALTH FACILITIES | PRIVATE CLINICS/ PHARMACIES |
|----------------|----------------|---------------------------------|------------------------------------|
| BUTOOLE | Buhumuro | 00 | 00 |
| | Kajoma | 00 | 01 |
| | Kasoga A | 00 | 03 |
| | Kasoga B | 00 | 02 |
| | Kyarujumba A | 00 | 03 |
| | Kyarujumba B | 00 | 06 |
| | Kyarushesha A | 00 | 02 |
| | Kyarushesha B | 00 | 06 |
| | Nyamurimirwa | 00 | 01 |
| | Rwera | 00 | 00 |
| KABAAL | Kataaba | 00 | 02 |
| | Kitegwa | 00 | 00 |
| | Nyaihara | 00 | 00 |
| | Rugonjo | 00 | 00 |
| KASEETA | Hohwa | 01 | 02 |
| | Izahuura | 00 | 00 |
| | Kyenjojo | 00 | 01 |
| | Ndongo | 00 | 01 |
| | Nyairongo | 00 | 07 |





| PARISH | VILLAGE | PUBLIC HEALTH FACILITIES | PRIVATE CLINICS/ PHARMACIES |
|-----------|-------------|--------------------------|-----------------------------|
| | Nyanseke | 01 | 06 |
| | Sayuni | 01 | 04 |
| KYANGWALI | Hanga I A | 00 | 02 |
| | Kamwokya | 00 | 04 |
| | Nyansenge A | 00 | 00 |
| | Nyansenge B | 00 | 02 |
| | Nyantali | 00 | 02 |

3.7.5 Education

The school going age is five years. During the socio-economic survey of households undertaken during October and November 2016¹¹⁰, it was discovered that most of the persons in the affected households have attained some form of education and only 11.8% had not completed education, as indicated in Figure 28 below.

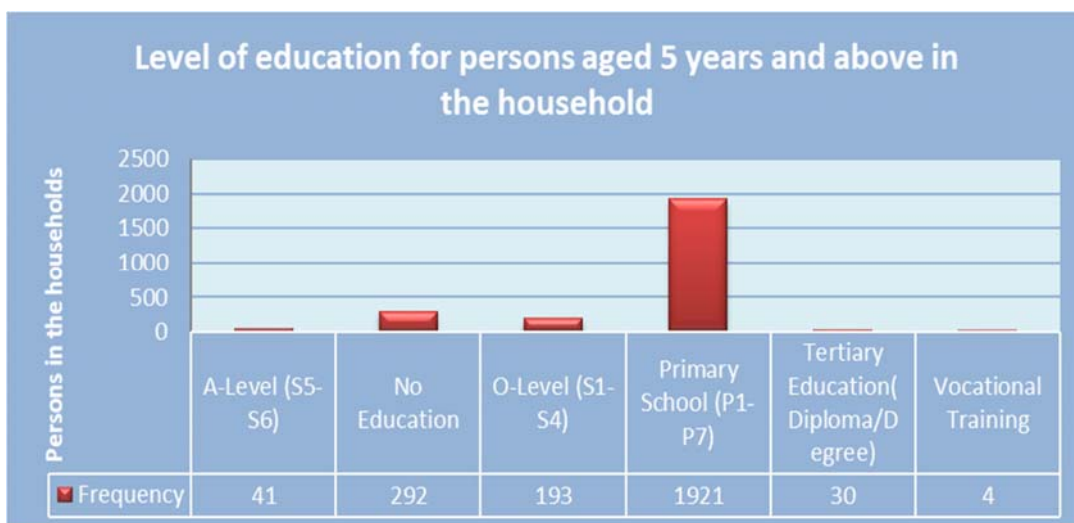


Figure 28: Level of education persons aged 5 years and above in Pipeline LSA

Of the children in the school going age group, there are 92.9% (1,285) who are in school. The children who are in primary school are in the nearby schools and the duration of the walk to school ranges between 10 minutes and 2 hours one way. The secondary school going children attend schools out of the area. The main reason given for children of school-going age who are not in school is that school is expensive and as such the parents cannot afford to put their children in school. The other reasons include; children having work to do at home as well as schools being too far away for the children to access them.

¹¹⁰ Survesis/Nomad Consulting (2017) Phase 2 KFDA Resettlement Action Plans





Provision for schooling in the LSA is very limited (see Figure 29 to Figure 32 below). Access to schools without long travel distances is an almost universal complaint among respondents. The near absence of secondary schools condemns most young people to their existing living standards, with little hope of acquiring the necessary skills to escape poverty.

The Hoima Municipal Council Development Plan 2016 – 2020 (2015:52) makes provision for increasing educational infrastructure, with a budget of UGX50million per annum being allocated for building additional classrooms, teachers’ quarters and latrine facilities. However, there are currently no plans to increase the number of classrooms and/or build additional government schools in the development area.

3.7.5.1 Schools in the Butoole Parish

The schools in the Butoole Parish are set-out in Figure 29 below.

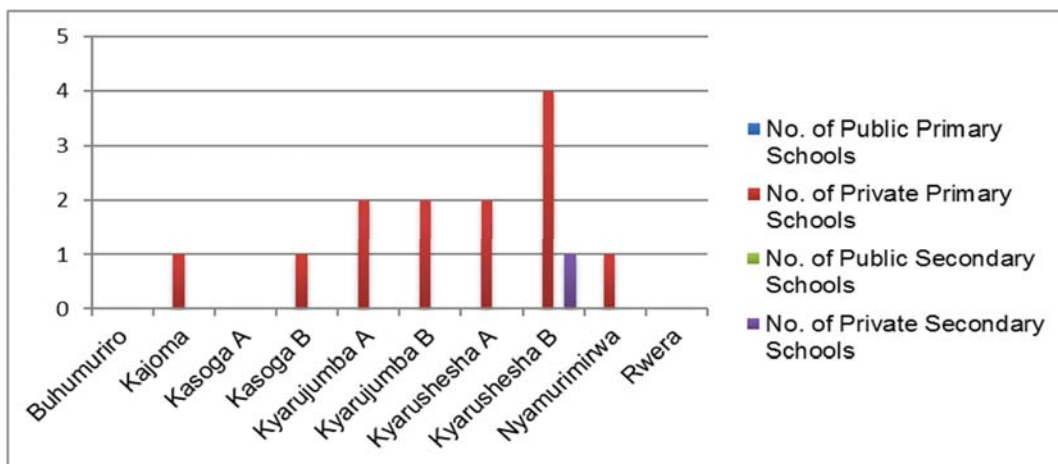


Figure 29: Schools in the Butoole Parish

3.7.5.2 Schools in the Kabaale Parish

The schools in the Kabaale Parish are set-out in Figure 30 below.

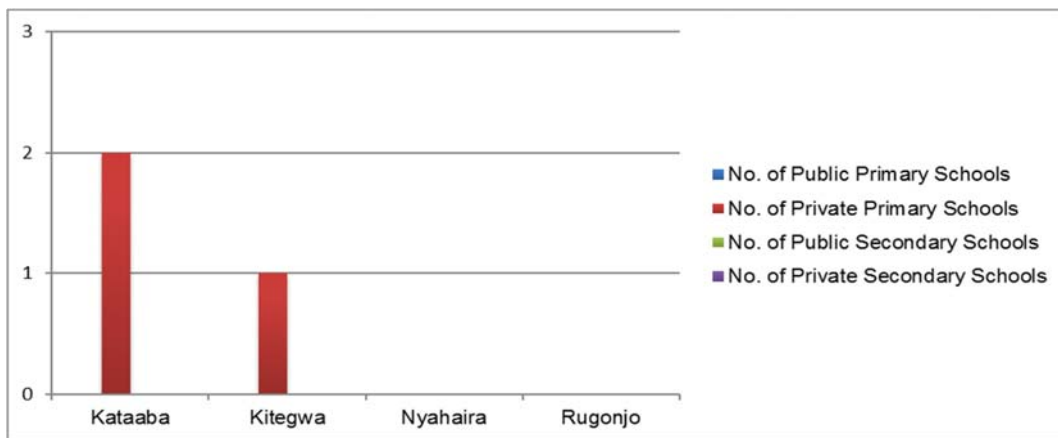


Figure 30: Schools in the Kabaale Parish





3.7.5.3 Schools in the Kaseeta Parish

The schools in the Kaseeta Parish are set-out in Figure 31 below.

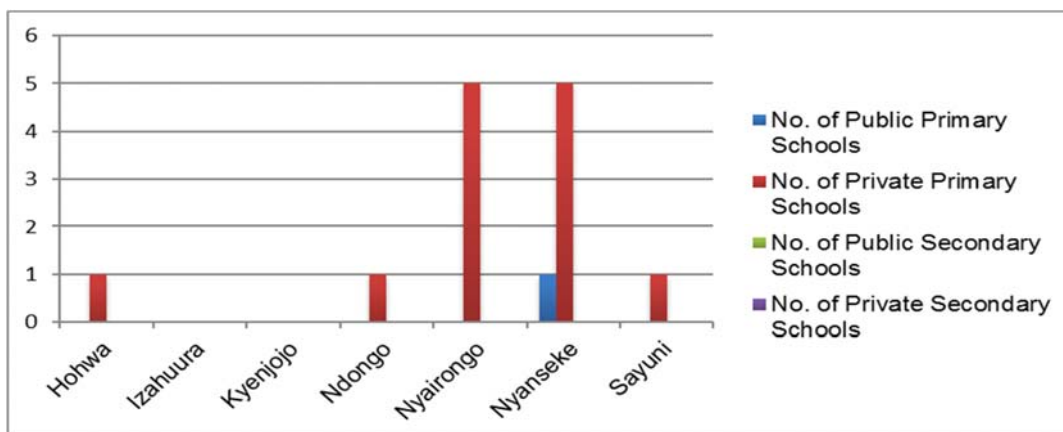


Figure 31: Schools in the Kaseeta Parish

3.7.5.4 Schools in the Kyangwali Parish

The schools in the Kyangwali Parish are set-out in Figure 32 below.

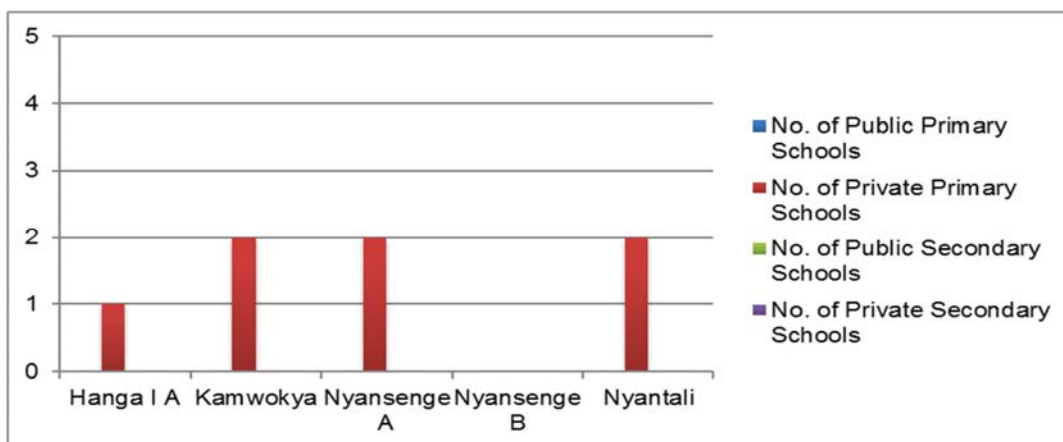


Figure 32: Schools in the Kyangwali Parish

3.7.6 Social Services and Utilities

3.7.6.1 Water Supply

The majority of households access water from the bore hole whether during the dry season or the wet season. There is no significant difference with regard to where they access the water from be it in the dry or wet season as show in the graph. Only water from the borehole, deep well, rain water tank and the tap can be considered clean. This implies that, on average there is access to clean and safe water.



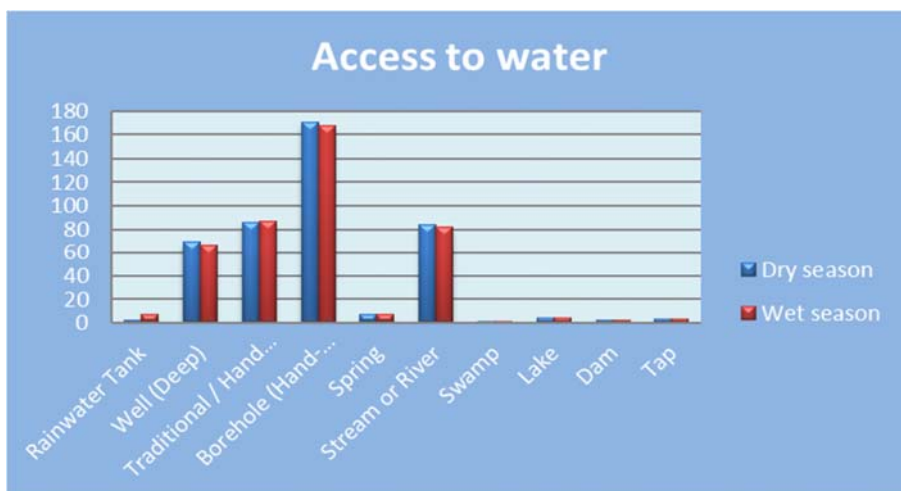


Figure 33: Access to water within the Pipeline LSA

Clean and reliable water supply is an issue in most of the villages. Table 38 to Table 41 summarise the water supplies to each village in the LSA. A total of 74% of villages raised water supply as one of their key needs.

Butoole Parish

Table 38: Water Supply to Villages in the Butoole Parish

| | No. of Water Protected Water Sources (Springs) | No. of Unprotected Water Sources (Springs) | No. of Boreholes | H/H connected to piped water |
|---------------|--|--|------------------|------------------------------|
| Buhumiriro | 00 | 04 | 00 | 00 |
| Kajoma | 00 | 01 | 00 | 00 |
| Kasoga A | 00 | 04 | 00 | 00 |
| Kasoga B | 00 | 06 | 00 | 00 |
| Kyarujumba A | 00 | 07 | 02 | 00 |
| Kyarujumba B | 00 | 03 | 01 | 00 |
| Kyarushesha A | 00 | 02 | 00 | 00 |
| Kyarushesha B | 00 | 06 | 01 | 00 |
| Nyamurimirwa | 00 | 04 | 01 | 00 |
| Rwera | 00 | 00 | 00 | 00 |



***Kabaale Parish*****Table 39: Water Supply to Villages in the Kabaale Parish**

| | No. of Water Protected Water Sources (Springs) | No. of Unprotected Water Sources (Springs) | No. of Boreholes | H/H connected to piped water |
|----------|--|--|------------------|------------------------------|
| Kataaba | 00 | 02 | 00 | 00 |
| Kitegwa | 00 | 03 | 02 | 00 |
| Nyaihara | 00 | 01 | 00 | 00 |
| Rujonjo | 00 | 00 | 01 | 00 |

Kaseeta Parish**Table 40: Water Supply to Villages in the Kaseeta Parish**

| | No. of Water Protected Water Sources (Springs) | No. of Unprotected Water Sources (Springs) | No. of Boreholes | H/H connected to piped water |
|-----------|--|--|------------------|------------------------------|
| Izahuura | 00 | 01 | 00 | 00 |
| Kyenjojo | 00 | 05 | 02 | 00 |
| Nyairongo | 00 | 01 | 00 | 00 |
| Nyanseke | 00 | 02 | 01 | 00 |
| Sayuni | | | | |

Kyangwali Parish**Table 41: Water Supply to Villages in the Kyangwali Parish**

| | No. of Water Protected Water Sources (Springs) | No. of Unprotected Water Sources (Springs) | No. of Boreholes | H/H connected to piped water |
|-------------|--|--|------------------|------------------------------|
| Hanga II B | 00 | 00 | 00 | 00 |
| Kamwokya | 00 | 03 | 01 | 00 |
| Nyansenge A | 00 | 02 | 01 | 00 |
| Nyansenge B | 00 | 02 | 01 | 00 |
| Nyantali | 00 | 01 | 00 | 00 |



3.7.6.2 Sanitation and Refuse Systems

Sanitation coverage is significantly higher for settlements adjacent to the proposed pipeline alignment than that for settlements on the Buhuka Flats, with 85% of households reporting access to their own pit latrine and 11% of households having access to a shared pit latrine facility (UNRA, 2016)

97.2% of the households have access to their own toilet at their household, whilst 0.2% have access to the latrine at the neighbouring households. That notwithstanding, there are 2.6% households who do not have access to a toilet and they use either the bush, lake or stream to ease themselves.¹¹¹

68.5% of the households use a private pit near the household to dispose of waste. There are 21.3% households that throw waste in the bush, 6.3% who burn the waste and the others either bury the waste, throw waste in the plantation or have no planned waste disposal mechanism.¹¹²

3.7.6.3 Energy

The major (63.8%) source of energy for lighting is solar power though other persons use paraffin 19.2%, battery 13.6% and there are other sources that include candles, electricity and the moon.

The major (90.4%) source of energy for cooking is firewood followed by charcoal (7.5%). There are some households that use electricity, gas or paraffin for cooking.¹¹³

3.7.7 Housing

There are 680 Project affected households¹¹⁴ with a household population of 2,949 persons. The potential discrepancy between the number of households affected vis a vis the assets itemised in the valuation register as one household could, potentially, own more than one plot of land with a residence on one of the two or even a third plot of land. There are essentially three categories of households directly impacted by the project. These are households whose place of residence is affected, households whose farming land is affected and households whose businesses will be affected.

The residences of the affected households are in a homestead set up with a residential house that is, in most cases, a multi-purpose place and can be permanent, semi-permanent or temporary, a kitchen which is either temporary or semi-permanent, a bath shelter, a latrine and a plate rack. Houses for rent are usually a one room multi-purpose structure.

89.7% of household heads are male but 0.8% of these males are children below the age of 18. On the other hand, 7.2% of the households are headed by widows and 3% of households are headed by females who are not married.

3.7.8 Household and Household Assets Ownership

The socio-economic survey as outlined in the RAP¹¹⁵ Report set out to establish the assets that the identified households in the LSA have. There were selected assets that were used to measure the socio-economic status of the households. The items selected were items that could be used for communication, access to information, and means of transport or could be used to earn income. Overall, over 80% of the households had a means of accessing information either through the phone, radio or television. There were some households that were outliers that owned items that would be considered luxurious but necessary like a fridge, a cooker or a car.

¹¹¹ Surveys/Nomad Consulting (2017) Kingfisher Field Development Area and Feeder Line Resettlement Action Plan Phase Two ¹¹² Ibid

¹¹³ Ibid

¹¹⁴ Ibid

¹¹⁵ Ibid





Table 42: Ownership of household assets¹¹⁶

| Assets | Percent Households with Assets |
|----------------|--------------------------------|
| Car | 3.0 |
| Motorcycle | 25.2 |
| Radio | 85.0 |
| Tractor | 0.47 |
| Chainsaw | 0.7 |
| Bicycle | 51.4 |
| Television | 9.35 |
| Hoes | 84.11 |
| Mobile phone | 84.11 |
| Boat | 1.17 |
| Boat engine | 0.7 |
| Fish nets | 1.4 |
| Sewing machine | 1.87 |
| Fridge | 0.47 |
| Computer | 0.93 |
| Electric stove | 0.23 |
| Kerosene stove | 0.23 |

3.7.9 Economic Activities

3.7.9.1 General Overview

In the pipeline study area, most villages are involved in subsistence agriculture as well as on a semi-commercial (cash cropping) basis in varying proportions. In addition, intensive commercial farming has been encouraged in the area, and is increasingly becoming a common feature. All villages are involved in similar economic, semi-commercial and livelihood activities. Semi-commercial agriculture is predominantly related to cotton, tobacco and coffee cash crops. A wide range of other crops are produced, both for sale in the local markets, to traders and for subsistence consumption. A myriad of other small business activities (viz. brick making, palm oil manufacture and sale, shops, rope and basket making) take place to generate cash income.

¹¹⁶ Ibid





3.7.9.2 Livelihoods

Determining of the livelihoods of the project affected households gives a platform for monitoring of project impact especially after the completion of the project to see whether there has been a negative or positive economic impact of the project. This being a rural population, the main means of livelihood is tilling the land, fishing, petty trading, farm produce and livestock trading.

Table 43: Sub-counties, parishes and villages within vicinity of the pipeline¹¹⁷

| Livelihoods | Percentage of households engaged |
|------------------------------------|----------------------------------|
| Crop Farming | 98.8 |
| Use of Trees and Tree Farming | 82.2 |
| Livestock Rearing | 89.0 |
| Fishing | 6.8 |
| Collecting Materials from the Bush | 95.8 |
| Small Businesses and Trading | 36.7 |

Land above the escarpment is predominantly fertile and most of the villagers in the LSA originally settled there because of the good agricultural land. Most villages are involved in both subsistence and non-mechanised small scale productive agriculture in varying proportions. Villagers were not always able to quantify the proportions. In six of the villages, the view was expressed that the majority of the crop produced (ranging from 70 – 90%) would be sold, although there was not agreement on this. Eight villages estimated that subsistence agriculture makes up 60%-70% of total production. The remaining nine villages did not venture a proportion, but all indicated that both commercial and subsistence agriculture took place.

The majority of persons in the affected households are employed in the agricultural sector. There were some people employed full time in formal jobs, others who are self-employed and mainly in the business sector and the women were also home care givers.

¹¹⁷ Survesis/Nomad Consulting (2017) Kingfisher Field Development Area and Feeder Line Resettlement Action Plan Phase Two



**Table 44: Occupations in Project Affected households¹¹⁸**

| | Gender | | Total |
|----------------------------|--------|-------|-------|
| | Female | Male | |
| Casual Employment | 0.07 | 0.1 | 0.17 |
| Disabled and Employed | 0.27 | 0.31 | 0.58 |
| Disabled and NOT Employed | 0.03 | 0.1 | 0.13 |
| Farmer | 15 | 16.0 | 31 |
| Fulltime Employed | 0.34 | 0.34 | 0.68 |
| Home caregiver | 1.32 | 0 | 1.32 |
| Not employed | 0.1 | 0.27 | 0.37 |
| Pensioner | 0 | 0.07 | 0.07 |
| Pre-School Child | 7.66 | 8.27 | 15.93 |
| Retired | 0.14 | 0.03 | 0.17 |
| Self Employed | 1.39 | 2.75 | 4.14 |
| Student | 2.31 | 2.78 | 5.09 |
| Student/Scholar | 17.63 | 22.38 | 40.01 |
| Temporary /Contract worker | 0.1 | 0.17 | 0.27 |

The common types of crops grown along the pipeline areas have been extrapolated from the UNRA-RAP report for the Kaseeta-Kyarushesa-Nyairongo-Hohwa road project, 2017 (see Table 45). Whereas a wide range of crops are grown on the affected land, the two main crops grown are Matooke and Coffee, which are the perennial crops. The rest of the crops are mainly seasonal crops that are harvestable and restorable between 3 to 6 months.

¹¹⁸ Surveys/Nomad Consulting (2017) Kingfisher Field Development Area and Feeder Line Resettlement Action Plan Phase Two





Table 45: Types of crops grown along Kaseeta-Hohwa-Rweera areas¹¹⁹

| Crop | Hohwa-Butoole | Kabaale-Kiziranfumbi | Kaseeta-Rwera | Total |
|----------------|---------------|----------------------|---------------|----------|
| Maize | 37%(117) | 38%(65) | 42%(51) | 38%(233) |
| Beans | 30%(97) | 36%(61) | 37%(46) | 33%(204) |
| Matooke | 25%(80) | 32%(55) | 29%(36) | 28%(171) |
| Cassava | 16%(51) | 29%(121) | 19%(23) | 20%(123) |
| Sweet potatoes | 13%(42) | 17%(28) | 11%(13) | 14%(83) |
| Groundnuts | 5%(17) | 12%(21) | 7%(9) | 8%(47) |
| Coffee | 8%(24) | 11%(19) | 2%(3) | 8%(46) |
| Tomatoes | 2%(7) | 1%(2) | 5%(6) | 2%(15) |
| Yams | 0.3%(1) | 1%(1) | 2%(2) | 1%(4) |
| Others | 12%(37) | 27%(45) | 10%(12) | 15%(94) |

Both men and women practice agriculture. Small-scale farming for profit is slightly more common than pure subsistence farming for household use. All villages are involved in similar economic, commercial and livelihood activities. Most villagers indicate that they sell the use right to portions of their allocated land in order to obtain cash during the planting season. Whilst land is their most important asset, villagers who resort to this measure indicate that they need to obtain cash to pay school fees and to buy seed. The land is most often sold to newcomers to the area.

The most common cash crops include cotton, tobacco and coffee. A wide range of other crops are produced, both for sale in the local markets, to traders and for subsistence consumption. These include potatoes, sweet potatoes, Irish potatoes, cassava, jack fruit, maize, millet, rice, sorghum, matoke, groundnuts, bananas, beans, tomatoes, onions, cabbages and pineapples. Eucalyptus trees are grown at Kyarajumba A for timber and housing material. One of the areas is well known for its production of green peppers. Livestock consists mainly of cows, goats, pigs and sheep. Ducks and chickens are commonly kept around the household. Trade in fish occurs in many villages.

A myriad of small business activities take place in order to generate cash income. Many villages have brick layers among them and brick making is done in a number of villages. Sand is quarried for building purposes. People open small shops in order to trade food, clothing and household goods. Palm oil is sold and charcoal is manufactured and sold (some respondents noted the increasing difficulty of finding suitable wood to make charcoal). Brewing alcoholic beverages (Warage and Bushera) is common and bars and restaurants are found in a number of villages. Some villagers have handicraft skills and make ropes and baskets. Stone quarrying and bee keeping is recorded in Kijimbu. Motor cycle (boda-boda) and bicycle repair shops are found in several villages. Fuel (paraffin) is sold by local shops for lighting.

Based on the RAP Report, and the findings from the socio-economic survey, it was found that there are 97.9% of the households who harvest natural resources. The harvests are mainly for household consumption or for

¹¹⁹ UNRA RAP Report-Kaseeta-Kyarusesa-Nyairongo-Rwera Road Project, 2017





sale and in some cases they serve both purposes. The items harvested range from raw materials like wood for charcoal, wood for artisanal works, and sand to edible items like wild game or fruits.

Table 46: Harvesting of Natural Resources by Project Affected Households¹²⁰

| Natural resource | Percent households harvesting | Percent use of the resource | | |
|----------------------------|-------------------------------|-----------------------------------|------------------|-----------|
| | | Both home consumption and selling | Home consumption | Sell only |
| Fish | 11.4 | 6.2 | 2.1 | 2.4 |
| Wood for charcoal | 4.7 | 1.9 | 2.2 | 0.7 |
| Firewood | 87.6 | 1.9 | 87.9 | 0 |
| Wild fruits and vegetables | 28.7 | 2.6 | 26.8 | 0.2 |
| Wood for artisan items | 13.8 | 5.5 | 6.4 | 2.3 |
| Grass for thatching | 53.7 | 2.8 | 51.8 | 0.2 |
| Hunt birds and animals | 7.2 | 2.0 | 6.2 | 0.2 |
| Medicinal plants | 48.1 | 3.3 | 45.8 | 0 |
| Sand | 4.7 | 1.0 | 3.8 | 0 |
| Salt | 37.6 | 0 | 100 | 0 |

3.7.9.3 Agriculture and Animal Husbandry¹²¹

The project area is dependent on crop farming which not only caters for household consumption but also for income into the household. 97.4% of the households have access to land for farming. The main land tenure system in the area is customary and the means of access is either by written agreement or unwritten understanding (verbal agreements) between the parties. 3.2% of the households have Certificates of Titles. The means of tilling the land is mainly through use of manual labour. (82%) of the households use hand hoes, 0.7% use ox-ploughs, and 4.4% use tractors (4.4%). There is 100% dependence on the rain to irrigate the crops and as such the farming is affected by the seasonal changes and adverse weather conditions.

Table 47: Agriculture within the Project Affected Area

| Crop | Percent households that claimed they had farm plots | |
|--------------|---|----------------|
| | Primary crop | Secondary crop |
| Sweet potato | 34.8 | 5.9 |
| Maize | 29.9 | 4.7 |

¹²⁰ Survesis/Nomad Consulting (2017) Kingfisher Development Area and Feeder Line Resettlement Action Plan Phase Two

¹²¹ Ibid





| Crop | Percent households that claimed they had farm plots | |
|-------------|---|----------------|
| | Primary crop | Secondary crop |
| Cassava | 45.6 | 36.7 |
| Beans | 34.8 | 7.2 |
| Matooke | 13.8 | 29.7 |
| Ground nuts | 5.9 | 3.3 |
| Coffee | 1.2 | 3 |
| Rice | 1.6 | 0.7 |
| Millet | 0.9 | 0.5 |
| Yams | 0.5 | 0.5 |

82.6% of the crops produced provide food for household consumption and selling while 6.2% of the crops grown are all sold off while 9.2% of the crops produced are only for household consumption.

Livestock is an important livelihood strategy where the people who rear animals or birds look at it as a form of investment for the future or saving of their monies for another day. Livestock rearing is in 88.8% of the households. Chicken were the majority of animals being reared in most households with a combination of goats and pigs and they are mainly local breeds.

Table 48: Animal Husbandry within the Project Affected Area

| | Percentage of households with livestock | Number of livestock in the area |
|---------|---|---------------------------------|
| Cattle | 5.1 | 53 |
| Goats | 6.1 | 295 |
| Sheep | 2.8 | 34 |
| Chicken | 8.9 | 323 |
| Ducks | 4.0 | 67 |
| Pigs | 4.4 | 162 |

There are mainly 4 types of identifiable tree types in the area, that being the cashew nut tree, the mango tree, palm tree and a number of indigenous timber trees. There are 62.9% of households with at least one fruit tree, 82.5% of households with indigenous trees, 21.5% of households with indigenous timber trees, 2.5% of households with palm trees and 0.7% of households with cashew nut trees.

3.7.10 Land Access and Tenure

The majority of land is held under customary tenure, although there is some land that is held under freehold tenure. Communities who live along the feeder pipeline LSA occupy the public land with sole possession of





usufruct rights where the land is held under the customary tenure system. "This means that it is private property, but the owners need no documents to prove ownership. Their claims to the land, and the boundaries of the land, are locally recognised, and this recognition is given the full protection of State law".¹²²

3.7.11 Social Order, Crime and Security

There are general concerns about the oil industry. While some people (such as in the villages of Kitegwa and Kyarujumba B) acknowledge benefits (existing and potential) brought by the oil industry such as improved roads, clinics, jobs and an increased market for their products, there is:

- a general lack of understanding of what the consequences of oil development will be; and
- people fear the worst, including an influx of foreign and disruptive people, increasing pressure on land, an increase in corrupt practices, increased prostitution and disruption of family life lack of fair compensation for lost land and increased opportunistic land acquisition by outsiders, including by the government.

4.0 HUMAN RIGHTS IMPACTS

4.1 Introduction

Human rights are defined as the fundamental levels of treatment and acceptance that all people are universally entitled to without fear or prejudice, including related to gender, age, economic status, race or religion. From a workforce perspective it includes a range of issues including the freedom of association and collective bargaining, discrimination in the workplace, poor working conditions, and fatalities. From a community perspective, it includes a range of issues such as impacts on livelihoods and employment, land, water quality and access to water, the preservation of cultural heritage, and the right to self-determination.

The extractive industry, particularly oil exploration, has serious human rights implications for developing countries. The quest for the much-needed foreign exchange from the extractive industries has, in most cases, resulted in high government tolerance of firms in these industries regardless of their human rights record. In their bid to protect their investments and secure foreign revenues, TNCs (Transnational Corporations) and governments respectively, have in some cases formed alliances of convenience that expose the population to human rights abuses. Also, the national security agenda is determined in some instances by the security concerns of TNCs. Thus, the need to provide security for the continued exploration of oil overrides national security. According to United Nations Conference on Trade and Development (UNCTAD), 2007 report, the participation of transnational corporations in the extractive industries can result in human rights abuses such as the disappearance of people, arbitrary detention and torture and loss of land and livelihoods without negotiation and without compensation.

It is important that this scenario is prevented from playing out in Uganda and – to this end – CNOOC, which is a member of the UN Global Compact, has pledged itself to the core values related to anti-corruption, human rights, labour standards and the environment as set out in the ten principles that form part of the Compact. The Compact is fundamentally rooted in principles and rights, including the Universal Declaration of Human Rights.

According to the United Nations Guiding Principles on Business and Human Rights, any company should clearly demonstrate the commitments that it has in respect of human rights. As such, CNOOC understands that there should be a proactive approach followed that seeks to prevent or mitigate potential Human Rights issues that may be caused directly by its operations, or its contractors, sub-contractors, project partners or suppliers. For this reason, commitments to these Guiding Principles are stressed in the Environment, Health, Safety and Security and Corporate Social Responsibility policies that bind CNOOC as well as its contractors, sub-contractors and suppliers.

¹²² Land and Equity Movement in Uganda (LEMU) (Undated) Policy Discussion Paper 4: Does customary tenure have a role in modern economic development





Apart from binding itself fundamentally to promote human rights on all operational levels, it understands that all IFC Performance Standards that it is bound to uphold through its due diligence processes and practices inherently have dimensions and elements that relate to human rights that it will respect.

4.2 Purpose of the Human Rights Assessment Process

The Assessment of Human Rights Impacts is being undertaken as part of a voluntary due diligence process by CNOOC. In doing so, it is giving expression to its commitment to the United Nations Guiding Principles on Business and Human Rights which describe the following expectations from companies¹²³:

- “respect human rights in projects or operations;
- seek to prevent or mitigate potential human rights issues that may be caused directly by the company’s projects or operations, or by project partners and suppliers;
- have in place policies and processes to manage potential human rights issues;
- express commitment to respect human rights through a policy endorsed by senior leadership;
- conduct assessments to identify potential human rights issues in projects or operations, and have processes in place to manage these issues and track responses;
- communicate with stakeholders about how issues are being addressed; and
- have in place a grievance mechanism to address issues raised by the community.”

The goals of the HR assessment process for the project have been to: (i) identify any actual or potential human rights impacts, ensure future prevention of potential impacts and abuses, give account of any rights-related impacts and infringements and ensure that the full suite of mitigation measures are in place; (ii) ensure that all required policies and procedures for the management of human rights issues are in place; (iii) demonstrate a firm commitment to respect human rights through the measures and plans it has put in place; (iv) ensure that communication processes and channels are in place and used to address issues as they arise; and (v) ensure that grievance mechanisms that enable stakeholders to raise human rights as well as project related concerns and issues are in place and are addressed.

The process aims at building on the findings of the environmental, social, health and cultural impact assessment processes for the project. A key component has aimed at identifying whether the project is currently or is likely to negatively impact human rights. Based on this, to use the information in a purposeful manner as basis to inform the preventive and/or remediation activities. These mitigation measures are formulated as part of the process to develop comprehensive measures to address potential negative impacts and, where possible, to ensure the implementation of strategies to promote human rights, resilience and well-being.

4.3 Risk Areas Identified

In order to practice the necessary due diligence in respect of Human Rights, CNOOC will need to understand key areas of risk and vulnerability of the individuals and communities that may be impacted by the project. Environmental and social risk is a combination of the probability of certain hazard occurrences and the severity of impacts resulting from such an occurrence. Evaluating impacts based on severity to the affected stakeholder provides the basis for how companies are expected to prioritise efforts. This is comprehensively different to normal processes for Enterprise Risk Management systems.

The following Table provides a summarised overview of specific risk areas identified by stakeholders, the potential negative impact areas, factors that serve to increase levels of vulnerability as well as potential resources that may be harnessed to buffer against risks or measures to maximise the benefits to be derived from positive impacts.

¹²³ IPIECA (2012) Human rights due diligence process. A practical guide to implementation for oil and gas companies





Many of the risks and associated impacts will require interventions that address instances of situational vulnerability. Impacts must be evaluated based on the potential human rights impacts that these may have on affected stakeholders and addressed decisively by CNOOC. For this reason, the mitigation measures that have been provided for address the direct aspects that are under the control of CNOOC, but as well, introduce the concept of joint action and the promotion of systems, processes and plans that bring together the people, the private sector as well as the public sector to address deficits and issues as a matter of priority.

It is vital that CNOOC facilitates a process whereby government understands the urgent need for putting in place mechanisms that will promote – at a fundamental level – the human rights of the citizens of Uganda and will build their capacity and capability to fully participate in the growth and development of Uganda.

In addition to the mitigation measures that form part of the Social Management Plan, the Community Development as well as the Community Health, Safety and Security plans require that a strong thrust is put in place that will allow the basic human rights of all people in the LSAs to be addressed and to ensure that those who are most disadvantaged and vulnerable, including, women, children, the elderly and the sick are drawn into a fully inclusive empowering process.

Table 49: Matrix of Risk Areas Identified

| RISK AREA | POTENTIAL NEGATIVE IMPACT | CURRENT VULNERABILITY /STRESS INDICATORS (Demographic; infrastructural and Socio-economic) | POTENTIAL RESOURCES (MITIGATION AND/OR POSITIVE IMPACTS) (PRESENT AND PROPOSED) |
|---|--|---|---|
| Population related change processes, including fragmentation and escalation into xenophobia | Population (culture; racial; ethnic composition) change due to inflow of opportunity seekers | <ul style="list-style-type: none"> ■ Changes in traditional values¹²⁴ (cultural and spiritual capital). ■ Moral decay ■ Potential deterioration in adherence to requirements put in place by local leadership, including potential disarray in leadership patterns due to influx ■ Fear (disruptive behaviour due to foreigners) ■ Increase in population density; 168% projected population growth (2014-2050) massive underestimation. Associated resource allocation for infrastructure and services potentially vastly inadequate ■ Hoima town among 20 largest urban centres (11th fastest growing) | Employment of locals, policy (employees drawn from existing settlements) Purported “cordial relationships between host communities and foreigners” ¹²⁵ Relative political stability (depending on source). Population institute (2015) rates political instability as “severe” (Uganda’s Global Rank #22); Fragile States Index (FFP): 96. “According to the results of the sample socio-economic survey, more than half of the (57.5 %) household heads migrated to the study area in recent years (less than 10 years) to find employment (77.3%) (Draft SIA, Kingfisher Development, p.52). This means that local migrants could potentially adopt a refugee/migrant mindset – this could create empathy and could attenuate potential conflict/animosity) |
| | Outflow of people fearing an “oil war” | <ul style="list-style-type: none"> ■ Socio-economic status | Public education; Social networks forged between locals and foreign nationals; Public consultation (Mitigation Monitoring Committees) involving locals and refugees; Draw on traditional leadership to help |

¹²⁴ Census (2014)

¹²⁵ Uganda Investment Authority (2017)





| RISK AREA | POTENTIAL NEGATIVE IMPACT | CURRENT VULNERABILITY /STRESS INDICATORS (Demographic; infrastructural and Socio-economic) | POTENTIAL RESOURCES (MITIGATION AND/OR POSITIVE IMPACTS) (PRESENT AND PROPOSED) |
|--|--|---|--|
| | | | with moral build-up; Facilitation of Process contact opportunities through investment in sports and recreation |
| | Relocation of individuals and families | <ul style="list-style-type: none"> ■ Uncertainty about relocation procedure; ■ Distrust ■ Negative experience elsewhere | Compensation Protection under land act and Constitution Consultation with people to be relocated and host community Improved livelihood in host area |
| Individual and family level change processes and associated impacts, | Disruption in movement patterns | <ul style="list-style-type: none"> ■ Poor quality roads; ■ Limited access roads ■ Increased inflow of opportunity seekers can put more pressure on roads | New road infrastructure (escarpment and local) |
| | Disruption in social networks | <ul style="list-style-type: none"> ■ Relocation related fears / uncertainty. ■ Ilcan et al (2015) report “Refugees in the refugee settlements also experience social divisions and tensions with nationals” | There may be “strength in diversity” (new social networks being forged) to mitigate further multi-ethnic inflow? Uganda pro-refugee policy(?) Telecoms infrastructure for social media (virtual social networks) (Communication: MTN, Airtel, Africell, UTL, the internet) ¹²⁶ |
| | Impacts on recreational activity | <ul style="list-style-type: none"> ■ Very limited recreational infrastructure and opportunities | Recreational facilities in construction camps. Project proponent to include budget for upgrading of recreational facilities in sub-County. (Sport / process contact could facilitate social networks and reduce potential local/ foreigner conflict). |
| | Public health impacts | <ul style="list-style-type: none"> ■ Lacking facilities ■ HIV/AIDS ■ “Congolese, Rwandan or Burundian refugees note that some widowed women are drawn into sex work for their economic survival, and others emphasize that some children are forced to run small errands for meagre pay (Ilcan et al., 2015). ■ Potential plant disaster, e.g. fire, explosion) “Economically disadvantaged populations are | Planned escarpment road to facilitate access to health services and for emergency vehicles. Employment of local people and associated improvements in quality of life, health and livelihoods security (also pathways out of e.g. prostitution Condom distribution. CNOOC on-site facilities and procedures for coping with disasters such as fires |

¹²⁶ Uganda Investment Authority (2017)





| RISK AREA | POTENTIAL NEGATIVE IMPACT | CURRENT VULNERABILITY /STRESS INDICATORS (Demographic; infrastructural and Socio-economic) | POTENTIAL RESOURCES (MITIGATION AND/OR POSITIVE IMPACTS) (PRESENT AND PROPOSED) |
|---|---|--|--|
| | | <ul style="list-style-type: none"> ■ disproportionately affected by disasters. The poor are less likely to have the ■ income or assets needed to prepare for a possible disaster or to recover after a disaster” (Flanagan et al., 2011).¹²⁷ | |
| | Security impacts | <ul style="list-style-type: none"> ■ Perceived increase in crime due to foreigners. | Significant oil reserves which could help fund human and economic development. (Potentially reducing crime). |
| | Human security (sustainable livelihoods) | <ul style="list-style-type: none"> ■ Unemployment; ■ Poverty ■ Environmental degradation ■ Hunger / Poor food self-sufficiency ■ Education levels; ■ Early pregnancies and inadequate health care services contribute to a high maternal death rate, while pneumonia, diarrhoea, malaria and malnutrition produce a very high child mortality rate (Population Institute, 2015 ■ 38th highest score on UNDP’s Gender Inequality Index. Child marriage is prevalent, particularly in rural areas (Ibid) ■ (Above are relevant for coping with project impacts/failures and notably post-decommissioning). | Significant oil reserves, which could help, fund human and economic development. |
| Socio-economic change processes and associated impacts: | Re ‘positive’ impacts (job creation; economic gearing; multiplier effect): socio-economic impacts if mismatched with local skills levels plus competition from outsiders, could make this a source of stress? | <ul style="list-style-type: none"> ■ Lack of appropriate local education and skills to match project requirements ■ Inflow of opportunity seekers ■ Disposable income an inflation driver (food prices up?) | Project requirement for “casual labour” (perhaps matching low skills levels) Employment of locals, policy |

¹²⁷ Flanagan, B.E. et al. (2011). A Social Vulnerability Index for Disaster Management. Journal of Homeland Security and Emergency Management. Volume 8, Issue 1 2011 Article 3.





| RISK AREA | POTENTIAL NEGATIVE IMPACT | CURRENT VULNERABILITY /STRESS INDICATORS (Demographic; infrastructural and Socio-economic) | POTENTIAL RESOURCES (MITIGATION AND/OR POSITIVE IMPACTS) (PRESENT AND PROPOSED) |
|--|---|--|--|
| Community infrastructure related change processes and associated impacts, including change in community infrastructure, land acquisition/d disposal. | Negatives: Loss of land; household structures; displacement/relocation (very much related to socio-economics) | <ul style="list-style-type: none"> ■ Proximity to project infrastructure/Pads (settlement specific) ■ Unemployment; ■ Poverty/Poor food self-sufficiency ■ Environmental degradation. ■ Hunger(?) ■ Education levels; ■ Livelihood strategies; | Resettlement action plan; Compensation; New livelihood possibilities in host areas(?) |
| | Public involvement/sentiment: attitude formation and interest group activity (public involvement); | <ul style="list-style-type: none"> ■ Probably shaped by subjective sense of vulnerability | Public education; Factual data on project time-frames (including closure and post closure) sustainable livelihood plans. Mitigation of boom/bust scenario. On-going consultation with local leadership; refugees and locals. |
| | Intrusion related change processes and associated impacts, including malodour, dust/air pollution; noise, and visual impacts/perceptions. | <ul style="list-style-type: none"> ■ Proximity to plant infrastructure ■ Type of housing structure (poorly build houses don't shield against noise; dust; malodour; fumes/toxic gas (in case of disaster); smoke; etc. ■ "Economically disadvantaged populations are disproportionately affected by disasters. The poor are less likely to have the income or assets needed to prepare for a possible disaster or to recover after a disaster" (Flanagan et al., 2011).¹²⁸ | Better road infrastructure can facilitate evacuation in case of plant disaster |

Highly weighted risk factors that serve to aggravate the human rights and quality of life of persons residing in the SLAs, increase vulnerability and counter the development of resilience and healthy coping skills include:

- High levels of maternal death (leaving potentially critically vulnerable children without adequate care and nurture);
- Child labour that impedes school attendance and normal development parameters;
- Extent of early marriages and pregnancies before age 17;
- Absence of appropriate adult role-models and elders providing guidance and assisting in setting healthy boundaries;

¹²⁸ Ibid





- Multi-dimensional poverty;
- An increasingly degraded environment (in particular on the Buhuka Flats) and an associated absence of a stable and healthy environment;
- Diffusion of identity, including cultural identity and associated reduction in cultural norms and standards, including socially supportive and cohesive normative behaviour;
- Absence of adequate social services; and
- Absence of effective governance.

4.4 Vulnerable Individuals and Groups

Human Rights, ipso facto, defend the rights of those who are vulnerable and who may likely have insufficient resources to buffer or protect themselves against rights violations. It is, therefore, important to identify specific individuals or groups who are vulnerable, e.g. those who are socially excluded included potentially the aged, infirm or disabled.

Certainly, vulnerability is not static and may even be intermittent or seasonal. It is clear from the contextual baseline analysis that vulnerability in the study areas are intrinsically tied into a human – environment nexus that demonstrates linkages that are both diverse as well as complex. Then, within this context, consideration must be given to the changes that may emanate from the project, who will be rendered vulnerable by such changes, how the consequence of changes may be amplified if positive or attenuated if negative and how resilience and adaptation may potentially be promoted.

With regard to the question: “who is vulnerable”, the answer is very simply that there are very few individuals in either of the LSAs to be impacted by the project who are not vulnerable in some or other way or to some or other extent. This is particularly if one considers the cumulative impact of the various types of vulnerabilities (economic, social, physical and environmental). Added to that, the effects of climate change (which are already being experienced in real terms) will amplify many forms of human vulnerability.

From a vulnerability perspective, it is clear that the villages on the Buhuka Flats are far more brittle and unstable than villages contiguous to the feeder pipeline. At the same time, it must be acknowledged that the vast majority of persons who will be impacted by the project can be regarded as vulnerable on multiple dimensions as well as suffering from multi-dimensional poverty. It is believed that vulnerability is pervasive, with individual and situational variability defined both from intrinsic factors related to resilience and coping mechanisms on the one hand and the degree of stability of the social and natural environment on the other hand.

Table 50 has been developed to assess – in general terms – the level of vulnerability found in both the Kingfisher Local Study Area (KFLSA) and the Feeder Pipeline Local Study Area (FPLSA). It aims to demonstrate the degree to which all villagers in the two LSAs are vulnerable across multiple dimensions. The dimensions and associated defining explanations have been extracted from that provided by the United Nations International Strategy for Disaster Reduction (UNISDR), which allow for a contextual link between the various risk categories or dimensions and human vulnerability.

Table 50: Vulnerability dimensions and applicability to LSAs

| Vulnerability Dimension | Explanation | KFLSA | FPLSA |
|-------------------------|--|-------|-------|
| Physical Vulnerability | Physical vulnerability derives from aspects such as population density levels, the site, design and materials used for critical infrastructure and for housing, etc. The poor are usually more vulnerable to disasters because they lack the resources to buffer against physical threats and events, including communicable diseases and natural disasters, inter alia. | √ | √ |





| | | | |
|------------------------------------|---|----------|----------|
| <p>Social Vulnerability</p> | <p>Social vulnerability refers to the degree to the presence or absence of supportive and binding social interactions, linkages, networks and services. Allied to this, the ability to withstand adverse impacts from events and hazards due to characteristics inherent in social interactions, institutions and systems of cultural values. Social vulnerability is linked to the level of wellbeing and stability of individuals, communities and society. It includes overall collective societal and organisational systems, and aspects related to levels of literacy and education, the existence of peace and security, access to basic human rights, systems of good governance, social equity, positive cultural and traditional values, customs and ideological beliefs.</p> | <p>√</p> | <p>√</p> |
| <p>Economic Vulnerability</p> | <p>The level of vulnerability is highly dependent upon the economic status of individuals and communities and speaks to multiple dimensions in which poverty can manifest.</p> | <p>√</p> | <p>√</p> |
| <p>Environmental Vulnerability</p> | <p>Lack of access to productive resources, natural resource depletion and resource degradation are key aspects of environmental vulnerability. The ability/ inability of the natural resource base to meet the needs of those dependent on it, serves as a critical driver of vulnerability.</p> | <p>√</p> | <p>√</p> |

Interventions to address the nature and extent of vulnerability has, to a certain extent, been stymied by the key focus on coping with the refugee influx into Uganda. This has, at least in part, challenged priority setting, resource allocation and the development of effective approaches to improve well-being of the Ugandan people. However, the primary and secondary data gathered for this project demonstrates that there is very strong evidence to suggest that critically vulnerable groups (and particularly children) are not being reached by essential support systems and services.

4.5 Human Rights Focus Areas

The commencement of oil and gas exploration in the Albertine Graben, in which the project area falls, has been accompanied by allegations of human rights contraventions, specifically pertaining to those rights concerning the environment, compensation, gender and displacement¹²⁹. These alleged violations have been intensively investigated by the Uganda Human Rights Commission (UHRC) who declared itself satisfied that there had not been any human rights related abuses by CNOOC. The full findings of the UHRC Mission in this regard have been captured in a comprehensive report (UHRC, 2013).

At the same time, the Social Impact Assessment process has set out to take due cognisance of all issues and concerns potentially related to human rights and human rights violations that may directly or indirectly impact the wellbeing of settlement inhabitants. While such impacts may not be directly ascribed to CNOOC development related omission or commission, it is understood that developments of this nature may in and of themselves lead to deepening inequality and marginalisation.

¹²⁹ Uganda Human Rights Commission, 2013. Oil in Uganda. Emerging Human Rights Issues. Special focus on selected districts in the Albertine Graben; UHRC.





The human rights focus areas as well as issues and concerns raised by stakeholders and, particularly, members of the settlements most directly impacted by the CNOOC development have been used as basis for the focus of the HR assessment. All rights and associated issues raised by the Ugandan Human Rights Commission, as well as all stakeholders consulted, have been used as an intrinsic component to inform the identification of impacts, the assessment of vulnerability, the rating of the severity of each impact area, as well as the mitigation measures that have been proposed. Where issues of concern have been identified, these have been noted and comprehensively incorporated into the mitigation measures, as well as into the Social Management, the Community Health, Safety and Security and the Community Development Plans.

The following section provides an overview of the various relevant Human Rights Articles as set out in the Universal Declaration of Human Rights and elaborated in accordance with the Human Rights related Articles as set out in the Ugandan Constitution. Unless specified, all Articles refer to the Constitution of Uganda (1995). Where relevant, a single issue may be raised under more than one category in order to ensure that mitigation measures are comprehensively aligned with applicable Human Rights.

Another key factor considered in the identification of Human Rights as well as the Impact Assessment process has been the degree to which the rights of Ugandan citizens may inadvertently be compromised by the absence of good governance and control systems as well as through graft and the manner in which there has been a deliberate manipulation of regulatory obligations at political level coupled with an expedient approach to the enforcement of regulations by some government officials.

4.6 Human Rights Issues

4.6.1 The Right to an Effective Remedy

Article 8 of the Universal Declaration of Human Rights¹³⁰ states that: “Everyone has the right to an effective remedy by the competent national tribunals for acts violating the fundamental rights granted him by the constitution or by law.”

Within the context of the Ugandan Constitution, this Article finds direct expression in Article 26 – The Right to an Effective Remedy.

This Article provides for the right to protection from deprivation of property, protects the right to own property and provides for the lawful deprivation of property by the government in the public interest.

Allegations are made of communities receiving compensation below the replacement value of their property and insufficient compensation for crops, cemeteries and other personal infrastructure damaged during seismic surveys and subsequent preparation of the gas field. Delays in payment did not take into account inflation or the devaluation of the Ugandan Shilling.

The following specific issues have been identified by members of settlements and have been taken into consideration in the impact assessment process.

- Local communities had the expectation that “large companies would provide”, which has not occurred. They have traded a subsistence way of life without reaping the benefit of a move to a developed economy. There has been a social shift where people who used to have a “good” life are now left without their natural resource base;
- There is conflict over land, occasioned by the influx of foreigners;
- There is the increased likelihood that individuals claim ownership over land, decreasing the communal land available. The Buhuka community land is increasingly under threat as a result of private ownership;
- Not all of the impacted landowners have been adequately compensated. In the case of cattle farmers that have been encroached on all sides by CNOOC developments, compensation may not be offered as it isn't the actual landowners' farm itself being built on;

¹³⁰ Universal Declaration of Human Rights; www.ohchr.org/EN/UDHR/Documents/UDHR_Translations/eng.pdf





- The pace of influx has not been met with the appropriate planning and budgeting from government. There appears to be a need to overhaul the way that land is valued and traded. Ugandans are often disadvantaged in negotiations due to the belief that arguing over God-given land bestows a curse. This places newcomers to the district at a distinct advantage;
- The increased trade in land has resulted in fragmentation as well as decreased productivity; and
- In the case of the Izahura, neighbours to the land earmarked for the pipeline are afraid and uncertain due to the fact that they were asked to sign documents despite the fact that they were clearly told their land would not be affected. Most of them are now selling their land and leaving their homesteads.

4.6.2 The Right to Participation

Article 21 of the Universal Declaration of Human Rights¹³¹ states that “Everyone has the right to take part in the government of his country, directly or through freely chosen representatives”; “Everyone has the right to equal access to public service in his country”; and “The will of the people shall be the basis of the authority of government; this will shall be expressed in periodic and genuine elections which shall be by universal and equal suffrage and shall be held by secret vote or by equivalent free voting procedures.”

Within the context of the Ugandan Constitution, this Article finds direct expression in Articles 21 (1), 25, 13(1) and 38 (1) – The Right to Participation.

These Articles provide for the right to be actively involved in the government of the country at all levels, and the right to consultation on matters affecting individuals and their communities. Meaningful public participation is a cornerstone of the Human Rights Based Approach (HRBA) to development which in turn ensures transparency and information sharing, essential to the effective management of extractive industries in general and the oil and gas industry in particular.

Most allegations of lack of participation are centred around contested rates of compensation for loss of land, crops or livelihood. In some cases, corporate social responsibility programmes were conceived as a mechanism to compensate communities, but these also ran into concerns regarding lack of consultation. For a CSR project to be effective, it is essential that the target community is invited to participate from the planning phase to ensure that it is fit for purpose.

The following specific issues have been identified by members of settlements and have been taken into consideration in the impact assessment process.

- CNOOC is seen as ‘unapproachable’, and there is the perception that grievances cannot be properly addressed because it (CNOOC) is “guarded by soldiers” (actually police deployed by the GoU);
- JV partners gave the promise that there would be quarterly meetings. Unfortunately, this has not taken place. CNOOC (in good faith) are also only “sharing information” with selected audiences and instead of there being a dialogue, it has become an information dissemination process; and
- In the case of the Izahura, neighbours to the land earmarked for the pipeline are afraid and uncertain due to the fact that they were asked to sign documents (in accordance with the requirements set by the PEDP Act 2013, Section 135) despite the fact that they were clearly told their land would not be affected. Most of them are now selling their land and leaving their homesteads. This is as a direct result of the fact that they are suspicious of government and worried that government may use the signed permission to dispossess them of their land.

4.6.3 The Right to Self-Determination

“Although the principle of sovereignty over natural resources may well be said to have its roots in traditional principles of international law, such as sovereignty and territorial jurisdiction, its provenance lies clearly in the Charter of the United Nations. The Charter does not refer to it explicitly but contains several general references to notions inherent to the principle of sovereignty over natural resources (Schrijver, 2011).

¹³¹ Universal Declaration of Human Rights; www.ohchr.org/EN/UDHR/Documents/UDHR_Translations/eng.pdf





Within the context of the Ugandan Constitution, this finds direct expression in Article 1 – The Right to Self-Determination.

This Article refers to the right of a community to sovereignty over its resources, including mineral wealth. On an individual level, it protects the right to dispose of natural wealth and resources and prohibits the deprivation of means of sustenance.

In this case, the massive influx of foreigners occasioned by the construction of the escarpment road and the opening up of opportunities related to this, has essentially deprived the residents, including those from the Bunyoro Kitara Kingdom, of their natural wealth, through overfishing and overgrazing by newly arrived immigrants. In addition, the Kingdom has not been granted royalties over the fossil fuel resources under their land, nor have their people been preferentially targeted for positions in the gas industry (in this regard royalties are provided for under the Public Finance Management Act (2015), Section 75 (1) which stipulates that 6% of royalty revenue will accrue to local government, and 1% to gazetted cultural institutions, including traditional authority systems such as the Kingdom).

The following specific issues have been identified by members of settlements and have been taken into consideration in the impact assessment process.

- Fish yields have decreased due to the overfishing of Lake Albert;
- There has been the decimation of fish stocks in Lake Albert due to unsustainable practices such as fishing of nursery areas;
- Use of illegal fishing gear (e.g. prohibited gill nets, etc.);
- When a “fishing holiday” is declared by the DRC (a practice aimed at ensuring the continued availability of breeding stock), the Congolese fishermen continue to fish but on the Ugandan side of the lake;
- It is very expensive to purchase safe drinking water from suppliers. Considering that most of the households are low income earners, they have decided to continue consuming water from the stream. This water is very unhealthy, and the community is being exposed to waterborne diseases, particularly Typhoid Fever;
- The decrease in fish stocks means that there is increased fishing effort but for lower returns;
- Increased fishing effort has a security impact in that it increases the likelihood of kidnapping, theft or piracy on the lake;
- Land is becoming a premium with grazing and the collection of firewood under threat from developers;
- The fencing in of grazing land has decreased the amount of grazing available to cattle herdsman;
- The shortage of grazing, coupled possibly with the prolonged dry season has resulted in decreased milk and meat production;
- Crop yields have declined. In 2013, the community of Hanga used to harvest between three and four sacks of beans from one garden. However, in 2017, the community harvested less than two basins of beans;
- There has been an increase in incidents of pests and diseases on the crops. Prior to 2013, the community did not have frequent crop diseases. In 2017 however, the crops are infested with new diseases such as armyworm which affected almost everyone who had planted maize in early 2017;
- Low crop yields have decreased people’s income levels. Due to this, it is difficult for community members to attain some of their household necessities; and
- Increased theft has resulted in the loss of crops, poultry, cows and goats, amongst others. Poverty has therefore intensified, among even employed or hardworking community members.





4.6.4 The Right of Access to Information

The right of access to information lies at the heart of prior informed consent. Article 19 of the Universal Declaration of Human Rights¹³² states that “Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.”

Within the context of the Ugandan Constitution, this Article finds direct expression in Article 41 – the Right of Access to Information.

Related to the right to participation, communities alleged that their rights to information in the hands of the state were violated through a lack of transparency and consultancy at every stage of the early planning for gas and oil exploration. Once again, these complaints from communities often related to information regarding how property valuations and compensation were calculated.

The following specific issues have been identified by members of settlements and have been taken into consideration in the impact assessment process.

- CNOOC is seen as “unapproachable”, and there is the perception that grievances cannot be properly addressed because it (CNOOC) is guarded by soldiers;
- Not all of the impacted landowners have been adequately compensated. In the case of cattle farmers that have been encroached on all sides by CNOOC developments, compensation may not be offered as it isn't the actual landowners' farm itself being built on;
- JV partners gave the promise that there would be quarterly meetings. Unfortunately, this has not taken place. CNOOC (in good faith) are also only 'sharing information' with selected audiences and instead of there being a dialogue, it has become an information dissemination process; and
- In the case of the Izahura, neighbours to the land earmarked for the pipeline are afraid and uncertain due to the fact that they were asked to sign documents despite the fact that they were clearly told their land would not be affected. Most of them are now selling their land and leaving their homesteads.

4.6.5 The Right to a Clean and Healthy Environment

“More than 2 million annual deaths and billions of cases of diseases are attributed to pollution. All over the world, people experience the negative effects of environmental degradation ecosystems decline, including water shortage, fisheries depletion, natural disasters due to deforestation and unsafe management and disposal of toxic and dangerous wastes and products. Indigenous peoples suffer directly from the degradation of the ecosystems that they rely upon for their livelihoods. Climate change is exacerbating many of these negative effects of environmental degradation on human health and wellbeing and is also causing new ones, including an increase in extreme weather events and an increase in spread of malaria and other vector borne diseases. These facts clearly show the close linkages between the environment and the enjoyment of human rights and justify an integrated approach to environment and human rights.”¹³³

Within the context of the Ugandan Constitution, this finds direct expression in Article 39 – The Right to a Clean and Healthy Environment.

Since the earliest days of sustainable development and the Rio Declarations, this right has been central to all impact assessments.

A number of environmental impacts have been highlighted by affected communities. These include process related impacts such as noise, vibration, dust and odour, planning impacts such as irregular waste dumping and housekeeping impacts such as fugitive waste spillage from overloaded trucks. Past oil developments in Uganda have sparked significant complaints of air and water impacts affecting the health of people, livestock and crops.

¹³² Universal Declaration of Human Rights; www.ohchr.org/EN/UDHR/Documents/UDHR_Translations/eng.pdf

¹³³ Human Rights and the Environment – Background; <http://web.unep.org/divisions/delc/human-rights-and-environment>





Issues of concern related to the human rights to safe drinking water and sanitation, include but are not limited to:

- availability of water and sanitation (e.g., quantity of water available for each person);
- accessibility of water and sanitation (e.g., facilities should be within safe physical reach, facilities should be accessible to everyone, access to services in rural area vs. urban area, piped water, sewerage network);
- quality of water and sanitation (e.g., drinking water should be safe, free from micro-organism, chemical substance, and radiological hazards, how quality is monitored);
- affordability of water and sanitation (e.g., water tariffs, social tariffs for services, disconnections of services for inability to pay);
- information on water and sanitation (e.g., information regarding quality of water);
- judicial and non-judicial remedies available in case of violation of human rights to safe drinking water and sanitation; and
- institutional framework of the water and sanitation sector in the country, including the role of the national and subnational governments, regulatory actors and the service providers.

The following specific issues have been identified by members of settlements and have been taken into consideration in the impact assessment process.

- A portion of water of Lake Albert has been contaminated by sewage discharge from the camp owned by CNOOC;
- Lakeside villages are particularly vulnerable to increases in waterborne and preventable diseases such as dysentery and malaria. Cholera is also prevalent in aquatic areas and sandy places;
- Historical drill waste dump sites have still not been rehabilitated and remain un-grassed;
- Light and sound pollution have been noted around the drilling pads;
- Cultural practices regarding sanitation and the inconsistent use of latrines, including the use of the Lake in order to “fertilise” for fish production, become unsustainable when applied on a large scale or within overpopulated environments;
- It is very expensive to purchase safe drinking water from suppliers. Considering that most of the households are low income earners, they have decided to continue consuming water from the stream. This water is very unhealthy, and the community is being exposed to waterborne diseases, particularly Typhoid Fever;
- There has been an influx of significant numbers of people into the previously isolated area;
- Mortality rates in the community are high due to the fact that they do not have access to a health facility within close proximity;
- Migrants from outside the region put an additional, unplanned burden on the health, social and educational facilities;
- Children from the DRC are not immunised, resulting in the transmittal of diseases from these (DRC) children to Ugandan children;
- The increased population has meant that there is generally poor latrine coverage, particularly at the lakeshore villages. The reason for this is that collapsing soils prevent the excavation of proper latrine facilities by individual households;





- The communal latrines are overused and poorly maintained. The temporary/poor nature of settlements by the lakeshore do not allow for the construction of permanent pit latrines;
- The Hanga community are concerned that thick bush is likely to grow along the pipeline route as they will not be allowed to go near the pipeline once construction is completed. During the dry season, the bush may also catch fire and burn the communities' homes and gardens;
- There are concerns that the construction of the pipeline may disrupt subterranean water flow; and
- There are concerns around the safety and environmental impacts of a pipeline failure, as well as around possible failure or rupture of the pipeline leading to additional emergency impacts.

4.6.6 Labour Rights

Article 23 of the Universal Declaration of Human Rights¹³⁴ states that “Everyone has the right to work, to free choice of employment, to just and favourable conditions of work and to protection against unemployment”; “Everyone, without any discrimination, has the right to equal pay for equal work; “Everyone who works has the right to just and favourable remuneration ensuring for himself and his family an existence worthy of human dignity, and supplemented, if necessary, by other means of social protection”; and “Everyone has the right to form and to join trade unions for the protection of his interests.”

Within the context of the Ugandan Constitution, this Article finds direct expression in Article 40 (1a) – Labour Rights.

Access to jobs is always a key topic in any project and can often be highly emotive. Allegations have been made that less suitable candidates from outside of the district are preferred to local candidates for semi-skilled positions such as drivers, despite poor language skills from the visitors.

A significant risk and source of conflict is the insurmountable language barrier that exists between Chinese staff of CNOOC and local Ugandans. While English may be a common language in some instances, Chinese is almost completely unspoken within Uganda. This hampers unity within work teams and negatively affects job security for Ugandans unable to adapt.

A concern that has been expressed but which may have been remedied is related to the perception that apparent restrictions may have been applied in respect of the provision of access to oil pads for labour inspections by District Labour Officers. This restriction was said to have been put in place with full agreement of the Ugandan Ministry of Mineral and Energy Development (MEMD), on the grounds that these are strategic installations. Regardless of the facts of the matter, this has led to the perception that workers' rights were being violated. It has also led to a perception of a lack of transparency and has negatively impacted information sharing between CNOOC, the government and civil society.

The following specific issues have been identified by members of settlements and have been taken into consideration in the impact assessment process.

- Local communities had the expectation that “large companies would provide”, which has not occurred. They have traded a subsistence way of life without reaping the benefit of a move to a developed economy. There has been a social shift where people who used to have a “good” life are now left without their natural resource base;
- The recruitment drive (for skilled labour) for CNOOC occurs primarily in Kampala, resulting in recruitment and jobs not being available locally; and
- It is noted that employment opportunities available within the oil and gas industry appear to be male dominated, further disempowering women.

¹³⁴ Universal Declaration of Human Rights; www.ohchr.org/EN/UDHR/Documents/UDHR_Translations/eng.pdf





4.6.7 Land Rights

Article 17 of the Universal Declaration of Human Rights¹³⁵ states that “Everyone has the right to own property alone as well as in association with others”, and “No one shall be arbitrarily deprived of his property.”

Within the context of the Ugandan Constitution, this Article finds direct expression in Article 26 (1) and 237 – Land Rights.

These Articles provide for every Ugandan citizen’s right to own property and defines the types of land ownership recognised. Communal land ownership is common in rural Uganda and with this comes enormous power vested in local leadership to protect the land rights of their people. This also often leads to residents with strong historical claims to land not having legal title, making them very vulnerable to displacement without proper compensation or consultation. This has been further complicated by rich urban businessmen buying up communal land for resale to developers, despite a government ban on the acquisition of land titles within the Albertine Graben.

Although there are processes to follow for appeal against acquisition and compensation, these appear deliberately obtuse and bureaucratic with delays of over ten years predicted by officials, essentially depriving residents of due process.

The following specific issues have been identified by members of settlements and have been taken into consideration in the impact assessment process.

- Historical and cultural areas that require preservation and protection must be identified. Not every village has its own sacred sites or people specifically trained (traditionally) to utilize the site (e.g. rain makers). However, these traditionally trained people are diminishing and there are not necessarily sufficient advocacy programmes in place;
- Cultural values and the importance of cultural ceremonies and rituals are diminishing. The dilution of language dialect is noticeable. Also, the “side-stepping” of the traditional processes mean that the traditional allocation of land is denied to the children;
- The influx of outsiders that are settling on land is taking place outside of the traditional processes e.g. through buying/bribing and other improper ways. Obtaining a land title from the land board is often difficult for locals. However, from outside it is possible to be granted title on customary land when the members of local clans are unable to obtain land titles;
- The Kingdom system has broken down, leaving a power vacuum in terms of how land is distributed and valued. In some instances, the nature of the involvement of the Land Board has not only been questioned but has been labelled as corrupt;
- Informal land tenure has meant selling of land through irregular means by village chairmen and traditional chiefs;
- There has been an influx of significant numbers of people into the previously isolated area;
- There is conflict over land, occasioned by the influx of foreigners;
- There is the increased likelihood that individuals claim ownership over land, decreasing the communal land available. The Buhuka community land is increasingly under threat as a result of private ownership;
- Not all of the impacted landowners have been adequately compensated. In the case of cattle farmers that have been encroached on all sides by CNOOC developments, compensation may not be offered as it isn’t the actual landowners’ farm itself being built on;
- The influx of salaried individuals into the area has resulted in food and housing inflation;

¹³⁵ Universal Declaration of Human Rights; www.ohchr.org/EN/UDHR/Documents/UDHR_Translations/eng.pdf





- The pace of influx has not been met with the appropriate planning and budgeting from government. There appears to be a need to overhaul the way that land is valued and traded. Ugandans are often disadvantaged in negotiations due to the belief that arguing over God-given land bestows a curse. This places newcomers to the district at a distinct advantage;
- The increased trade in land has resulted in fragmentation as well as decreased productivity;
- The influx of foreigners has seen increased conflict for space between farmers and pastoralists;
- Limited space as well as the access to resources has caused some historical farming practices such as seasonal migration to become unsustainable;
- There has been the repeated resettlement of families displaced by the road and pipeline construction. Families are relocated on numerous occasions, which makes resuming a normal life impossible;
- The Hanga community was asked to stop growing long lasting crops, such as bananas and cassava, amongst others. Community members enquired as to whether the discontinuation of such crops would lead to hunger/food insecurity in their homes considering that they depend entirely on such crops for food; and
- Due to the increased number of people coming into Hohwa to settle, do business, farm and build, as well as to opportunistically acquire land for the proposed refinery (to qualify for compensation further down the line and make a profit) the price of land has equally increased. Land related conflicts at all levels of the community are equally on the rise.

4.6.8 The Rights of Vulnerable Persons

Article 8 of the Universal Declaration of Human Rights¹³⁶ states that: “Everyone has the right to an effective remedy by the competent national tribunals for acts violating the fundamental rights granted him by the constitution or by law.”

The initial processes for the development of human rights principles did not place emphasis on any specific group for special protection, and the Universal Declaration of Human Rights as well as international covenants on economic and political rights in general do not make provision for one group to be prioritised above another. There is a general prohibition of discrimination on the basis of gender, age, national origin, property, and other classifications as well as the promotion of the rights and well-being of families, mothers and children. However, ... despite the importance of viewing human rights within a universal context and not simply as something for the disadvantaged, instances arise when particular groups often require more attention to ensure human rights of those groups. This does not mean that these groups are being elevated above others. The term vulnerable refers to the harsh reality that these groups are more likely to encounter discrimination or other human rights violations than others.”¹³⁷

Although the rights of vulnerable persons are not specifically enshrined in the Ugandan Constitution, with the arrival of industrial development and the associated large numbers of moneyed, foreign workers, the risk of the informal exploitation of vulnerable members of society is considerable. The introduction of HIV/AIDS into communities by migrant labour associated with the construction of infrastructure is well documented. Increases in cases of sexual exploitation and abuse, and a significant increase in the number of women engaged in sex work in the communities surrounding the gas developments are well documented.

Despite the provision that compensation forms must be signed by both spouses, a situation has been allowed to develop whereby only husbands were signing. This has led to exclusion of women from compensation

¹³⁶ Universal Declaration of Human Rights; www.ohchr.org/EN/UDHR/Documents/UDHR_Translations/eng.pdf

¹³⁷ Understanding Human Rights - An Exercise Book (Reichert, E.; Southern Illinois University, Carbondale, Illinois; ISBN: 9781412914116); Chapter 5 Human Rights and Vulnerable Groups (Page 77-78); https://www.sagepub.com/sites/default/files/upm-binaries/11973_Chapter_5.pdf





agreements and significant social turmoil as the funds from the development become contested within communities and families.

Forced resettlements were also identified as associated with the development of extractive industries. The April 3, 2009 edition of the Sudan Tribune reported for example that in Sudan, thousands were forcefully evicted to make way for a low-sulphur crude oil venture in south-central Sudan. Through this forced eviction, the people of this community lost venerated ancestral homes, died from contamination and saw livelihoods jeopardized.

Agriculture is the mainstay of a substantial number of African families and as has been documented in the works of authors such as Baanante et al (1999) and Whitehead (1999), the agricultural systems in Africa depend as much on the efforts of women as they do on the efforts of men. However, men are more likely to be cash crop farmers and food crop farmers are usually the poorest in our societies (Darkwah 2005). Forced resettlements which jeopardize the livelihoods of women food crop farmers put undue strain on them and their families as they struggle to develop alternative livelihood practices to fend for their already cash-strapped families.

The following specific issues have been identified by members of settlements and have been taken into consideration in the impact assessment process.

- Increased theft has resulted in the loss of crops, poultry, cows and goats, amongst others. Poverty has therefore intensified, among even employed or hardworking community members;
- There is the perception amongst the elders of less rainfall, hence the region is drier, and the seasons have changed. It rains either later than expected or it does not rain at all. The temperatures are also overly high (many villagers ascribe this to a loss of cultural resources emanating from the establishment of CNOOC – e.g. the relocation of the traditional ‘rainmaker’);
- Increased incidence of sex work among young girls has been seen;
- Incidences of domestic violence have increased;
- Marriage security has decreased;
- Increased dropping out of pupils has been noted, with pupils preferring to seek employment opportunities as opposed to studying;
- Unless projects are closely monitored, increased cases of child labour and school dropout could be experienced;
- Gambling (playing cards and slot machines to get money) has become prominent. Young boys (including the minors) are now participating in such risky activities;
- The number of young boys and girls involved in alcohol and drug consumption has increased. Previously, only men were known to go to bars and consume alcohol;
- Sex trade/prostitution has increased in a number of the villages. Foreigners offer money to women for sex. Bar owners have escalated the habit by travelling to Kampala and importing sex workers to work for them at their bar businesses (apparently within Kiina and Nsonga specifically). It is often native young girls in the area that have taken up the habit as a form of income;
- The decrease in fish stocks means that there is increased fishing effort but for lower returns;
- Increased fishing effort has a security impact in that it increases the likelihood of kidnapping, theft or piracy on the lake;
- It is noted that employment opportunities available within the oil and gas industry appear to be male dominated, further disempowering women;
- Mortality rates in the community are high due to the fact that they do not have access to a health facility within close proximity;





- Children from the DRC are not immunised, resulting in the transmittal of diseases from these (DRC) children to Ugandan children;
- The incidences of HIV/AIDS have increased, as well as the number of children born out of wedlock due to the increased migrant worker population;
- There has been an increase in the number of orphans in the Buhuka community;
- The increased trade in land has resulted in fragmentation as well as decreased productivity; and
- Hohwa community members noted that children born of temporary workers often have no form of identity in terms of who their biological fathers are as well as the clan that they belong to. Also, it is often difficult to trace the biological fathers after they have left the village upon the completion of a project. There is a perception that this is particularly the case when “intermarriages” take place between local Ugandan women and visiting workers from Rwanda, the DRC as well as other countries (this issue is based on direct experience of villagers along the route of the Hoima to Kaiso-Tonya road development).

4.6.9 The Right to Education

Article 26 of the Universal Declaration of Human Rights¹³⁸ states that “Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit.”; “Education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among all nations, racial or religious groups, and shall further the activities of the United Nations for the maintenance of peace.” and “Parents have a prior right to choose the kind of education that shall be given to their children.”

Within the context of the Ugandan Constitution, this Article finds direct expression in Article 30 – The Right to Education.

Every Ugandan has the right to affordable and accessible education. Two primary schools were relocated to make way for the development of the refinery areas. Studies showed that many of these children did not return to education but rather were put to work in small businesses or forced into arranged marriages. Of those children who did return to school, a higher than normal dropout rate was experienced at local high schools when the affected children progressed to those levels.

The following specific issues have been identified by members of settlements and have been taken into consideration in the impact assessment process.

- Increased dropping out of pupils has been noted, with pupils preferring to seek employment opportunities as opposed to studying;
- Unless projects are closely monitored, increased cases of child labour and school dropout could be experienced;
- Migrants from outside the region place an additional, unplanned burden on the school facilities;
- Women have highlighted the need for help with literacy and financial management;
- There a concern regarding the displacement of more schools. For example, in the refinery area (not directly connected to the CNOOC development itself), 2 schools were displaced and have never been replaced; and
- Migrants from outside the region put an additional, unplanned burden on the health, social and educational facilities.

¹³⁸ Universal Declaration of Human Rights; www.ohchr.org/EN/UDHR/Documents/UDHR_Translations/eng.pdf





4.6.10 The Right to Freedom of Movement

Article 13 of the Universal Declaration of Human Rights¹³⁹ states that “Everyone has the right to freedom of movement and residence within the borders of each State”; and “Everyone has the right to leave any country, including his own, and to return to his country.”

Within the context of the Ugandan Constitution, this Article finds direct expression in Article 29(2) – The Right to Freedom of Movement.

This Article protects the right of any Ugandan to move freely throughout the country and settle wherever they please (within the constraints of the rights protecting private property ownership). Large scale industrial development acts as a massive attractor for economic migrants and job seekers into the area. In the case of the Albertine Graben developments, this right has resulted in the disenfranchisement of local communities with the Banyoro now making up only 7.3% of the population of villages that were historically theirs, displaced by the Alur people of north-western Uganda and north-eastern DRC. Apart from the impacts on the social structure of communities now dominated by short term migrants with no historical claim to the area, this has the potential for future xenophobic clashes as access to resources becomes conflated with cultural identity.

The following specific issues have been identified by members of settlements and have been taken into consideration in the impact assessment process.

- There is the perception amongst the elders of less rainfall, hence the region is drier and the seasons have changed. It rains either later than expected or it does not rain at all. The temperatures are also overly high (many villagers ascribe this to a loss of cultural resources emanating from the establishment of CNOOC – e.g. the relocation of the traditional ‘rainmaker’);
- Increased conflict between Congolese and Ugandans;
- The DRC is seen as lawless and “live for the day” without reward for the future. This is “infectious” because the discipline of traditional life is being replaced by this hedonistic approach;
- The influx of outsiders that are settling on land is taking place outside of the traditional processes e.g. through buying/bribing and other improper ways. Obtaining a land title from the land board is often difficult for locals. However, from outside it is possible to be granted title on customary land when the members of local clans are unable to obtain land titles;
- The Kingdom system has broken down, leaving a power vacuum in terms of how land is distributed and valued. In some instances, the nature of the involvement of the Land Board has not only been questioned but has been labelled as corrupt;
- Informal land tenure has meant selling of land through irregular means by village chairmen and traditional chiefs;
- There has been an influx of significant numbers of people into the previously isolated area;
- There is conflict over land, occasioned by the influx of foreigners;
- There is the increased likelihood that individuals claim ownership over land, decreasing the communal land available. The Buhuka community land is increasingly under threat as a result of private ownership;
- An increase in cattle theft has been experienced caused due to the improved road network;
- The influx of salaried individuals into the area has resulted in food and housing inflation; and
- Although still infrequent in the villages along the proposed pipeline, increased conflict between Clans and people of varying nationalities (including amongst various Ugandan tribes) has been noted.

¹³⁹ Universal Declaration of Human Rights; www.ohchr.org/EN/UDHR/Documents/UDHR_Translations/eng.pdf





4.7 Conclusion

The voluntary Human Rights Due Diligence process, which has formed a part of the social risks and impact identification process, has aimed at ensuring that the project does not infringe upon the human rights of others. The Due Diligence process in turn also serves to ensure that systems are in place to proactively monitor potential issues and concerns throughout the project's lifecycle.

This assessment process has been strengthened in that it has been able to draw on the extremely rigorous Due Diligence Assessment process undertaken by the Uganda Human Rights Commission and that it has been allowed to draw so extensively on the in-depth enquiries and processes, including consultation processes, that the UHRC had put in place.

The process that has been undertaken fully recognises that vulnerability and Human Rights risks may change as the project evolves through its various phases. As such, the Human Rights Due Diligence process must remain an iterative process, whereby CNOOC ensures that its business operations as well as its operating context are assessed on an ongoing basis.



5.0 SOCIO-ECONOMIC IMPACT ASSESSMENT - KINGFISHER PRODUCTION FACILITY

5.1 Kingfisher Production Facility – Construction Phase

5.1.1 Issues Identified

Table 51 provides an overview of the issues and concerns raised during the consultation process and have been set out in accordance with the major impact categories related to environmental, cultural, social and development related focus areas.

Table 51: Table of issues raised by I&APs – Kingfisher Production Facility Area

| IMPACT CATEGORY | ISSUE FOCUS AREA | ISSUE |
|--|-------------------------------------|--|
| Environmental Issues with direct Socio-Economic Implications | Impacts on Lake Albert | <ul style="list-style-type: none"> ■ Decreased fish yields through overfishing. ■ Decimation of fish stocks through unsustainable practices such as fishing of nursery areas. ■ Use of illegal fishing gear (e.g. prohibited gill nets, etc.). ■ A portion of the lake water has been contaminated by sewage discharge from the camp owned by CNOOC. ■ Congolese fishermen fish on the Ugandan side of the lake when a Congolese “fishing holiday” is declared (a practice aimed at ensuring the continued availability of breeding stock practiced by the DRC). |
| | Forest and Wetland related impacts | <ul style="list-style-type: none"> ■ Severe deforestation, including increased evidence of new informal and non-project related developments ■ The demand and speculation for land is causing people to move into wetlands, forest areas and other fragile ecosystems. ■ Commercial and household production is taking place in unsuitable environments such as wetlands and forests. These environments are likely to be affected easily by climatic change impacts and other environmental issues. |
| | Agricultural grazing / land impacts | <ul style="list-style-type: none"> ■ New diseases in cattle and goats, probably as a result of the influx from herds into the area which was previously isolated. ■ Shortage of grazing and possibly the prolonged dry season has resulted in decreased milk and meat production. ■ Increased theft has resulted in the loss of crops, poultry, cows and goats among others. Thus, poverty has intensified among even employed or hardworking community members. ■ Lakeside villages are particularly vulnerable to increases in waterborne and preventable diseases like dysentery and malaria. Cholera is prevalent in aquatic areas and sandy places. ■ There is a perception of among the elders of less rainfall, hence the region is drier, and the seasons have changed. It rains either later than expected or it does not rain at all. The temperatures are also overly high (many villagers ascribe this to a loss of cultural resources emanating from the establishment of CNOOC – e.g. the relocation of the traditional ‘rainmaker’). ■ Historical drill waste dump sites have still not been rehabilitated and remain un-grassed. ■ Light and sound pollution were noted around the drilling pads. |





| IMPACT CATEGORY | ISSUE FOCUS AREA | ISSUE |
|-----------------|--------------------------|--|
| CULTURAL ISSUES | Youth and family impacts | <ul style="list-style-type: none"> ■ Increased incidence of sex work among young girls ■ Increased domestic violence ■ Decreased marriage security ■ Increased drop outs of pupils who would rather seek employment opportunities opposed to studying. ■ Increased cases of child labour and school drop out if projects are not closely monitored. ■ Gambling (playing cards and slot machines to get money) has become prominent. Young boys (including the minors) are now participating in such risky activities. ■ The number of young boys and girls involved in alcohol and drug consumption has increased. Previously, only men were known to go to bars and consume alcohol. ■ Sex trade/prostitution has increased in a number of the villages. Foreigners offer money to women for sex. Bar owners have escalated the habit by travelling to Kampala and importing sex workers to work for them at their bar businesses (apparently within Kiina and Nsonga specifically). It is often native young girls in the area that have taken up the habit as a form of income. |
| | Tradition and Heritage | <ul style="list-style-type: none"> ■ Perception that acculturation is occurring in previously traditional communities ■ Increased conflict between Congolese and Ugandans ■ DRC is lawless and “Live for the day” without reward for future. This is “infectious” because the discipline of traditional life is being replaced by a hedonistic approach. ■ Historical cultural areas that require preservation and protection need to be identified. Not each village has its own sacred sites or people specifically trained (traditionally) to utilize the site (e.g. rain makers). But these traditionally trained people are diminishing and there are not necessarily sufficient advocacy programmes in place ■ Local communities had an expectation that large companies would provide, which hasn’t occurred. They have traded a subsistence way of life without reaping the benefit of a move to a developed economy. There has been a social shift where people who used to have a “good” life are now left without their natural resource base. ■ Recruitment drive for CNOOC is mostly situated in Kampala. Not available locally. ■ Diminishing of cultural values and the importance of cultural ceremonies and rituals. Also, dilution of language dialect and the perceived “side-stepping” of the traditional processes mean that the traditional allocation of land is denied to the children. ■ Influx of outsiders in settling on land is taking place outside the traditional processes e.g. through buying/bribing and other improper ways. Obtaining a land title is often difficult for locals from the land board but from outside it is possible to be granted title on customary land when members of local clans are unable to obtain land titles. ■ The Kingdom system has broken down leaving a power vacuum in terms of how land is distributed and valued. |





| IMPACT CATEGORY | ISSUE FOCUS AREA | ISSUE |
|-----------------|--------------------------|--|
| | | <ul style="list-style-type: none"> ■ Informal land tenure has meant selling of land through irregular means by village chairmen and traditional chiefs ■ Cultural practices around sanitation and the inconsistent use of latrines, including the use of the Lake in order to fertilise for fish production, become unsustainable when applied on a large scale or within overpopulated environments. |
| SOCIAL IMPACTS | Poverty/Economic impacts | <ul style="list-style-type: none"> ■ It is very expensive to purchase safe drinking water from suppliers. Considering that most of the households are low income earners, they have decided to continue consuming water from the stream which is very unhealthy, thus exposing the community to water borne diseases, particularly Typhoid Fever. ■ Influx of significant population into the previously isolated area ■ Decreased fish stocks means increased fishing effort for lower returns ■ Increased fishing effort has a security impacts in that it increases likelihood of kidnapping, theft or piracy on the lake ■ Influx of educated personnel has provided improved support to locals around issues like eco-conservation. ■ Increased scholarships for students ■ Conflict over land occasioned by influx of foreigners ■ Increased likelihood that individuals claim ownership over land, decreasing the communal land available. Buhuka community land is increasingly under threat to private ownership. ■ Increased cattle theft occasioned by improved road network. ■ CNOOC is seen as unapproachable with a perception that grievances cannot be properly addressed because it is guarded by soldiers. ■ Not all impacted landowners are adequately compensated. In the case of cattle farmers encroached on all sides by CNOOC developments, compensation may not be offered because it isn't the actual landowners' farm itself being built on. ■ JV partners gave the promise that there would be a quarterly process of meetings. Unfortunately, this hasn't taken place. As well it is with selected audiences in respect of issues that CNOOC (in good faith) are "sharing information". Instead of a dialogue, it has become an information dissemination process. ■ The influx of salaried individuals into the area has resulted in food and housing inflation. ■ It is noted that the employment opportunities available in the oil and gas industry appear male dominated, further disempowering women. |
| | Health impacts | <ul style="list-style-type: none"> ■ The mortality rates in the community are high due to the community not having access to a health facility within close proximity. ■ Children from the DRC are not immunised resulting in transmittal of diseases from these (DRC) children to Ugandan children ■ Increased incidences of HIV/AIDS and children born out of wedlock due to the increased migrant worker population ■ Increased population of orphans in the Buhuka community ■ Repeated resettlement of families displaced by the road construction. |





| IMPACT CATEGORY | ISSUE FOCUS AREA | ISSUE |
|------------------------|-------------------------|---|
| DEVELOPMENT IMPACTS | Infrastructure impacts | <ul style="list-style-type: none"> ■ Improved road infrastructure ■ Lake now more accessible ■ Pace of influx has not been met with appropriate government planning and budgeting. There appears to need to be an overhaul of the way that land is valued and traded. Ugandans are often disadvantaged in negotiations because of the belief that arguing over God-given land bestows a curse. This puts newcomers to the district at an advantage. ■ The increased trade in land has resulted in fragmentation and decreased productivity |
| | Land impacts | <ul style="list-style-type: none"> ■ Land is becoming a premium with grazing and firewood collection under threat from developers ■ Fencing in of grazing land has decreased the grazing available to cattle herdsman ■ Increased traffic into the area has resulted in an increase in fatalities of cattle from vehicle accidents. This is exacerbated by poor administration of licensing, traffic policing and control, etc. ■ Migrants from outside the region put an additional, unplanned burden on the school facilities ■ The increased access to traffic into the region has not been supported by matching increases in road infrastructure spend. |
| | Community impacts | <ul style="list-style-type: none"> ■ Increased population has meant that there is generally poor latrine coverage, particularly at the lakeshore villages. The reason for this is that collapsing soils prevent the excavation of proper latrine facilities by individual households. ■ The communal latrines are overused and poorly maintained. The temporary/poor nature of people's settlements by the lakeshore does not allow for the construction of permanent pit latrines. ■ Women have highlighted the need for help with literacy and financial management |

5.1.2 Needs Identified

Respondents were asked to prioritise their main needs for community development (Table 52). Overall, 21.5% of the respondents ranked roads as the main community development priority for Buhuka parish. Schools were the second priority, followed by a health centre and piped water. Only a small percentage thought sanitation issues were important (private toilets, garbage refuse collection, public laundry). These results are consistent with focus group discussion results from other studies undertaken in the area between 2013 and 2017.

Table 52: Priority ranking for community needs

| Priority Needs | Frequency | Percent | Rankings |
|-------------------------------|------------------|----------------|-----------------|
| Roads | 359 | 21.5 | 1 |
| Schools | 347 | 20.8 | 2 |
| Health centre/clinic/hospital | 318 | 19.0 | 3 |





| Priority Needs | Frequency | Percent | Rankings |
|---------------------------|-------------|--------------|----------|
| Piped water | 257 | 15.4 | 4 |
| Electricity | 172 | 10.3 | |
| Telephones | 62 | 3.7 | |
| Public toilets | 42 | 2.5 | |
| Modern central market | 35 | 2.1 | |
| Private toilets | 33 | 2.0 | |
| Others | 27 | 1.6 | |
| Garbage/refuse collectors | 9 | 0.5 | |
| Public bathrooms | 7 | 0.4 | |
| Recreation/sports centre | 3 | 0.2 | |
| Public laundry facility | 1 | 0.1 | |
| Total | 1672 | 100.0 | |

5.1.3 Overview of the Socio-Economic Impacts

This section describes the socio-economic impacts associated with the project as it pertains to the construction phase of the CNOOC Kingfisher production facility.

While land take and the resulting physical and/or economic displacement is a direct result of specific project infrastructure (and can therefore be calculated with respect to project components in the construction phase), most other socio-economic impacts arising from the project cannot sensibly be distinguished in this way. These impacts are described for the construction of the entire project production facility.

The construction of the production facility and associated project infrastructure on the Buhuka Flats is expected to result in the following socioeconomic impacts, based on the valued environmental components (VECs), which are aspects of the broad human and socio-economic environment that are valued by people. They are discussed in the following sub sections.

- Construction workforce - related impacts:
 - Impact on employment
 - Layoff of casual labour
 - Accommodation of the workforce
 - Impact on employee health and safety
- Economic impacts:





- National, regional and local economic development
- Impacts retarding economic development
- Impact of in-migration
- Community Health, Safety and Security impacts:
 - Impact on housing
 - Impact on diseases
 - Impact on pollution
 - Impact on community safety
 - Impact on health service capacity
 - Impact on crime
 - Impact on nuisance and intrusion
 - Impact on in-migration
- Housing, Land and Natural Resources Impacts:
 - Loss of housing and land
 - Impact on property rates
 - Impact on in-migration
- Community Infrastructure and Services Impacts:
 - Impacts caused by project use
 - Impact of improved road access
 - Impact of in-migration
- Individual, Family and Community Life Impacts:
 - Impact of Social Fragmentation

5.1.4 Construction Workforce Related Impacts

Various socio-economic impacts are expected to arise because of the creation of employment opportunities during construction. These impacts are further discussed below.

While land take and the resulting physical and/or economic displacement is a direct result of specific project infrastructure (and can therefore be calculated with respect to project components in the construction phase), most other socio-economic impacts arising from the operation of the project cannot sensibly be distinguished in this way. These impacts are described for the construction of the entire project production facility.

5.1.4.1 Impact on Employment

Employment Opportunities

As at April 2018, CNOOC employed 60 Ugandan Nationals, 35 Expatriates and 21 Contractor team members (engineering, drilling and completion) whose nationalities have not been specified. Project - related casual short-term jobs are presently allocated equally to residents of local villages through a registration process that involves the LC1s, with approximately 200 jobs created to date.¹⁴⁰ The CNOOC recruitment policy for casual

¹⁴⁰ Eco & Partner and Golder Associates (December 2017), ESIA Presentation of the CNOOC Kingfisher Development





labour is based on a lottery/raffle system that allows all villagers who apply for work an equal but random chance of being appointed, depending on the number of labour 'slots' or openings available per village. This additional requirement has been introduced to preclude LC1 bias in favour of selected applicants. In the construction phase, job creation in the EPC and drilling contracts will ramp up to between 1,000 and 2,000 at peak, tailing off towards the end of the 3-year construction period. Drilling jobs will continue into the operational phase of the project (Chapter 8). Based on its agreements with the Ugandan Government, CNOOC will employ as many local people as possible.

Employees will be sourced from various areas, from the villages in the LSA on the Buhuka Flats, to Hoima Municipality, to the national labour market and even internationally. CNOOC has a recruitment policy which stipulates the procedure according appointments are undertaken, taking into account Ugandan legislation in this regard. The casual labour policy reserves at least 60% of casual jobs for local communities in the areas of its operations, and this is expected to apply to the construction phase of the project as well. Employment will be provided through a selection process that includes all affected villages. In addition, the EPC contractor may employ casual workers from the villages around the project ad hoc for short-term work, like bush clearing. Given the incidental nature of this work, it is not possible to quantify it.

Given the population size of villages within the Buhuka Parish as well as villages on top of the escarpment, there appears to be an available workforce. This workforce will be capable of unskilled and some semi-skilled tasks. Employment creation in the local area and wider region is therefore considered to be an important positive socio-economic impact. It will be short term and the benefits will quickly work their way out of the economy, but taking into consideration the need for cash income, the impact significance will be **medium**. With the implementation of the recommended measures to enhance construction employment impacts, the overall significance rating can be increased to a **high**.

Skills Development/Training

An important constraint affecting the local take up of semi-skilled and skilled appointments relates to a lack of specific education and, to a lesser degree, scarce and critical skills in the oil and gas industry. CNOOC has developed an employment and recruitment policy which guides the recruitment and employment process for internal, local, national and international recruitment. Internal succession, apprentice, trainee and graduate as well as contract labour programmes have been designed for the project. The skills development strategy, which is planned for employees, is designed to improve the capability of the local labour pool by investing in technical, managerial and administrative skills of the workforce. Individual career development plans, setting out areas of competence for development would need to be designed in order to effectively implement career and skills growth for any employees during their term of employment.

Training and skills development will provide a positive impact in developing the construction workforce skills and qualifications and in expanding the human capital available within the local and regional economy. The impact will involve a relatively small number of people, resulting in a rating of low magnitude, but will be permanent, but, in the context of the great need for skills development in Uganda, the overall impact significance will be **medium**.

5.1.4.2 Loss of Income due to Layoff of Casual Labour

Layoff of most of the local casual workers hired during construction will accelerate as the construction phase reaches an end. This could be between 1,000 and 1,500 temporary jobs. Most of these people will not find employment in the operational phase which has much fewer opportunities for casual workers. This may impact on food security among local families who have become dependent on the income from the lost jobs. This is a well-known problem affecting large construction projects, and has sometimes been accompanied by work stoppages and violent protests, particularly if the terms and conditions of casual employment have not been properly explained to the workers. Without appropriate control, the magnitude of impact could be very high, given the vulnerability of the affected workers, and the potential for deteriorating relationships between the company and workers. The residual effects will extend beyond the construction phase into the medium term. The unmitigated impact will be negative and of high **medium** significance.



5.1.4.3 *Impact on Accommodation on the Workforce*

CNOOC policies concerning employment include preferential hiring of local residents/communities and advertising employment opportunities within the local fishing villages (local labour market), who can continue to live with their families as they offer their services to the project. It is anticipated that a range of accommodation options will be offered to employees by the EPC contractor to ensure that no group of potential employees is excluded from employment in the project because of their lifestyle and accommodation preferences. This will be particularly important given the tightening labour market for skilled labour and experienced employees in oil and gas.

Appropriate accommodation and catering facilities will be provided for all contract workers living in the contractor's temporary camp and catering will be provided for all workers, including day workers. Accommodation is expected to meet IFC PS1 requirements. The impact will be positive and of **high** significance.

5.1.4.4 *Impact on Employee Health and Safety*

General Safety Impacts

Local Ugandan statistics for the causes of injury in the construction industry are not readily available. However, the Labour Force Management Plan for Contractors and Subcontractors (CNOOC, 2015:29) outlines a number of broad categories of oil and gas related workplace hazards. These are:

- Physical hazards that include contact injuries and accidents, UV radiation, falling from height and fire;
- Chemical hazards, in particular related to contact with dangerous chemicals that may lead to various health problems;
- Biological hazards leading to infections and parasitic diseases among workers that are the result of contamination from living organisms or their by-products such as bacteria, moulds, parasites and dust; and
- General hazards, including radiation, noise, vibration and extreme temperature.

These hazards may all be aggravated by specific behaviours, such as working in areas without adequate lighting; carelessness or tiredness affecting attention to the task; inadequate, incorrect, or non-existent use of Personal Protective Equipment (PPE); failure to use rotating machinery with the necessary safeguards, general ignorance of, or failure to follow, recognised and documented safety procedures, dehydration and working on potentially hazardous tasks while alone.

Any of the above hazards and behaviours may lead to occupational accidents, illness or disease that could have chronic consequences, preventing the individual from continuing work. The Rapid Health Impact Assessment (APPENDIX B) highlights the following issues regarding work - related illness and injuries as important considerations, particularly during the construction phase:

- A significant proportion of the workforce will be sourced from a low skill labour pool and would potentially be unaware of workplace-based health and safety requirements, making them more prone to high risk behaviour and accidents during the construction phase;
- Ugandan labour laws, associated enforcement of health and safety regulations and compensation for occupational injuries and disease lag behind international best practice standards. Disability management and appropriate compensation standards and regulations are limited and are not aligned with IFC and other international standards and requirements; and
- There is a limited emergency response system in the broader study area and indeed district.

In the absence of a highly regulated OH&S environment, with appropriate safety training and a zero tolerance management approach towards unsafe practices, the probability of disabling or fatal injuries (impacts of high





magnitude) during the construction phase will be high, with potentially permanent consequences and with a **high** significance rating. With strict implementation of a high standard of health and safety management, injuries can be reduced to minor non-disabling accidents which are short term and of **low** significance.

Driver and Mobile Equipment Safety

The main causes of accidents involving project - related vehicles and movable equipment on and off site are:

- Failure to drive cautiously and defensively;
- Disregard of speed limits;
- Failure to wear seat belts;
- Use of cell phones while driving;
- Careless driving and/or driving / equipment operation by insufficiently trained personnel;
- Failure to maintain the lights and audible reversing signals on construction vehicles and equipment;
- Night driving; and
- Driver/operator fatigue.

As for other aspects of work on a large construction site, the use of vehicles and heavy construction equipment may result in significant safety hazards in the absence of a highly regulated OH&S environment. Without appropriate driver training and a zero tolerance management approach towards unsafe practices, the risk of disabling or fatal injuries (high magnitude) caused by construction vehicles and moving equipment will be high, with a **high** significance rating. As in the case of general safety issues, these risks can be minimised by good practice, and injuries can be reduced to minor non-disabling (short term) accidents which are short term and of **low** significance.

Graft and Exploitation

During all phases of the project, CNOOC will need to remain alert to the potential for graft and exploitation that foreign (non-Ugandan) employees and service providers may experience. There have been incidents in which foreigners (particularly Chinese people) have been accosted by the Ministry of Internal Affairs, being forced to go to the Department of National Citizenship and Immigration Control to prove that they have work permits in place. People with a relatively poor command of English may feel sufficiently intimidated to offer money to be left alone. Locals keen to find employment have, as well, been subjected to graft and exploitation through unscrupulous role-players who pretend to recruit on behalf of CNOOC. Unsuspecting victims are required to pay a “registration fee” to be included on the recruitment roll. Impacts may affect uninformed locals on the one hand and CNOOC foreign personnel on the other hand, and will be of low **medium** significance.

Alcohol and Drug Abuse

National statistics on substance abuse in the workplace and associated safety incidents and accidents are currently unavailable, although alcohol and drug abuse is often prevalent in construction camps and this spins off into safety in the workplace. Of concern is that Uganda has the highest prevalence of consequences associated with alcohol consumption, and thus the highest reported rate of alcohol-related burden in the world. This includes the burden of alcohol related workplace-based accidents and injuries (Graham et al., 2011).

According to the 2014 Global Status Report on Alcohol and Health, Uganda’s pure alcohol per capita annual consumption is 9.8 litres which places it amongst the highest globally. Per capita consumption of pure alcohol in the over 15 years old age group is, on average, 23.7 litres! As comparison, the WHO notes that the African average per capita consumption rate of pure alcohol is approximately 6.2 litres per capita per annum (WHO, 2014).

The unmitigated risks are highly significant, with a strong correlation between workplace accidents and the use of these substances. In the absence of appropriate management and monitoring, the risks of severe





(permanent) injury or mortality due to substance abuse will be high, and impact significance will be **high medium**.

Vector-Related Diseases

Malaria in Uganda can have significant negative impacts on worker health and productivity. In the vicinity of the project, there is a paucity of accurate data about vector typology and behaviour, exact prevalence of malaria and indicators related to knowledge, practices and behaviours. This limits the ability to monitor impacts or interventions from a clear point of departure. However, from the data that is available, as set out in the HRIA, the proposed production facility environment is expected to be a high risk malarial area, supporting numerous breeding sites that are conducive to the promotion of disease transmission. According to the Rapid Health Impact Assessment (RHIA) undertaken for the project, malaria is the most prevalent health concern in the area, with the disease accounting for 35-54% of all outpatient visits in the study area Health Clinics (APPENDIX B). Malaria case rates are also described as being on the increase, and that the illness is commonly associated with misconceptions and poor prevention behaviour. There is limited capacity within the Local Study Area for the support of malaria and vector control preventive initiatives. The magnitude of malaria impacts on the workforce, without appropriate interventions, will be potentially high, permanent (potentially life threatening), local and of **high medium significance**.

Sexually Transmitted Diseases

The potential spread of sexually transmitted disorders (STDs), including HIV/AIDS, must be regarded as a serious potential impact on the workforce, with the risk of the spread of the diseases due to interaction between construction workers and local communities. Typically, the presence of a large number of well-paid predominantly single males in construction camps encourages sex workers from local communities and further afield, with a resultant risk of the spread of HIV/AIDS and other STDs among construction workers due to unprotected sex. Without a high degree of management, this workforce impact will be long term or permanent, only partly reversible (depending on the availability of treatment), of very high magnitude, regional scale (spread to other areas when construction worker leave) and **high** significance. Stringent management will reduce unsafe practices, but is unlikely to that it can be fully controlled in the construction phase and the residual impact will remain low **moderate**.

Sanitary and Hygiene - Related Diseases

Maintaining hygienic conditions in a large workforce unaccustomed to requirements in respect of sanitation and hygiene will require ongoing education and management. In addition to the provision of appropriate sanitary facilities for human and food wastes, personal hygiene must be taught and enforced.

Food waste must be disposed of in a proper manner (incineration, burial or taken off site and disposed of in sanitary landfill sites) to prevent the proliferation of pests.

Without proper management in place, outbreaks of diseases caused by poor sanitation and hygiene are highly likely, causing negative health impacts in the workforce and lost man-hours. The magnitude of the impact is potentially high, with local, medium term, effects, resulting in impacts of high **medium** significance.

5.1.4.5 Impact Mitigation / Enhancement and Monitoring

CUL is required to comply with the objectives of the National Oil and Gas policy and legal framework with regard to oil and gas development and benefits to the citizenry. CUL has set out to meet relevant National laws and regulations, policies and action plans, and international best practice to ensure that it complies with a high standard in the management of its labour force. CNOOC Limited is a member of the UN Global Compact, and therefore all its global operations, including CUL, are committed to comply with the principles in the Compact related to labour rights.

The following plans will apply to CUL's functioning across all phases, including construction:

- CUL (updated). Labour Force Management, currently under preparation and





- ESIPPS (2015). Labour Force Management Plan for Contractors and Subcontractors. Final Plan, prepared on behalf of CUL, February, 2015.

The Labour Force Management Plan (LFMP), while focussing more specifically on casual labour which will be characteristic of much of the unskilled labour employment during the construction phase of the production facility, nevertheless applies to a wide range of issues that will be equally applicable to other, permanent, employees. CNOOC requires that all EPC contractors adopt the Casual Labour Recruitment Guidelines as well as the Labour Force Management Plan. As well, in order to minimise the possibility of misunderstandings or potential conflict related to local employment, it is an additional requirement that contractors are fully briefed on the Guidelines and the Plan by the relevant lead department prior to the commencement of contract execution.

The LFMP commits CUL to a range of specific actions designed to ensure that its labour practices are fair, transparent and in compliance with Ugandan policy and law and best practice standards, including IFC PS2. The LFMP deals with a wide range of issues, including recruitment and retention of employees, terms and conditions of employment, wage rates, minimum wages, timeliness of payment, entitlements and benefits (work hours, weekly rest, public holidays etc.), repatriation of workers, termination of services, workplace health and safety, HIV Aids policy and prevention, health and welfare arrangements, first aid facilities, measures against biological hazards (insects, pests, virus's, parasites, bacteria), training and development, freedom of association, equal treatment, employment of women, forced labour, grievance management, local content and migrant workers, damage to property and management of contractors and subcontractors.

For the purposes of the ESIA, the following additional recommendations are made, drawn from the specialist studies. In some instances, there is overlap between the recommendations in the LPMF and the recommendations below:

5.1.4.5.1 Impact on Employment

Employment Opportunities:

- Implement the actions set out in the ESIPPS (2015) Labour Force Management Plan (LFMP). Ensure that all contractors employed during the construction phase of the project are aware of and comply with the management framework for casual labour set out in this document;
- Ensure that the framework is fully applicable to CNOOCs full time construction staff;
- Preferentially hire local people, in accordance with CNOOC policies and agreements with Government. Advertise employment opportunities within the local fishing villages (local labour market) so that as many people as possible are employed who can continue to live with their families as they offer their services to the project. Directly project-affected people should be given priority to win construction phase jobs, subject to their meeting the necessary employment requirements;
- Ensure that permanent employment is done via CULs Kampala head office in order to discourage job seekers at the gate of the production facility. Widely advertise the employment process for the construction phase so as to ensure local understanding of employment criteria and processes; and
- Develop and implement training and skills development programmes in the construction workforce where feasible, to expand the human capital available within the local economy.

Skills Development:

- Align the CNOOC Education and Training related support initiatives as well as in-house training and competency development of Ugandan nationals with the critical and scarce skills requirements of the Oil and Gas sector;
- Consider promoting a process of Recognition of Prior Experience (RPE) and Recognition of Prior Learning (RPL) in collaboration with tertiary technical training institutions that will allow the accrual of



credit for informal and non-formal skills development into the formal skills development sector for unskilled but experienced construction workforce;

- Provide basic financial literacy training to construction workforce who are employed for longer than 4 months; and
- Provide all necessary SHE training to construction workforce.

5.1.4.5.2 Layoff of Casual Labour

- Ensure that labourers fully understand their conditions of contract with respect to its temporary nature; and
- Train the elected office bearers (LC1's) to ensure that they understand and communicate appropriate information to their communities about the temporary nature of construction employment.

5.1.4.5.3 Impact of Workforce Accommodation

- Ensure that construction workforce accommodation meets all IFC PS 2 requirements, including the putting in place and implementing policies related to quality and management of the accommodation and provision of basic services;
- Ensure that construction worker rights to freedom of movement or of association are balanced with the need to prevent detrimental construction workforce related impacts on the general well-being and health, safety and security of settlements in proximity to the workforce accommodation services. The current CNOOC practice of sequestering workers who reside in the camp to the camp site from 19:00 at night assists in minimising the potential interaction between workers and villagers;
- Ensure that the contractor provides on-site catering for all personnel (including day workers);
- Ensure provision is made for sufficient housing to avoid overcrowding at the EPC and Drilling contractors' temporary camps; and
- Refer to recommendations for recreational health under alcohol and drug abuse.

5.1.4.5.4 Impact on Employee Health and Safety

General Health and Safety:

- Comply with the Occupational Health and Safety standards established by the Government of Uganda, as well as the requirements in place in respect of the IFC;
- Incorporate veterinary concerns into the OHS management plan to include appropriate waste management to mitigate against feral dogs and an awareness of the risk of snake bites and other wild animal threats;
- Create awareness of all Occupational Health and Safety requirements from and measures for workers that include adequate orientation as well as ongoing/routine training and sensitisation on OSH;
- Adopt a zero tolerance approach to employees who transgress health and safety rules;
- Ensure effective management of camp facilities. Consider a closed camp status;
- Implement health education programmes for employees in order to disseminate information regarding general social pathologies and spread of disease;
- Properly design the accommodation and other facilities in the personnel camp to prevent overcrowding and need to use rented accommodation available in communities;



- Ensure adequacy of welfare and amenities, including the supply of adequate drinking water as per WHO recommended 5 litres per day, cloak rooms, sanitary facilities separate for men and women, adequately furnished eating places, hand wash rooms/areas and proper meals;
- Develop effective management of emergencies, illness and injuries through adequate medical provision, equipped first aid points at the workplace and as needed in the field and the availability of emergency response facilities;
- Ensure that the CNOOC Emergency Response and Exposure Control Plans are understood by all workers, including labourers undertaking routine construction related tasks, and not only by first responders, and that adherence is strictly enforced under all circumstances and conditions;
- Screen local employees/contractors for TB at recruitment and provide adequate care and treatment programmes from the Project's workplace medical service while complying with the requirements of the national TB programme;
- Develop a site-based TB management programme;
- Evaluate the origin of any incoming contracted construction workers (especially from high burden TB countries) and understand TB and MDR risks in this group. Ensure effective TB screening in the external contracted workforce prior to final appointment and mobilization as part of the Project's Fitness to Work (FTW) procedures to ensure that diseases are not introduced in the study area;
- Develop a vaccine preventable disease programme for all employees, and visitors based on risk for travellers and at-risk occupations. All employees and contractors residing in close contact in camps should receive the quadrivalent meningococcal meningitis vaccine;
- Support a HBV vaccination campaign/ or antibody testing on employee who may have not been vaccinated as a child;
- Develop nutritional programmes that promote proper nutritional practices at the workplace to prevent obesity and related health impacts, including education programmes in the workforce on financial management and support of the household units in employees that have traditionally followed a subsistence lifestyle;
- Train employees to ensure that they are aware of the requirements of the Occupational Health and Safety standards established by the Government of Uganda; and
- Provide ongoing monitoring of worker health through a dedicated Employee Health Assessment Programme with the following key focus areas:
 - Malaria control and prevention programme.
 - Tuberculosis control and prevention program.
 - Vector surveillance and control.
 - Clinical operations.
 - Food safety.
 - Water safety.
 - Camp hygiene and sanitation.
 - Industrial hygiene.





Driver and Mobile Equipment Safety:

- Implement driver and mobile equipment training programmes in accordance with internationally recognised guidelines for workplace safety; and
- Prohibit all drivers (permanent employees, contractors and suppliers) from giving lifts to the local community.

Graft and Exploitation:

- Ensure that CNOOC puts in place and meticulously implements all required anti-corruption, business ethics related and internal compliance Policies and Programmes, including the CNOOC Limited Code of Commercial Behaviour and Conduct of Employees, the Procedures for Handling Violation of Rules of CNOOC Limited Employees as well as its Guidelines for Overseas Operation with Compliance of CNOOC;
- Ensure that all expat employees, contractors and sub-contractors appointed during the construction phase comply with the labour and work visa requirements as necessary, and have copies of all appropriate documents available and at hand;
- Ensure that all employees, contractors and sub-contractors are alert to situations where they may become the victims of crime or targets for corrupt practices, including that perpetrated by government officials;
- Ensure that there is a protocol in place for reporting and managing incidences of intimidation and/or corruption. This protocol should include a coherent process for supporting persons who are unable to communicate fluently in English; and
- Ensure massive sensitisation of communities regarding CNOOCs policies, programmes and procedures in a manner that will ensure that they are alert to situations where they may become the victims of crime or targets for corrupt practices.

Alcohol and Drug Abuse:

- Develop a programme to address education about and management of non-communicable diseases related to use of drugs and alcohol issues;
- Implement the CUL policy of prohibiting the possession and use of drugs and alcohol at all of its camps and construction worksites and those of its contractors and the associated routine search of vehicles and bags to ensure that unauthorised substances are not taken into the camps facilities; and
- Ensure that there is sufficient provision for worker recreation in order to minimise the lure of substance abuse and use of external sexual services and facilities. While it is understood that it is extremely difficult to ensure prevention, it will be necessary for CNOOC to put very specific measures in place to address such issues.

Vector Related Diseases:

- Develop an integrated workplace malaria and vector control programme to include source reduction and environmental management of breeding sites, routine inspections of accommodation units, appropriate IEC programmes for the workforce and contractors prior to secondment and for use in country, policies and programmes related to use of protective clothing and the use of malaria chemoprophylaxis and surveillance programmes between the workplace medical service and vector control team to determine the likely origin of, and root cause of malaria cases;
- Reduce potential human vector contact and control of breeding sites of disease vectors such as mosquitoes. Continually monitor activities on site to ensure adequate drainage and management of storm water to minimise breeding in the area; and
- Ensure that all accommodation units in the permanent camp are proofed against mosquitoes.



Sexually Related Diseases:

- Develop a clear HIV policy and programme in the workplace which includes ensuring that there is adequate accommodation capacity at the temporary personnel camps to eliminate the need for contractors or visitors to seek accommodation in the local villages;
- Screen for STDs and hepatitis B/C virus as part of pre-employment fitness to work process. Treatable causes should be managed, and chronic carriers excluded from employment until managed;
- Develop a code of conduct that actively discourages sexual relationships between the workforce and the local community;
- Work with the village and traditional leaders to manage truck stops, as well as district authorities to report any increase in high-risk sexual behaviour from elements of the workforce, including the collection of baseline data;
- Develop and implement an HIV and STI management programme in the construction workforce, to include awareness and education, treatment services that link to the public health service, provision of free condoms, access to counselling, proper provisioning of the work camps to dissuade workers travelling into communities for entertainment and support of family friendly accommodation in the camps;
- Develop and implement an HIV and STI prevention programme for suppliers, which is to include awareness and education about STI's. The design and placement of rest stops for drivers transporting goods and materials to and from the production facility should be away from local communities and properly subsidised for cheap food / entertainment; and
- Prohibit all drivers (permanent employees, contractors and suppliers) from giving lifts to the local community.

Sanitary and Hygiene - Related Diseases:

- Ensure that the construction camp has all required and adequate amenities such as water supply, sanitation and waste management;
- Provide adequate medical infrastructure and facilities at camp to address any potential risk to workers' health;
- Ensure that human waste is managed via proper disposal and treatment facilities to avoid seepage (which may contaminate water sources);
- Ensure that food waste is disposed of in a proper manner (incineration, burial or taken off site and disposed of in sanitary landfill sites) to prevent the proliferation of pests within the camp; and
- Encourage good personal hygiene through ongoing training throughout the construction contract.





5.1.4.6 Impact Significance Rating

Table 53: Construction phase impacts on the workforce

| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|---|----------------|----------------------------|-------------------|-------------|-----------------|-----------------|----------|-----------------------|-------------|-----------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Impact on employment | | | | | | | | | | |
| - Employment opportunities | 6 | 2 | 3 | 5 | High Medium +55 | 8 | 2 | 3 | 5 | High Medium +65 |
| -Skills development and training | 6 | 5 | 3 | 5 | High Medium +70 | 7 | 5 | 3 | 5 | High +75 |
| -Layoff of casual labour | 8 | 3 | 3 | 4 | High Medium 56 | 4 | 2 | 3 | 4 | Low Medium 36 |
| Impact of workforce accommodation | 6 | 2 | 3 | 5 | High Medium +55 | 8 | 2 | 3 | 5 | High Medium +65 |
| Impact on Employee Health and Safety | | | | | | | | | | |
| -general safety | 10 | 5 | 2 | 4 | High Medium 68 | 2 | 2 | 2 | 4 | Low 24 |
| -driver safety | 10 | 5 | 2 | 4 | High Medium 68 | 2 | 2 | 2 | 4 | Low 24 |
| -graft and exploitation | 7 | 2 | 2 | 3 | Low Medium 33 | 4 | 2 | 2 | 3 | Low 24 |
| -alcohol and drug abuse | 10 | 5 | 2 | 4 | High Medium 68 | 2 | 2 | 2 | 4 | Low 24 |
| -vector related diseases | 9 | 5 | 2 | 4 | High Medium 64 | 2 | 2 | 3 | 4 | Low 28 |
| - sexually related diseases | 10 | 5 | 3 | 5 | High 90 | 4 | 2 | 3 | 5 | Low Medium 45 |
| - sanitary and hygiene - related diseases | 8 | 3 | 2 | 4 | Low Medium 52 | 2 | 2 | 3 | 3 | Low 21 |
| KEY | | | | | | | | | | |
| Magnitude | | Duration | | | Scale | | | Probability | | |
| 10 Very high/ don't know | | 5 Permanent | | | 5 International | | | 5 Definite/don't know | | |
| 8 High | | 4 Long-term (impact ceases | | | 4 National | | | 4 Highly probable | | |





| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|-------------------------------|----------------------------|-----------------------------|-------------------|-------------|--------------|-----------------|----------|-------------------|-------------------------|--------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| | after closure of activity) | | | | | | | | | |
| 6 Medium | 3 | Medium-term (5 to 15 years) | | | 3 | Regional | | 3 | Medium probability | |
| 4 Low | 2 | Short-term (0 to 5 years) | | | 2 | Local | | 2 | Low probability | |
| 2 Minor | 1 | Transient | | | 1 | Site only | | 1 | Improbable | |
| 1 None/Negligible | | | | | | | | 0 | No chance of occurrence | |

Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: +

5.1.5 Economic Impacts

The project will have impacts in the local, regional and national economy through direct and indirect economic benefits. Whilst it falls beyond the scope of this study to conduct a comprehensive macro-economic assessment, general economic impacts are discussed below.

5.1.5.1 National, Regional and Local Economic Development

National and Regional Economic Growth

The expansion of the resource industry in Buhuka Flats will have a beneficial cumulative impact in the region. This will include revenue for the government, employment opportunities at local, regional and national level and a direct and indirect effect on business development. Increased household income and expenditure will result. On its own and combined with the effect of the other oil industry developments, CNOOC’s Kingfisher project is likely to generate significant economic multipliers¹⁴¹. Research for other oil development projects has shown that economic multipliers of about 2.33 for value added¹⁴² and between about 2.88¹⁴³ and 3.03 for labour income¹⁴⁴ apply. While these studies were undertaken for oil and gas developments in the USA and the ratios do not necessarily hold true for developing economies, the general effect is clear.

The increase in work opportunities provided by project construction will result in growth in the proportion of Ugandans with higher incomes, at least over the period of construction, which is 3 years. CNOOC has indicated that it purchases in the order of 65% of its goods and services from suppliers and contractors in Uganda, which number more than 100 providers to date. The Company also trains local suppliers to meet oil and gas quality, safety and other standards and learn the tendering and bidding process. This will also support the district and central government initiatives intended to improve the social capital of Buhuka Parish, Kyangwali Sub-county and Kikuube District. While data are not available yet, the construction Contractors will be expected to follow CNOOCs procurement policy, including in respect of the utilisation of local goods and services where these are available, it can logically be anticipated that local (Ugandan) purchases are likely to increase substantially during the construction phase once the contractors are appointed. Given the number of oil and gas projects under consideration in the sector, there will be a continued and expanding demand for skilled labour. Wages for skills needed in the oil industry are likely to increase. Employment in the oil industry will generate government revenue, deducted from salaries through Pay As You Earn (PAYE).

This economic impact will be positive and of high magnitude (a significant number of Ugandan people benefitting from economic growth, as a result of the project), and will be permanent and extend to people and

¹⁴¹ An multiplier is the factor by which gains in total output are greater than the change in spending that caused it

¹⁴² Macroeconomic subgroup, 2011

¹⁴³ Pennsylvania Economy League of Southwestern Pennsylvania, 2008

¹⁴⁴ Macroeconomic subgroup, 2011





businesses at regional and national level, resulting in a **high medium** significance rating. Benefits can be further increased with the implementation of the recommended measures to enhance good governance and investment in local infrastructure and services.

Local Economic Development

The KFDA project will stimulate demand for goods and services in the local area, which in turn will have a direct and indirect impact on employment in the Ugandan economy. However, while CNOOC has a local (Ugandan) procurement policy, as described in the section above, little of the benefit from procurement of goods and services during the construction phase is likely to accrue to businesses on the Buhuka Flats. Economic benefits for these communities are more likely to be the result of a burgeoning informal sector around the project, which will benefit from expenditure by local residents who obtain unskilled jobs on the construction project. The overall benefits to local businesses (both direct as a result of local project expenditure and indirect as a result of the growth of the informal business sector) will be of medium magnitude, will have short duration (opportunities will dwindle once the cash injection from people employed on the contracts ends), will be local and of **medium** significance.

Human Capital Development

There is a strong relationship between available human capital and the ability to attain social and economic growth and development. It is recognised that the development and promotion of human capacity will be achieved most effectively through a coherent process of investment in the people of Uganda.

Uganda has a low comparative world ranking on the Human Capital Index, being currently ranked 106th out of 122 countries on the overall Human Capital Index (WEF, 2013:13), and 118th out of 122 countries in respect of the Educational Pillar of the Human Capital Index Ibid, p14).

The Business, Technical and Vocational Education and Training (BTVET) Strategic Plan 2011 – 2020 (MoGLSD, 2011) for Uganda, identifies the absence of and the urgent need for a comprehensive process to develop occupationally relevant skills and competencies, including skills for the oil and gas sector. The Oil and Gas Policy (MEMD, 2008:27) emphasises the provision of support for the development and maintenance of national expertise, including planning for the development of formal and industrial training and broadening the national education curricula in preparation for putting the necessary oil and gas workforce in place in the country.

The Industrial Baseline Survey, undertaken by CNOOC in collaboration with Total and Tullow (Hamman, 2014:29) states that it is evident that Uganda is currently unable to meet the manpower demands of the oil and gas sector and recommends, inter alia, that oil and gas operators such as CNOOC (i) in partnership with government work towards strengthening the educational system; (ii) offers direct support to existing training institutions of repute; and (iii) facilitates the establishment of a technical and vocational education and training (TVET) centre, aimed at providing competence development for, inter alia, craftsmen (civil) and mechanical and electrical technicians required by the oil and gas industry. CNOOC is directly involved in this process.

Given the relatively short period envisaged for the construction phase of the project, beneficial human capital development is likely to be limited, unless specific training programmes are put in place, and even with enhancement will only be of low **medium** significance.

5.1.5.2 Impacts Retarding Economic Development

Competition for Experienced Labour

The construction phase of the project is likely to exacerbate the current shortage of experienced labour at local and district level. Sourcing experienced workers from the local area will drain available skills away from existing businesses, increasing scarcity of skilled labour in the Hoima District and increasing the cost of labour. While this is a benefit for already-skilled labourers, who will have increased demand for their services and potentially higher earnings, it will create a shortage of labour which cumulatively impacts on the entire Albertine region. Without mitigation, the magnitude of this impact will be medium, and it will be regional in scale, short term (reversible at the end of construction) and highly probable, resulting in impacts of low **Medium** significance.



Impact on Land and Property Rates

Local knowledge of the proposed KFDA project has resulted in speculation for land, where individuals move into the area and claim land for themselves. According to villagers on the Buhuka Flats, these speculators sometimes have title deeds which have been acquired fraudulently¹⁴⁵. This practice has been successfully challenged at least once, with a prominent government official being jailed for fraudulent transactions. Despite this, it is reported that speculators continue to try to trade up the price of land in the local area¹⁴⁶. The formation of the Buhuka Communal Land Association (BCLA) also referred to as BUCOLA, in accordance with the Land Act of 1998 and the land regulations, aims at managing this situation. This should significantly mitigate against further land speculation if it is successful in engaging the land issue. If this does not happen then, without mitigation, this impact is likely to escalate during the construction phase of the project, impacting on people living on the Flats who can least afford it. Coupled with a struggling land management system, issues about the ownership of land are likely to increase beyond that noted in section 3.5.11¹⁴⁷. This impact could reach a point at which increasing levels of hostilities will begin to emerge. Impact magnitude is expected to be high at local scale, short term (largely reversible after construction), with a high probability of occurrence and high **medium** significance.

Disruption of Livelihoods

Based on the extent of land-take on the Buhuka Flats, households will face a reduction in available grazing land for cattle. Table 56 shows that 8.4 % of the available grazing land on the Flats will be taken up by the CNOOC construction footprint. Whilst this will be compensated for, individuals may find it extremely difficult to source sufficient affordable alternatives for feeding livestock. This could result in a disruption of livelihood-related activities or even their suspension, with associated increased levels of poverty.

This magnitude of the impact is potentially high, with long term consequences for the affected individuals. The impact will be local (restricted to the Buhuka Flats and highly probable, resulting in high **medium** significance.

5.1.5.3 Impacts due to in-migration

The influx associated with the escarpment access road is already causing tension within and between communities on the Buhuka Flats. With a steady population influx into the area in response to expectations about work and business opportunities associated with the construction activities, the demand for land and price speculation is expected to continue increasing throughout the construction phase. Tensions are also expected to escalate as migrants settle in the area and compete with local people of natural resources and for jobs on the construction contract. In countries with high levels of unemployment and politically unstable neighbours, economic migration in response to perceived opportunities can be highly significant. The numbers of migrants settling on the Buhuka Flats cannot be predicted with any certainty, but if the expected levels of migration occur, the magnitude of the impact will be very high (taking into account the high levels of joblessness and resource poverty), it will affect local communities, will be medium term (only partly reversible since many migrants may not return to their place of origin), and of **high** significance. While some degree of mitigation is feasible through interventions by Government, it is unlikely that this impact can be reduced to **low** levels of significance.

5.1.5.4 Impact Mitigation and Monitoring

The following impact mitigation is recommended:

¹⁴⁵ *Minutes of the Stakeholder Meeting with the Kyabasambu, Kyakapere and Nsonga Communities (2017)*

¹⁴⁶ *Ibid*

¹⁴⁷ *Based on the Socio-Economic Household Survey (2013) 21% of households have had land conflict or pressure over landownership, with disputes arising mainly about ownership (40% of cases) and disputes about boundaries (44% of cases).*





5.1.5.4.1 National, Regional and Local Economic Development

National and Regional Economic Growth and Business Development:

- Maximise local procurement of goods and services, wherever reasonably possible. CNOOC has committed to this principle, which is expected to apply to the construction contractors responsible for the feeder pipeline as well;
- Create a detailed and specific local procurement policy (LPP) that will provide benefits to the local community by prioritising sustainable business opportunities with local enterprises, particularly SMMEs. The LPP should set out the steps that will be taken to work with and build the capacity of local suppliers to become more competitive and profitable. This may include the provision of external training and support, aimed at improving their operational, safety, environmental and technical standards to a standard that allows them to compete effectively for contract opportunities. From an internal perspective, the LPP should integrate real measures to identify local procurement opportunities, to communicate the business case to all relevant stakeholders and to put incentives and opportunities in place that will incentivise a supply chain process committed to ethical local procurement;
- Support educational and vocational training reform that will develop the range of skills necessary for Uganda to benefit more fully from the sector, including support of science, technology, **engineering**, and mathematics (STEM) at schools and technical and vocational education and training;
- Contribute to economic development and infrastructure improvement in the project area, in partnership with central, district and local government;
- Develop a transparent community development and contribution policy; and
- Encourage the development of government fiscal programmes to manage inflation and support vulnerable groups as required (elderly, single women or child headed households).

Human Capital Development:

- Identify unskilled construction workers who demonstrate the necessary experience and aptitude for potentially becoming part of a valued workforce, and introduce a directed in-service mentoring and capacity building support programme;
- Promote STEM at school level by incorporating support to the development of science laboratories at schools, strengthening education in maths and science at schools and the development of well-stocked school libraries as a specific focus of CNOOC Corporate Social Responsibility (CSR);
- Consider offering bursaries or internships to promising students (refer to discussion on the community development impacts) to build a sustainable and educated future workforce;
- Collaborate with the Petroleum Authority of Uganda (PAU), which is tasked with establishing, maintaining and operating a national human capacity register for the petroleum sector to ensure that CNOOC contributions in the form of bursaries and scholarships support the development of an appropriately skilled labour force; and
- Support initiatives that will promote and strengthen the levels of competence of master artisans and crafts persons within the Technical Education and Training (TVET) system, and design mechanisms that will support the entrance of female scholars into TVET institutions.

5.1.5.4.2 Impacts Retarding Economic Development

Competition for experienced labour:

- Develop and implement training and skills development programmes for the construction workforce to expand the human capital available within the local economy; and



- Create opportunities for supporting and up-skilling suitable candidates from the temporary unskilled construction workforce so that their experience and competence is built in a manner that aligns their competencies with workforce skills needs.

Impact on Land and Property Rates:

- Support work to develop comprehensive land policies. This includes support for Government capacity to do strategic, long-term land use planning that protects small holder farmers and helps balance multiple uses of land, including for oil and gas extraction.

Government Revenue Losses due to Corruption:

- Publicly disclose the material payments made to the Ugandan Government. This should be in accordance with IFC anti-corruption guidelines. CNOOC should continue to follow its internal anti-corruption prevention and management system to minimise corruption and malpractice cases, or to deal with these when they do occur; and
- Comply with the objectives of the National Oil and Gas policy and legal framework with regard to oil and gas development and benefits to the citizenry, and meet relevant National laws and regulations, policies and action plans, and international best practice, to ensure compliance with a high standard in the prevention of graft and corruption. CNOOC Limited is a member of the UN Global Compact, and therefore all its global operations, including CUL, are committed to fully comply with Principle 10 of the Compact related to anti-corruption, which stipulates the requirement that it must work against corruption in all its forms, including that related to bribery and extortion.

Disruption of Livelihoods:

- Implement the Livelihoods Action Plan and the Community Development Plan.

5.1.5.4.3 Impacts due to In-Migration

- Engage closely with government to monitor land ownership and changes thereto surrounding the project development;
- Implement the recommendations of the Influx Management Strategy and Framework Plan (Volume 4, Specialist Study 11); and
- Prepare to accommodate the changes arising from the population influx by sensitising the LC system. This is particularly important, as it is at this level that the stability of a village is decided, including the establishment of checks and balances for maintaining individual rights and responsibilities, and for managing crime.

5.1.5.5 Impact Significance Rating

Table 54: Construction phase economic impacts

| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|---|----------------|----------|-------------------|-------------|-----------------|-----------------|----------|-------------------|-------------|-----------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| National, regional and Local Economic Development | | | | | | | | | | |
| - National and Regional Economic Growth | 6 | 2 | 4 | 5 | High Medium +60 | 8 | 2 | 4 | 5 | High Medium +70 |





| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|--|----------------|---|-------------------|-------------|-----------------|-----------------|----------|---------------------------|-------------|-----------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| -Local Economic Development | 4 | 2 | 2 | 5 | Low Medium +40 | 7 | 2 | 2 | 5 | High Medium +55 |
| -Human Capital Development | 3 | 5 | 2 | 3 | Low +30 | 5 | 5 | 3 | 4 | Low Medium +52 |
| Impacts Retarding Economic Development | | | | | | | | | | |
| -competition for experienced labour | 6 | 2 | 3 | 4 | Low Medium 44 | 3 | 2 | 2 | 4 | Low 28 |
| -land and property rates | 10 | 2 | 2 | 4 | High Medium 56 | 4 | 2 | 2 | 4 | Low Medium 32 |
| -disruption of local livelihoods | 10 | 4 | 2 | 5 | High 80 | 4 | 2 | 2 | 4 | Low Medium 32 |
| Impacts due to In-Migration | 10 | 4 | 2 | 5 | High 80 | 6 | 4 | 2 | 4 | Low Medium 48 |
| KEY | | | | | | | | | | |
| Magnitude | | Duration | | | Scale | | | Probability | | |
| 10 Very high/ don't know | | 5 Permanent | | | 5 International | | | 5 Definite/don't know | | |
| 8 High | | 4 Long-term (impact ceases after closure of activity) | | | 4 National | | | 4 Highly probable | | |
| 6 Medium | | 3 Medium-term (5 to 15 years) | | | 3 Regional | | | 3 Medium probability | | |
| 4 Low | | 2 Short-term (0 to 5 years) | | | 2 Local | | | 2 Low probability | | |
| 2 Minor | | 1 Transient | | | 1 Site only | | | 1 Improbable | | |
| 1 None/Negligible | | | | | | | | 0 No chance of occurrence | | |
| Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: + | | | | | | | | | | |

5.1.6 Community Health, Safety and Security Impacts

The Health Impact Assessment for the project (APPENDIX B) provides a systematic evaluation of the 12 Environmental Health Areas (EHAs) of project-triggered health impacts. The EHA framework is used in the 2007 IFC Guidance Notes for Performance Standard No. 4, Community Health, Safety, and Security.

5.1.6.1 Impact on Diseases

Vector-Related Diseases

Malarial risks on the Buhuka Flats communities may increase as a result of the construction of the project, mainly due to the creation of areas where seasonal ponding can occur. Flooded or open trenches during construction, in particular during the rainy season, will create additional mosquito breeding grounds for the





malaria vector, by providing habitats with reduced predation. Nevertheless, this problem is already ubiquitous in the local villages due to many suitable breeding areas for the vectors, including fresh water points, stagnant water pools in ditches and depressions, as well as marshy areas. The impact will affect local communities on the Buhuka Flats, will be of low magnitude (adding little to the existing malarial risks) and medium term (assuming the effects persist for some time after construction ends), and will result in impacts of **low** significance.

Sexually Transmitted Diseases

Contractors and workers are commonly perceived as being wealthy by the local population, especially in rural settings such as the escarpment villages along the proposed pipeline route. Previous experience of infrastructure development projects, described by village elders, has shown that these circumstances encourage cash-strapped people to sell sex as a commodity, to generate vital income. Adolescent girls are often the victims of these practices. Members of an external workforce who are allowed to mingle at will with inhabitants from settlements are likely to father children with local women. Given the temporary nature of the work, once the construction activities cease, it is common that both the women and children are abandoned when the workers move on, leaving single female-headed households. The presence of large construction accommodation camps may also attract sex workers from further afield, which further increases the risk of the spread of sexually transmitted diseases.

There is already evidence of increased risk as a result of the behaviour of drilling camp personnel on site. Villagers from Nsonga and Kyabasambu say that CNOOC/drilling staff have been directly involved in acquiring the services of prostitutes, particularly in Nsonga. Although CNOOC practices strict curfews in respect of employees and contractors who are accommodated on site, villagers say that some of the workers who are on leave do not go home, remaining instead, in rented accommodation in the villages and purchasing the services of prostitutes during this period.

Without a high degree of management, this type of behaviour will continue and probably increase once large numbers of contract personnel are on site, resulting in the further spread of STDs, both locally and potentially back to the home villages of workers who do not live in the area (regionally). Although CNOOC has implemented a programme for HIV testing and counselling for Contractors and the community, these have been short term. The unmitigated impact will be long term, being only partly reversible depending on the availability of treatment, of high magnitude and **high** significance.

Soil and Water Borne Diseases

Water related diseases such as cholera and typhoid remain a constant problem within the Study Area. The project construction teams will be provided with clean water and sanitation services. The spread of infectious diseases by construction teams could therefore be caused only in the event that personnel defecate or urinate in the field, particularly in water courses. This is likely if appropriate field facilities are not available to personnel working outside of the controlled areas and also if field teams are not properly trained. Without management control, and in the context of vulnerable rural communities with limited access to health infrastructure, the magnitude of this impact will be medium, duration will be medium term (the impact may persist after construction depending on the availability of treatment), and impact significance will be **low medium**.

Non-Communicable Diseases

The introduction of large numbers of newcomers into what has been, until recently, a 'sheltered' area, may contribute to the current disease burden in communities in the Local and Regional Study Areas. Differences in lifestyle between incoming individuals and groups, may alter the incidence of non-communicable diseases, such as diabetes, hypertension and cardiovascular disease. Should this happen, local health services will be ill equipped to offer appropriate infrastructure or services. The impact will be short term, of medium significance and will extend to health facilities in the District. Impact significance will be **low medium**.



Housing and Respiratory Diseases

The traditional wattle-daub or mud-block constructed houses found in the villages characteristically do not have windows. The associated poor ventilation can cause respiratory health problems that are exacerbated in the presence of damp and mould. An additional factor that negatively impacts air quality is the number of persons sharing the (usually) single room dwelling.

In the case of relocation, new homes provided by CNOOC are well ventilated, multi-roomed and offer general and specific health benefits, including factors that impact respiratory conditions and may be regarded as a positive, permanent, impact of **high** significance for the resettled families.

5.1.6.2 Impact on Water Pollution

Hydrotesting

The discharge of hydrotest water from the flowlines will be the only emission that is generated during construction and released into the local environment, other than domestic sewage emissions from the personnel camps. Before commissioning of the flowlines, their integrity is tested by filling them with water and pressurising them. On occasions, biocides and corrosion inhibitors are added to the water, depending on the residence time before it is discharged. Details are not presently available, since this is typically a decision made by the contractor, but it is assumed that some of the water will be discharged into River 1 and Kamansing River. Without management, its release can be highly likely to impact negatively on the aquatic environment, resulting in mortality of downstream fauna and flora (including potential impacts on fish stocks in the nearshore environment of Lake Albert), and causing a risk to food security in local communities. Unmitigated impacts will be short to medium term, of local geographic extent and of high **medium** magnitude.

Treated Sewage Effluent

Treated sewage effluent in excess of approximately over 300 m³/day will be discharged from a sewage treatment plant at the EPC camp, while a smaller quantity of around 50 m³/d will be discharged from the existing drilling camp. Treated sewage effluent from this camp is presently used on the lawns and gardens at the camp. The camp effluent will be required to meet the project standard for domestic effluent, which is based on the Ugandan legal standard. Details are not available at present, but it is likely that the final effluent, after chlorination, will be delivered into River 1 north of the EPC camp. Section 7.3.4 of the ESIA Volume 3, Chapter 7 describes the potential biological response to increased nitrogen and phosphorous entering the lake just south of well pad 2, and the possibility of creating algal blooms (particularly water hyacinth) in the nearshore environment around the discharge point. From a social perspective, this could decrease access to the water to local fisherman on the Buhuka Flats, creating more difficult fishing conditions. It could also have some impact on fish stocks, although this would be very localised. In the absence of mitigation, the magnitude of impact on local food security will be medium, short term while construction is ongoing, and of **low medium** significance. However, to mitigate the risk associated with treated sewage effluent discharge directly to the river (and hence entering the lake) it has been recommended in Section 7.1.2.1.1 of the ESIA Volume 3, Chapter 7 that the treated effluent be irrigated in areas as identified in that section.

Hazardous Materials and Wastes

The hazardous materials that are likely to be used during the construction phase of the project are described in Section 7.3.2 of the ESIA Volume 3, Chapter 7 and in Volume 4, Specialist Study 5. As stated in Section 7.3.4, of the ESIA Volume 3, Chapter 7, the risk of occasional spillages of hazardous materials outside of the controlled areas of the construction sites is high in the absence of stringent management control. In the context of the Buhuka Flats, where large numbers of people live around the construction sites, any spills would be likely to impact on them or their domestic animals. Without mitigation, even small spills may cause local impacts extending beyond the construction phase into the medium term, with high magnitude and high **medium** significance. These impacts can be reduced to low magnitude and **low** significance by appropriate construction management of hazardous materials and wastes.





5.1.6.3 Impact on Community Safety

Traffic and Pedestrian Safety

Heavy vehicle traffic in the construction phase of the production facility is expected to peak at some 56 trucks per day, over a 3-year period. Including the return trip, this is 1 truck every 5 minutes, assuming transport during 10 hours of daylight. While the traffic increase will not materially impact on traffic volumes on the main regional roads, incoming roads such as the P1 from Hoima to Buhuka parish are likely to experience a significant increase in heavy traffic. Traffic increases will therefore extend far beyond the local study area.

This traffic will create safety risks, both for pedestrians and other road users. Combined with poor road conditions and uneven surfaces in places, and the limited understanding of road safety among many pedestrians and local drivers, the volumes of heavy construction traffic are likely to result in injuries and fatalities, which are impacts of major significance. Areas of particular risk will be villages where schools, clinics and other community facilities attract pedestrians and vehicle traffic and where children are likely to be found walking along the roads. Children, women and elderly people are often at higher risk of traffic-related accidents. On the Buhuka Flats themselves, there will be a constant threat to pedestrians and stock, who are highly likely to use the construction roads to the wells and other infrastructure as convenient access. Until recently, with the construction of the escarpment road, many villagers (including adults) on the Flats had never been exposed to vehicles and traffic (Figure 34 shows the proximity of households on the Flats to the construction sites and access roads).

CNOOC has introduced specific road safety awareness programmes along the Kingfisher access road and has targeted trading centres within the operational area. Overall, however, without a high level of management, construction traffic accidents could lead to damages, injuries and fatalities in local communities both on the Buhuka Flats and along the incoming roads, particularly the P1 from Hoima. The impact will be of medium magnitude, regional in extent, long duration (potentially resulting in long term or permanent injuries or fatalities) and **high** significance.

Violence and Crime

There is already a reported increase in crime on the Buhuka Flats, attributed mainly to 'foreigners' making use of the recently built escarpment road, which provides opportunities to commit crimes like stock theft, and to escape without detection. While the road has already been permitted, negative impacts that result from its use are induced effects of the project. In addition, escalating levels of alcohol-related violence and crime is of concern.

There is a likelihood of some construction workers causing violent incidents in local communities, particularly if it is fuelled by drug use or alcohol. Arrogant attitudes displayed by construction workers, who are generally wealthy compared with community members, may also spark violent confrontations. These issues can generally be managed by a management approach which does not tolerate aggression and violence among construction workers, but in unmanaged conditions can be an important concern. Incidents are probable in the absence of mitigation, causing impacts of high magnitude, local extent and potentially long duration, with overall high **medium** significance.

Fires

The construction teams work with welding equipment and other heat sources creating a risk of accidental fires escaping from the project working areas onto community land. CNOOC reports that bush and grass fires have occurred on the Buhuka Flats and close to oil wells, particularly during the dry season. This poses a major risk to anyone unable to escape and to stock. Housing is clustered close together and most homes have roofs that are thatched. Particularly in dry, windy conditions the risk of fire is an important concern. Based on experience, incidents are probable in the absence of mitigation. The magnitude would be high, causing long term, local impact of high medium significance.

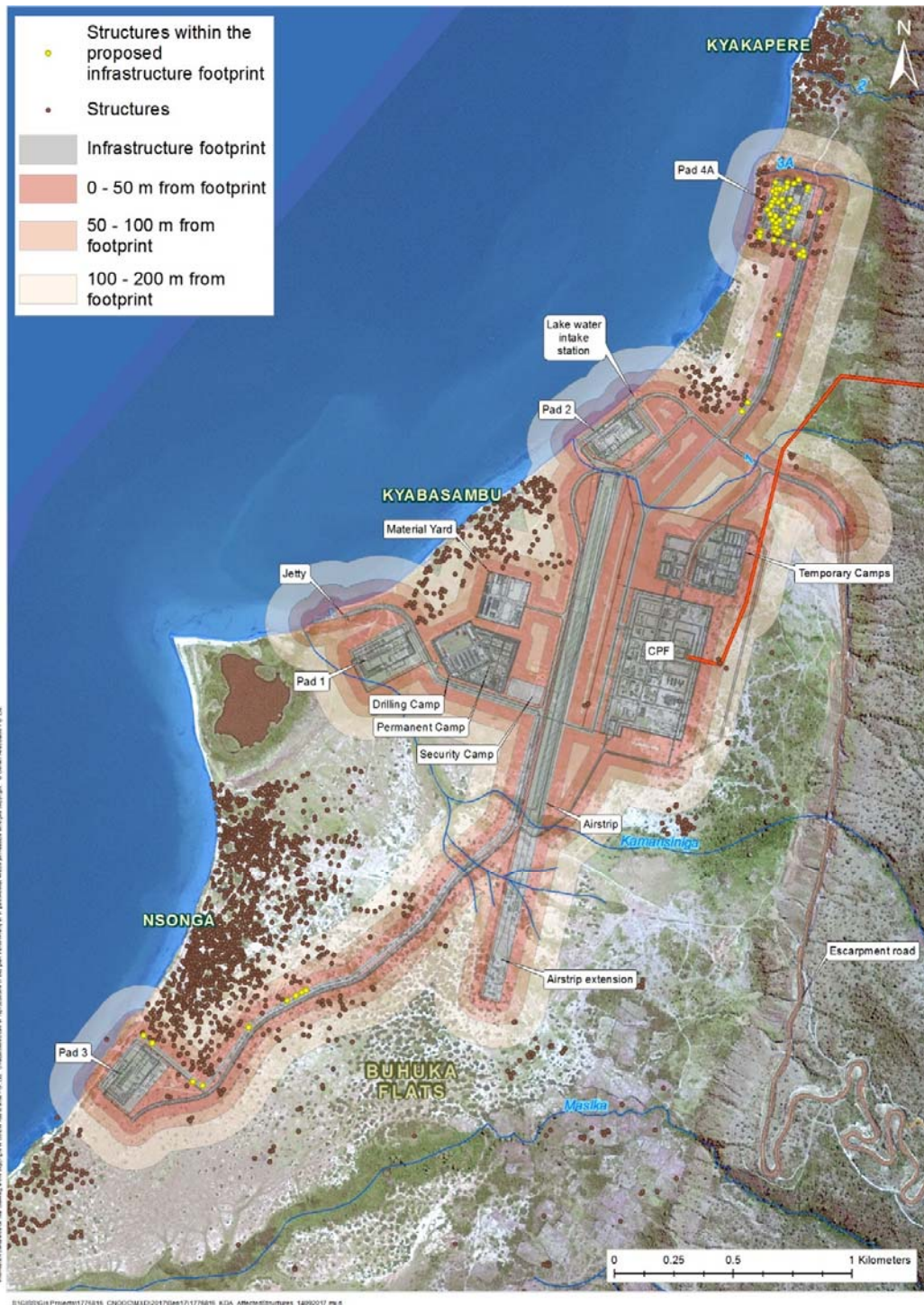


Figure 34: Locations of structures in proximity to project infrastructure



5.1.6.4 Noise and Dust Nuisance

Noise nuisance and dust nuisance are considered in Sections 7.1.1 and 7.1.3 of the ESIA Volume 3, Chapter 7 and in the absence of mitigation are both rated as being of major significance, affecting the Buhuka Flats communities.

5.1.6.5 Major Accidents

Major accidents could cause highly significant impacts in surrounding communities, resulting in injuries, impact on livelihoods (spillage affecting the Lake Albert), or other major effects. Although there are no specific data available in respect of CNOOC transport related accidents, international research and experience over more than a decade, as documented by the National Institute for Occupational Safety and Health (NIOSH^{148, 149, 150, 151}) provides statistics on work-related vehicle accidents specifically in respect of the oil and gas industry. Based on the research over time, vehicle accidents are the leading cause of oil and gas extraction worker fatalities, with roughly forty percent of on-the-job directly attributable to this. The vast majority of such accidents appear to be directly related to level of specific experience and/or non-compliance with stated safety and health systems and procedures in place within the workplace.

5.1.6.6 Impacts of In-Migration

The migration impacts into the local area that will be experienced during the construction phase of the project are expected to continue in the operational phase. Population increases on the Buhuka Flats will have a wide range of consequences for community health, safety and security, all of which will be negative. Impacts will include:

- Vector-related diseases: Migrants are likely to cause a significant increase in vector-related disease as a direct result of a number of factors. These include disturbances in soil and water bodies that will increase breeding sites for vectors as well as the number of hosts;
- Sexually transmitted diseases: Foreign migrants, particularly single males, often cause an increase in STDs in the areas in which they reside;
- Water borne diseases: Water on the Flats is presently sourced either from the lake or from the gravity flow scheme. Above the escarpment most potable water comes from boreholes. Cholera and typhoid are already constant problems due to poor sanitary practices. Where outdoor toilets exist they are generally unhygienic and do not prevent the leaching of organic pollutants into local groundwater and surface water. Households dispose of solid waste and waste water beyond the homestead, including into the lake, which is also used for bathing and drinking water. Increasing population pressures and even poorer sanitation typically associated with migrants' habitation will aggravate the existing problems on the Flats and above the escarpment, and sanitation is virtually non-existent;
- Health Services: Migrants will increase pressures on health services, causing a further decrease in the already limited capability;
- Crime: There is already an increase in crime which is attributed by local people to 'foreigners' migrating into the LSA. The opening of the escarpment road has allowed easy access to and from the Flats which facilitates opportunities for crime such as stock theft. Gender crime has become a major issue. Women are subjected to high levels of sexual assault and rape, with female child defilement seen as a particularly severe problem in the villages along Lake Albert.¹⁵² Representatives from the Bunyoro Kitara Kingdom, as well as from the Hoima District Police Department Division for Child and Family Care believe that

¹⁴⁸ National Institute for Occupational Safety and Health (NIOSH) (2012) *Fatal Facts, Oil Patch No. 1-2012*

¹⁴⁹ NIOSH (2004) *Report on fatalities attributable to a vehicle hazards*

¹⁵⁰ NIOSH (2012) *Census of Fatal Occupational Injuries*

¹⁵¹ NIOSH (2004) *Publication No. 2004-136, Statistics on work-related vehicle accidents and prevention options for employers accessed at <https://www.osha.gov/SLTC/oilgaswelldrilling/safetyhazards.html>*

¹⁵² *Kyabasumbu Women's Group (2017) Public Consultation Process*





migrants into the area has served as major exacerbating factor. Child marriages are prevalent in Uganda, particularly in traditionally rural areas such as the Flats and concern has been expressed that in-migration will increase this practice, particularly if parents of potential child-brides believe that there may be financial benefit attached to such an arrangement;

- Fire risks: Aggravated by use of the “candles” The proximity of thatched housing to each other, coupled with the frequent use of wood fuel fires, creates the danger of localised household fires spreading rapidly through villages, which will be exacerbated by in-migration and further densification of the villages. The settlements along Lake Albert are characterized by dense mixed housing combinations of traditional round thatched huts, rectangular mud and wattle structures with tin roofs and ‘flat roofs’ or ‘long houses’ (brick buildings with flat corrugated iron roofing). Wattle and mud structures and flat roofs are frequently rented out, with single room accommodation for up to four families per structure. In some instances, a single (long house) structure may provide rental accommodation for up to 40 people. In an environment such as this, the risks of mortality due to a fire are extremely high;
- Food and Nutrition-related Diseases: Increased use of natural resources and medicinal plants causing shortages for the existing local community; and
- Zoonotic diseases: The increasing incidence of livestock grazing on the Flats brought in by migrants may pose an additional burden of zoonotic diseases, such as increased exposure to ticks. Historically, the livestock on the Flats has remained generally free of ticks in part through elements of natural resistance as well as through isolation from other herds.

Overall, health safety and security impacts due to in-migration will be of high magnitude, potentially long term and of **high** significance.

5.1.6.7 *Impact Mitigation and Monitoring*

The following mitigation/ enhancement measures are proposed in respect of the community health, safety and security impacts identified:

5.1.6.7.1 **General**

- Develop a Community Health, Safety and Security Plan and an Emergency Response Plan as required to meet IFC performance standard 4;
- Develop an induction programme, including a Code of Conduct, for all workers directly related to the project. A copy of the Code of Conduct is to be presented to all workers and signed by each person. The Code of Conduct must address the following aspects:
 - respect for local residents and customs.
 - zero tolerance of bribery or corruption.
 - zero tolerance of illegal activities by construction personnel including prostitution, illegal sale or purchase of alcohol, sale, purchase or consumption of drugs, illegal gambling or fighting.
 - zero tolerance policy of drunkenness on the ROW and no alcohol and drugs policy during working time or at times that will affect ability to work or within accommodation camps or acquired from outside the camp whilst accommodated in the camp.
 - a programme for drug and alcohol abuse prevention and random testing that is equivalent in scope and objectives to the policies prescribed in the Code of Conduct.
 - description of disciplinary measures for infringement of the Code and company rules. If workers are found to be in contravention of the Code of Conduct, which they signed at the commencement of their contract, they must face proportionate disciplinary procedures.



- Partner with the Ugandan Human Rights Commission to investigate and address any claims related to human rights violations, and to sensitise communities regarding their rights and obligations;
- Publicise the Code of Conduct in settlements potentially affected by the construction camps, as part of the community relations plan. This will help ensure that the local residents are aware of the expected behaviour of construction staff. Posters with the Camp Rules should also be posted in neighbouring settlements or lodged with the LC1 of each village;
- Provide entertainment facilities for workers at the construction accommodation camp and establish clear rules for conduct during leisure time as well as the need to remain within the camp boundaries during leisure time; and
- Implement a grievance procedure that is easily accessible to the local community, through which complaints related to CNOOC contractor or employee behaviour that infringes on the health, safety or security of community members can be lodged and responded to (see issues in this regard in **Box 1**). CNOOC must respond to such complaints in a considered manner, including:
 - Circulation of contact details of community liaison officers or, if separate, of 'grievance officers' or other key contact.
 - Circulation of details of the Witness NGO as well as the mechanisms to access the NGO;
 - Raising of awareness amongst the local community regarding the grievance procedure and how it will work.
 - Establishment of a grievance register that is continuously updated and maintained by CNOOC.
 - Provision of a mechanism to provide feedback to individuals, groups and village councillors regarding actions that **have been taken in response to complaints lodged**.

Box 1: Existing Problems with respect to the use of the Grievance Mechanism

According to IFC's Performance Standard 1, if ongoing risks to or adverse impacts on project-affected communities are anticipated, the Project Sponsor is required to "establish a grievance mechanism to receive and facilitate resolution of the affected communities' concerns and grievances about the client's environmental and social performance" (IFC, 2006, p. 5). To respond to this requirement, CNOOC need to appoint a Witness NGO to provide oversight, to receive grievances and to oversee the process to address these concerns.

The CNOOC Grievance Mechanism, which is already in use, is not thought to be effective by many villagers. The general perception is that CNOOC has not taken grievances sufficiently seriously and that villagers are powerless to have issues that they believe are important addressed, if CNOOC does not regard them to be important. There is also no evidence that a critical Witness NGO had been appointed to provide oversight of resettlement and compensation discussions between CNOOC and villagers. Although grievances are received by CLOs at the Kingfisher Camp, the CNOOC office in Hoima and when visiting communities, and there are oil and gas advisory committees within every parish, community members still hold the opinion that they are not being heard. The expectation that subsistence stakeholders should either wait for a CLO to visit the village or should present themselves to the CNOOC Hoima office if they have failed to obtain satisfaction related to issues of concern, is neither realistic nor fair given the costs of transport. This is a critical issue and will need to be addressed by CNOOC. Failure to ensure that villagers believe that they are actually being 'heard' will negatively impact on the company's Social Licence to Operate.

5.1.6.7.2 Impacts related to Diseases

- Develop a Communicable Diseases Action Plan as an essential tool in managing disease related impacts.



- Develop an Employee Health Awareness Policy and ensure its implementation among CNOOC personnel and its contractors or sub-contractors. The policy must provide for:
 - Expansion and intensification of the current CNOOC programme for HIV testing and counselling for Contractors and the community and allow for HIV/AIDS related advocacy, factual data provision, awareness creation as well as behaviour change issues around the transmission and infection of HIV/AIDS that provides linkages with the Government of Uganda HIV/AIDS related initiatives;
 - Health awareness training for workers including communicable diseases at induction and then periodically throughout construction;
 - Awareness raising on communicable diseases for communities close to camps (via posters, leaflets, through health clinics, community meetings); and
 - Liaison with local health authorities.
- Implement interventions aimed at reducing the impacts of vector borne diseases through mechanisms such as sanitary improvements and minimising areas where water is impounded as a result of construction activities.

5.1.6.7.3 Pollution of water courses

- Ensure that no waste whatsoever, including construction waste is dumped in watercourses or at any site that impacts on villagers or their land use;
- Ensure that the use of water does not disturb public water availability and that sources of water are carefully selected; and
- Ensure the development of a water and hygiene code of conduct that prohibits open defecation/urination, stresses proper water use, water conservation, hygiene and sanitation to prevent pollution of community water sources.

5.1.6.7.4 Impact on Community Safety

Traffic and Pedestrian Safety:

Ensure the adoption and implementation of the CNOOC driving and vehicle management plan during initial activities which will be adopted for the construction phase. Based on this, CNOOC must adopt the best transport safety practices with the goal of preventing traffic accidents and minimizing injuries suffered by project personnel and the public, as well as creating awareness among the local people and villages about road safety. Other mitigation should include:

- Labelling all vehicles on the sides with stickers which have recognisable, easy to recall numbers, to assist with ease of identification and subsequent reporting, in case of road safety violations and/or accidents;
- Emphasizing safety aspects among project drivers, specifically ensuring that drivers respect speed limits through busy and built up areas;
- Ensuring the roster and shifts structure for the project allows employees plenty of opportunity for sleep and rest between shifts and on their days off;
- Adopting a proactive approach to managing driver fatigue, based on adequate hours of rest to avoid overtiredness;
- Avoiding dangerous routes and times of day to reduce the risk of accidents;
- Positioning traffic guides at children crossings to control driver speeds and seeking cooperation with local educational facilities (school teachers) for road safety campaigns;





- Implementing safe traffic control measures, including road signs and flag persons to warn of dangerous conditions and children crossings;
- Provision of alternative transport (bus) for the construction workforce;
- Ensuring contractors regularly maintain vehicles to minimize potentially serious accidents such as those caused by brake failure commonly associated with loaded construction vehicles;
- Ensuring contractors compile a list of service schedules of all equipment deployed on site;
- Minimising interaction of pedestrians with construction vehicles through collaboration with local communities and responsible authorities (e.g. police) to improve signage, visibility and overall safety of roads particularly along stretches located near schools or through busy areas;
- Construction of pedestrian walkways, parallel to project roads on the Flats, to minimise risks to pedestrians and stock on the roads in and around the construction sites at the production facility and well pads;
- Providing road safety awareness campaigns along the transport routes, particularly at centres and market areas, school zones and health facilities;
- Considering additional warning tape at accident-prone stretches and sensitive locations (schools and hospitals) if identified as required; and
- Collaborating with local communities about education about traffic and pedestrian safety (e.g. one road safety campaign at a nearby location once a month).

Transport and Storage of Hazardous Materials and Waste:

- Ensure that appropriate management plans are in place and implemented in respect of the Transport, Storage and Handling of Hazardous Materials and Waste; and
- Ensure that there is timely public notification of planned transport of hazardous materials and suitable arrangements for support vehicles.

Violence and Crime:

- Sensitise and build the capacity of local governance systems (village chairperson and councillors at settlement level), including the establishment of checks and balances for maintaining individual rights and responsibilities and for managing crime;
- Identify mechanisms for constructively incorporating traditional (clan) leaders into processes for promoting stability and moral 'regeneration' at village level;
- Promote the development of a disciplined policing forum for the area, in collaboration with appropriate civil society organisation as well as the Hoima and Kikuube District Police Department and Sub-county anti-crime institutions and systems;
- Ensure the development of appropriate mechanisms as part of the Community Health, Safety and Security Plan; and
- Partner with the Ugandan Police Force Community Liaison Officers to allow sensitisation of communities on issues related to crime.

Fires:

- Manage the risks of fire through specific management requirements for hot works and through education of personnel about careless behavior in respect of cigarette smoking;



- Promote the establishment of village level fire-fighting and emergency preparedness capacity, including the sourcing of fire-fighting equipment capacity; and
- Promote awareness amongst members of the settlements about potential fire hazards, and mechanisms for promoting household safety from fires.

5.1.6.7.5 Impact of In-Migration

Contribute to infrastructure development in the LSA as part of the Community Development Plan/Corporate Social Responsibility initiatives. Work with Government to create community infrastructure and support that improves the living conditions of project-affected people.

5.1.6.8 Impact Significance Rating

Table 55: Construction phase community health, safety and security impacts

| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|------------------------------------|----------------|----------|-------------------|-------------|----------------|-----------------|----------|-------------------|-------------|---------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Impact on diseases | | | | | | | | | | |
| -Vector related diseases | 4 | 3 | 2 | 4 | Low Medium 36 | 3 | 2 | 2 | 4 | Low 28 |
| -Sexually transmitted diseases | 10 | 4 | 3 | 5 | High 85 | 5 | 4 | 3 | 4 | Low Medium 48 |
| -Soil and waterborne diseases | 6 | 3 | 2 | 4 | Low Medium 44 | 2 | 2 | 2 | 4 | Low 24 |
| -Non-communicable diseases | 5 | 2 | 3 | 4 | Low Medium 40 | 3 | 2 | 2 | 4 | Low 28 |
| - Housing and respiratory diseases | 8 | 5 | 2 | 5 | High +75 | 8 | 5 | 2 | 5 | High +75 |
| Impact on Pollution | | | | | | | | | | |
| - Hydrotesting | 10 | 3 | 2 | 4 | High Medium 60 | 4 | 2 | 2 | 3 | Low 24 |
| -Treated sewage effluent | 6 | 2 | 2 | 4 | Low Medium 40 | 4 | 2 | 2 | 2 | Low 16 |
| - Hazardous materials and wastes | 10 | 3 | 2 | 4 | High Medium 60 | 4 | 2 | 2 | 2 | Low 16 |
| Impact on Community Safety | | | | | | | | | | |





| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|--|----------------|---|-------------------|-------------|-----------------|-----------------|---------------------------|-------------------|-------------|---------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| - Traffic and pedestrian safety | 6 | 4 | 4 | 4 | High Medium 56 | 4 | 4 | 4 | 2 | Low 24 |
| - Violence and crime | 8 | 4 | 2 | 4 | High Medium 56 | 4 | 4 | 2 | 2 | Low 20 |
| - Fires | 10 | 4 | 2 | 4 | High Medium 64 | 4 | 3 | 2 | 2 | Low 18 |
| Impact of In-Migration | 10 | 4 | 2 | 5 | High 80 | 6 | 4 | 2 | 4 | Low Medium 48 |
| KEY | | | | | | | | | | |
| Magnitude | | Duration | | | Scale | | Probability | | | |
| 10 Very high/ don't know | | 5 Permanent | | | 5 International | | 5 Definite/don't know | | | |
| 8 High | | 4 Long-term (impact ceases after closure of activity) | | | 4 National | | 4 Highly probable | | | |
| 6 Medium | | 3 Medium-term (5 to 15 years) | | | 3 Regional | | 3 Medium probability | | | |
| 4 Low | | 2 Short-term (0 to 5 years) | | | 2 Local | | 2 Low probability | | | |
| 2 Minor | | 1 Transient | | | 1 Site only | | 1 Improbable | | | |
| 1 None/Negligible | | | | | | | 0 No chance of occurrence | | | |
| Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: + | | | | | | | | | | |

5.1.7 Impact on Housing, Land and Natural Resources

Under international standards, IFC PS5 (land acquisition and involuntary resettlement) (amongst other international standards) stipulate principles regarding the loss of land and the associated physical and/or economic displacement. The key principles under IFC PS5 are:

- Involuntary resettlement should be avoided;
- Where involuntary resettlement is unavoidable, all people affected by it should be compensated fully and fairly for lost assets;
- Involuntary resettlement should be conceived as an opportunity for improving the livelihoods of the affected people and undertaken accordingly;
- All people affected by involuntary resettlement should be consulted and involved in resettlement planning to ensure that the mitigation of adverse effects as well as the benefits of resettlement are appropriate and sustainable; and
- Displacement and involuntary resettlement generally are highly sensitive impacts to communities, and without adequate planning and effective mitigation, such displacement and resettlement may result in severe impoverishment of communities.

The KFDA project will impact on housing and land, including impacts caused by land acquisition for the production facility, well pads and associated infrastructure and impacts on land and housing rates. Indirect





impacts caused by an expected influx of people and livestock into the LSA will also increase pressures on this limited resource base.

5.1.7.1 Housing and Land Loss

The loss of housing, community infrastructure and land as a result of the construction of the production facility, wells and associated infrastructure on the Buhuka Flats is shown in Table 56, and in Figure 35. The data on housing impacts is based on documentation provided to the ESIA team by CNOOC's resettlement team¹⁵³, while the data on grazing land lost is based on GIS analysis. The table shows details of losses that will occur as a result of all activities - much of the land loss associated with the KFDA has already taken place and has been approved in other applications.

Loss of land as a result of the KFDA project has been one of the most significant concerns of the Buhuka Parish community. CNOOC land take including all infrastructure will comprise just over 106 ha (7.4%) of the grazing area of 1,430 ha available on the Buhuka Flats. Some of this (roughly 76 ha) will be returned to community use after construction is completed.

From a pastoralist perspective, Ugandan legislation requires that compensation is paid for lost grazing land¹⁵⁴. The Buhuka Flats are already heavily overgrazed, and the direct loss of grazing land to project infrastructure will increase the pressure on the remaining land. Regionally, intensive rural settlement and cultivation above the escarpment has reduced the available natural grazing, and it is unlikely that replacement land for grazing can be found there.

Distrust and lack of understanding of resettlement and compensation procedures has dogged ongoing discussions. The purported high levels of corruption and intimidation associated with the acquisition of land has fuelled community suspicion - particularly of government role-players - aggravated by a lack of readily available information about land ownership and transactions.

Box 3 describes the criteria that have been put in place for fair and transparent compensation. CNOOC is responsible for compensation for housing loss, property damage and loss of amenities within the designated project construction and permanent use areas. A Resettlement Action Plan (RAP) is being finalised with the specific aim of mitigating social as well as economic impacts caused by the proposed production facility, wells and associated infrastructure. Despite this protracted process and the eventual resolution of the matter of how compensation should be paid, not all members of the affected villages are happy with the arrangement and there continues to be mutual distrust (among members) as well as distrust of CNOOC and government role-players about compensation procedures. Many villagers who live near the project infrastructure feel that they ought to be resettled even if they are not within the project footprint, due to the other impacts caused by the project, including in-migration (described separately in Section 5.1.7.4 of the ESIA Volume 3, Chapter 7) and are dissatisfied that only those who are directly affected will benefit from physical resettlement. Other issues raised include the following:

- Land owners who may inadvertently or deliberately have oppressed the rights of bona fide occupants and/or users;
- Complaints from PAPs that the RAP process was not properly understood and that there are still a significant number of questions and concerns (from village members as well as PAPs) that have not been addressed;
- Unconfirmed but worrying reports that PAPs had been intimidated into signing off on inaccurate household asset registers and/or that such registers had been compiled in English and were therefore

¹⁵³ Resettlement planning is being undertaken independently of the ESIA.

¹⁵⁴ Resettlement Policy Framework (2018) which requires that affected pastoralists should be afforded alternatives and/or compensation decided through consultation with and participation of all.



not understandable to PAPs and/or that illiterate or functionally illiterate PAPs were uncertain about the exact nature of the documentation that they had been given to sign; and

- Risks associated with offering PAPs the option of cash compensation (in accordance with Ugandan law) as an alternative to compensation in kind for housing, infrastructure and land losses.

Box 2: History of Land Negotiations on the Buhuka Flats

Several court cases were already ongoing between individual landowners and community members from various villages¹⁵⁵ at the time when oil exploration initiatives yielded positive results. Subsequently, a Community Land Association was formed and CNOOC was required to pay compensation for land into a trust fund. Although the Association had not been properly constituted, the perception that CNOOC was delaying payment into the fund resulted in the launch of a court case as well as the initiation of a comprehensive boycott of CNOOC activities in 2014.

Since this date, the Ministry of Land, Housing and Urban Development (MLHUD) began to provide technical assistance, advice and support to community members residing on the Buhuka Flats. In July 2016, a general meeting was called by the MLHUD in collaboration with the Hoima District Local Government and local leaders, including CNOOC and community members, to address the stalemate that had been reached. This meeting resolved that, in accordance with the Land Act of 1998 and the land regulations, members from the Nsonga, Kyabasambu, Kyakapere, Nsunzu and Kiina villages should form the Buhuka Communal Land Association (BCLA). The members of the erstwhile Community Land Association would become members of the BCLA. It was the intention of the participants that this Committee will receive the money paid for compensation and administer the funds paid specifically for the land (but not for developments and user rights which accrue directly to the owner) on behalf of the registered members of the Association.

Box 3: Criteria for Compensation and Resettlement¹⁵⁶

Housing and Building Infrastructure: Depending on the nature of the infrastructure affected, compensation may be in kind, cash or a combination of in kind and cash. In some instances, a disturbance allowance and a transport allowance is paid. Cash payment is typically at full replacement cost. Compensation for incomplete buildings is on a percentage completion basis.

Housing Land: Compensation for lost residential land is paid in cash, where in-fill resettlement is possible on the remainder of the affected parcel of land or within the existing community, or where the household owns land for residential use elsewhere which they choose to occupy as primary residence, compensation in cash for surveyed land at agreed rates. Alternatively, where in-fill resettlement on the remainder of the affected parcel of land or within existing community is not possible, provision is made for a standardized housing plot on a planned resettlement site. In this case, settlers will be given the same security of tenure as their displaced land, but a Customary Certificate of Ownership (CCO) as a minimum.

Cultivated Land: A package to empower farmers to find their own replacement agricultural land of same size is provided, or an amount of land with equivalent productive value is found. In this case, land will be brought to same level of preparedness as at time of crop survey. For fallow land, a compensation support package will be provided to identify suitable fallow land of the same standard.

Permanent Grazing Land: Compensation of the value of the land at full replacement cost.

¹⁵⁵ Golder (2017) Minutes of the Meeting held with the Buhuka Community Land Association.

¹⁵⁶ KFDA RAP Project 2016 – Phase 1 Resettlement Action Plan





Permanent Loss of Natural Resources or Access to Natural Resources: The Project will attempt to find resettlement sites that maintain access to natural resources. If resources cannot be replaced communities will receive additional livelihood improvement or alternative livelihood support.

Perennial Crops: Cash compensation at full replacement cost at agreed rates determined annually by the District Land Board or based on full replacement cost determined by formal market studies. Alternatively, access to agricultural improvement package consisting of labour and mechanical inputs to bring land to same level of preparedness and inputs for 1 year such as improved seeds, pesticides, training, equipment if replacement agricultural land has been secured.

Annual Crops: Where sufficient notice is given (90 days) for farmers to harvest their annual crops, the project will not pay for annual crops. Where annual crops cannot be harvested due to a reduced notice period, damaged crops will be compensated as mature crops at agreed rates determined annually by the District Land Board. Alternatively, other in-kind options may be considered including participation in livelihood improvement programmes

Fruit and Economic Trees: Cash compensation will be paid at full replacement cost, including the cost of forfeited economic benefits, for all agreed fruit and economic trees, shrubs (e.g. coffee) and plants (e.g. cassava) at agreed rates determined annually by the District Land Board or based on full replacement cost determined by formal market studies. Where cash compensation is not preferred for fruit and economic trees, two (2) replacement saplings for every damaged tree of a crop variety suitable for the identified replacement farm land.

Temporary Loss of Land or Assets: The project will pay a rental amount equivalent to the value of income lost due to lost access to land or assets for duration of the impact.

Table 56: Housing and land take on the Buhuka Flats

| No. | Facility | Location | Total (temporary) Land Take (Ha) | Total (permanent) Land Take (Ha) |
|-----|--------------------------|---------------------------------------|----------------------------------|----------------------------------|
| 1 | CPF | Kyabasambu and Kyakapere | 20.0 | 20.0 |
| 3 | Pad 1 | Kyabasambu | 4.6 | 4.6 |
| 4 | Pad 2 | Kyabasambu | 3.8 | 3.8 |
| 5 | Pad 3 | Nsunzu | 4.6 | 4.6 |
| 6 | Pad 4A | Kyakapere | 4.1 | 4.1 |
| 7 | Lake Intake Pump Station | Kyabasambu and Kyakapere | 0.12 | 0.12 |
| 8 | Jetty | Kyabasambu | 0.2 | 0.2 |
| 9 | Airstrip | Kyabasambu and Nsonga | 12.6 | 12.6 |
| 10 | Security Camp | - | 1.2 | 1.2 |
| 12 | Drilling Camp | Kyabasambu | 3.5 | - |
| 14 | Permanent Camp | Kyabasambu | 3.7 | 3.7 |
| 15 | Contractor's Camp | Kyabasambu | 7.1 | - |
| 16 | Infield Pipelines | Kyabasambu, Nsonga, Nsunzu, Kyakapere | 23.0 | - |





| No. | Facility | Location | Total (temporary) Land Take (Ha) | Total (permanent) Land Take (Ha) |
|--------------|----------------|---------------------------------------|----------------------------------|----------------------------------|
| 17 | Internal Roads | Kyabasambu, Nsonga, Nsunzu, Kyakapere | 14.0 | 14.0 |
| 18 | Material Yard | Kyabasambu | 3.7 | 3.7 |
| Total | | | 106,3 | 76.2 |

Table 57: Assets affected by permanent CNOOC infrastructure on the Buhuka Flats

| Category affected | Number of assets | Summary of impact or loss |
|---|-------------------------------|---|
| Residential structures (owners) | 13 | Permanent loss of structures/loss of accommodation. Displaced persons need to relocate – physical relocation |
| Residential structures (tenants) | 8 | Loss of accommodation, displaced persons needs assistance with resettlement |
| Residential structures/business for rental income | 3 | Permanent loss of structures/ income from the rental units |
| Residential structures but not living on plot | 7 | Permanent loss of structures |
| Loss of crops | 2 households gardens affected | These include cash and food crops at different maturity level. Temporary loss of food sources and/or income or profit while re- establishing farming activities |
| Loss of trees | 4 households with trees | These are mainly shelter trees but could be used in construction of houses. There is potential loss of income |
| Graves | 5 | The graves are located at the households and there is one person buried in every demarcated grave. |
| Annexed structures | 2 | These structures include a latrine and a dish rack. Their loss will not affect the main structures. Compensation will be required to move these structures. |

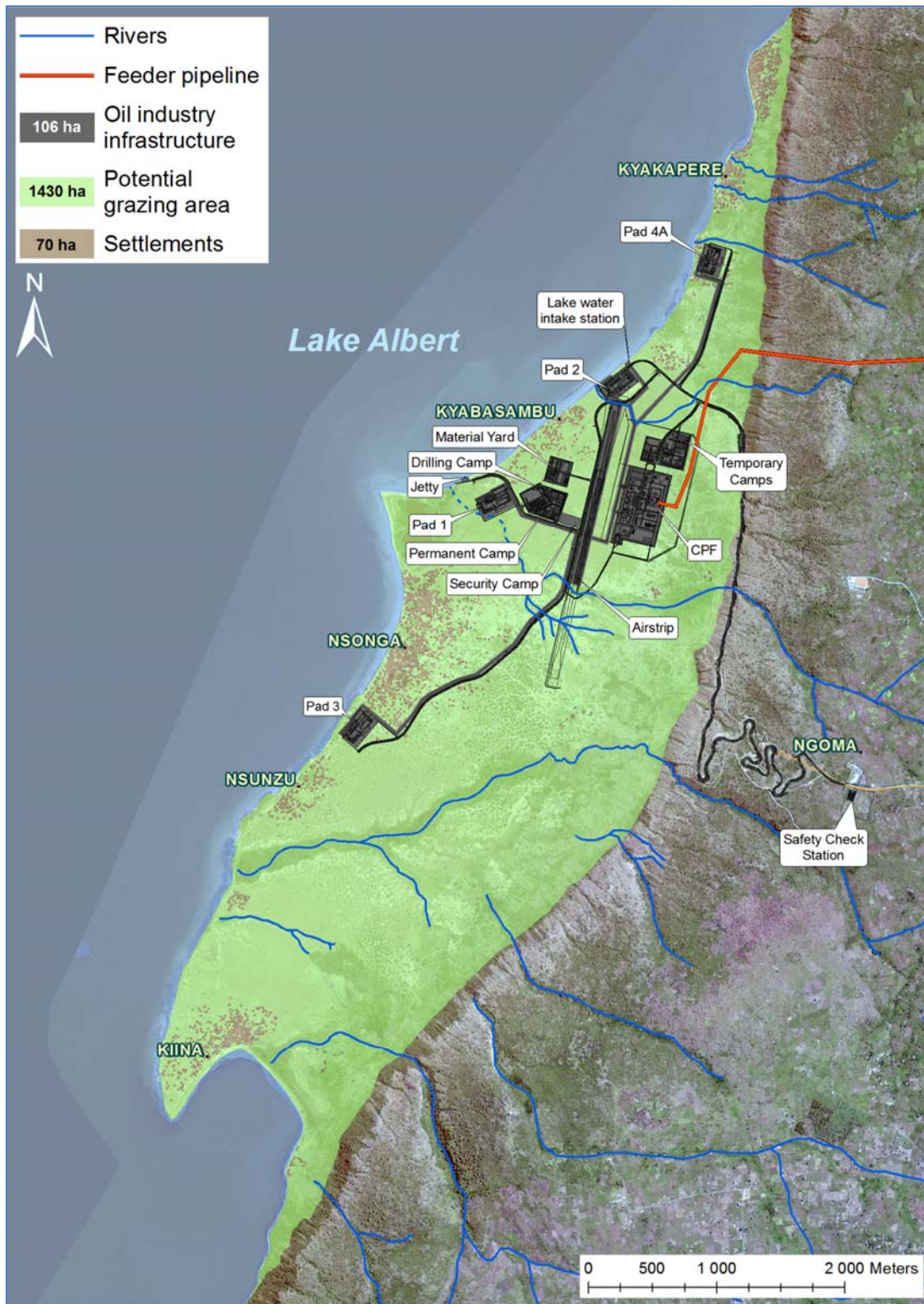


Figure 35: Area of land take by oil industry infrastructure on the Buhuka Flats



These issues will need to be handled with extreme caution. While the housing losses (both present and past) are relatively small, taking only the direct project footprint of the project into account, the land losses are more significant given the area affected and the existing pressures on grazing land. In addition, the wider issues associated with a large industrial project in close proximity to rural subsistence communities are numerous, and in the absence of an effective plan for development on the Buhuka Flats, are likely to result in ongoing community demands for compensation for the disruption of the cultural fabric of their villages, increased health risks, nuisance and a whole range of other issues described in Section 5.1.6 of the ESIA Volume 3, Chapter 7.

Unmitigated impact significance is expected to be negative and high both for housing loss and land loss. For housing, the construction of replacement housing in the immediate area will convert the negative impact to a high positive impact for the beneficiaries, who will be resettled in a modern weatherproof house. Inhabitants who have seen the examples of the replacement housing are all keen to be resettled as a result, wherever or not they are on the schedule. Photograph 16 shows a prototype of the proposed replacement housing. For land loss, the impacts will be intractable – while compensation will be paid through the Buhuka Communal Land Association (BCLA), this is unlikely to fully compensate the affected people over a long period, and once the cash compensation is exhausted the affected communities will be left with a shortfall of 7.4% of their grazing land.



Photograph 16: Typical replacement house that will be built by CUL for resettled families on the Buhuka Flats

5.1.7.2 Damage to Property Outside of the Defined Project Areas

There is a potential for damage to land, property and infrastructure outside of the defined project-affected areas, involving amongst other things:

- clearing of land beyond the project working areas for which compensation has not been paid;
- vehicles or project personnel straying outside working areas and causing damage to land, infrastructure and crops;
- vibration damage to houses or other buildings located close to the construction corridor and/or to access roads due to the passage of heavy vehicles and equipment; and



- adverse effects of construction-generated dust.

Without mitigation, these impacts have the potential to sour relationships between CNOOC and local communities and could be long term (largely irreversible in terms of damage to relationships and therefore extending far beyond the construction phase), of high magnitude, local extent and **high** significance. Careful management, open communications and the transparent implementation of a fair grievance procedure should reduce the impacts to **minor** significance.

5.1.7.3 *Impact on Property Prices and Rentals*

Local knowledge of the proposed KFDA project has resulted in speculation for land, where individuals move into the area and claim land for themselves. According to villagers on the Buhuka Flats, these speculators sometimes have title deeds which have been acquired fraudulently. This practice has been successfully challenged at least once, with a prominent government official being jailed for fraudulent transactions. Despite this, it is reported that speculators continue to trade up the price of land in the local area. While some people will benefit from increased rental, the majority will not, and will be faced with unaffordability where accommodation is needed, resulting in local impacts of high magnitude and medium to long term duration (extending well beyond the construction phase), with **high medium** significance.

5.1.7.4 *Impact of In-Migration*

Migration onto the Buhuka Flats has already been significant as a result of the access created by the escarpment road. The continued influx of migrants as well as opportunistic and uncontrolled cattle grazing and fishing practiced by local villagers and people from outside of the Buhuka Parish, including commercial fisherman from Hoima and Kikuube and even Kampala, has resulted in overgrazing and overfishing, negatively affecting the livelihoods of local households. Fish trade appears to be conducted across the lake into the DRC (e.g. at Panyimur, Bwera and Ntoroko), while vast quantities of silver fish of fingerling size are harvested and sold (primarily as poultry feed) within Uganda as well as in Kenya. To add to the resource depletion burden, there is extensive deforestation taking place along the escarpment, with accelerating rates of charcoal manufacturing exacerbating the impacts of wood harvesting practiced by villagers from the Buhuka Flats for cooking purposes.

There is discontent among the communities on the Flats about the influx of migrants and over-exploitation of resources. Communities blame CNOOC and the Government for this. While the escarpment road has been subject to a separate environmental authorization and has not been CNOOC's responsibility, the Buhuka Flats communities do not make legalistic distinctions in this regard and they correctly perceive it to have been built in support of the future oil industry. It is also likely that once the construction of the production facility starts, there will be a further influx of settlers onto the Flats and surrounding areas above the escarpment which will be directly related to perceptions about jobs and opportunities derived from oil industry development. The resource-related impacts as a whole are expected to be far greater than the direct impact of CNOOC's activities themselves. Land speculation is also expected to accelerate on the Buhuka Flats and above the escarpment, with an increase in land and rental prices during the construction phase of the project. While this may be a positive impact for landowners, it is negative when associated with in-migration, since it interferes with the natural balance in the land markets and generally increases rentals for those members of the community who are poorest and must rent land themselves. Unease about rising land prices due to expectations about the project is already evident in the project-affected communities.

Overall, land and resource impacts due to in-migration are expected to be negative, long term and possibly extend beyond the Buhuka Flats into the sub-region. The impacts are considered to be highly probable (while acknowledging some uncertainty about the numbers of people). Taking a conservative view, the probability is high or definite, resulting in impacts of **high** significance.



5.1.7.5 *Impact Mitigation and Monitoring*

5.1.7.5.1 **Housing and Land Loss**

- Ensure that there is a process to identify all stakeholders (rights holders) of any land take process. While this will mean engaging the individual who indicates that he/she is the rightful land owner, the identification process should consider information from as broad a consultation group as possible. Secondary PAPs, who may not have been immediately identified, but who have utilised the land in some way for a period of up to two decades and longer. This includes the loss of dwellings of secondary PAPs, loss of crops and assets such as mango trees and resultant loss of income;
- Undertake a full investigation of the allegations that PAPs have been forced to sign documentation and if any allegations are valid, address them comprehensively; and
- Ensure that the RAP comprehensively addresses all aspects of physical and economic displacement experienced by impacted communities, in accordance with the IFC performance standard 5 which addresses the involuntary resettlement and compensation impacts in the project-affected communities (refer to Box 4).

Box 4: Standard Measures to Ensure that Resettlement and Economic Displacement are Effectively Managed

- Quality of life of resettled people and host communities should not be compromised;
 - The resettlement program has to be adequately financed by the relevant party through the Local Government, to ensure that local commitment and newly occupied resettlement land will have the same production characteristics of the expropriated ones;
 - Support should be provided to avoid that resettled persons will negatively impact on the life standards of host communities;
 - Both resettled persons and host communities should actively participate in the resettlement planning process;
 - The transition period should be as short as possible, and project construction activities should not proceed until the affected persons have been resettled;
 - The host areas must be as close as possible to the current site;
 - Resettlement planning must ensure that families, communities and social/cultural groups are kept together to maintain social networks;
 - Resettled people should be adequately and equitably compensated for the value of their land. In land-based livelihoods, land should ideally be replaced with land of equal or greater value; and
 - Appropriate livelihood restoration strategies developed to restore livelihoods of affected persons.
-
- Provide compensation for lost agricultural productivity (lost grazing and cultivation) during the construction period. Although there has been extremely limited agricultural activity on the Buhuka Flats, adequate notice of the production facility construction schedule must be provided to PAPs so that they don't unnecessarily lose crops. Cash compensation must be provided based on the cost of planting, labour and fertiliser inputs required to bring the tree or vine to maturity, plus the cost of the lost production for the period it will take a sapling to reach the production level of the tree/vine at the time it is lost to the project;
 - Ensure that the Livelihoods Restoration Plan, as well as the Community Development Plan, provide practical mechanisms and mitigation strategies for the loss of grazing land on the Buhuka Flats as a





buffer against out-migration as well as in respect of cultivated land. The extent of household reliance on subsistence food sources should be taken into consideration in this process;

- Ensure that land temporarily used during the construction phase is reinstated to at least the condition it was in prior to construction. This would include all agricultural land, except that needed permanently for the ROW. Agricultural land must be left graded and tilled ready for re-planting. Where land must be re-planted in order to prevent erosion, the regime must be agreed with the landowner; and
- Implement a precautionary approach to offering cash compensation as an alternative to payment in kind for housing, infrastructure and land losses. CNOOC is aware of the vulnerabilities that could be caused by cash compensation and has instituted a number of preconditions prior to moving forward with the payment of compensation. These have included (i) the requirement that men are not able to negotiate cash settlements without their spouses being present during the negotiation and being in voluntary agreement (ii) payment of the compensation into a bank account (where the amount is sufficiently large to warrant this) and where the account has been opened in the name of the husband as well as the wife and where withdrawals require the permission and signature of both spouses and (iii) training of PAPs in financial literacy and business entrepreneurship;
While this mechanism is a responsive approach to the problems of cash payments, a side effect has been an increase in household violence. In particular, this has led to incidents of assault by husbands where their wives have been reluctant to give approval for intended spending. Based on incident reports, the main reason for CNOOC-related incidents of spousal abuse have stemmed from this cause. While CNOOC cannot take sole responsibility for this phenomenon, additional measures, such as (i) engaging in sensitisation exercises related to domestic violence prevention and associated gender equity principles with PAPs and (ii) ensuring collaboration between LC1s, the Uganda Human Rights Commission, the Hoima Police Department Family and Child Services Division and traditional leaders must be considered to address general social as well as intra-household violence and disruption.

5.1.7.5.2 Damage to Property Outside of the Defined Project Area

- Emphasise to the EPC and other contractors the contractual obligation to remain within the construction areas designated for the project. No activity outside of these areas is to be permitted without CNOOC consent, and without prior discussion with the affected community representatives;
- To cater for inadvertent damages outside of the defined project areas, reach agreement with community representatives as to how this should be handled;
- Identify key fixed photographic reference points for the Buhuka Flats and prepare seasonal (wet and dry season) reference photographs before the construction contractor establishes on site. Use these photographs to assist in resolving disputes in the event of disagreements about damages;
- Monitor construction activity daily as a means of rapidly identifying and acting upon any inadvertent damages. To achieve this, competent CLOs will need to be on site from the start of construction establishment; and
- Ensure that all contract personnel are trained, both during induction and subsequent follow-up training, to minimise their impact on surrounding communities and to remain within the designated construction areas.

5.1.7.5.3 Impact on Property Prices and Rentals

- Ensure that CNOOC construction staff who reside outside the LSA are required to return to their place of residence during periods of leave to avoid potential use of rental property in the area; and
- Provide accommodation for all personnel who do not reside in the LSA and are not brought in on a BIBO or FIFO basis.



5.1.7.5.4 Impact of In-Migration

Implement the strategy for minimising in-migration defined in the Influx Management Strategy and Framework Plan (Volume 4, Specialist Study 11). This will need a combined effort by Government and all oil industry partners.

5.1.7.6 Impact Significance Rating

Table 58: Construction phase impact on housing, land and resources

| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|--|----------------|---|-------------------|-----------------|----------------|---------------------------|----------|-------------------|-------------|---------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Housing Loss/ Replacement | 10 | 5 | 2 | 5 | High 80 | 8 | 5 | 2 | 5 | High +75 |
| Land Loss | 10 | 5 | 2 | 5 | High 80 | 3 | 4 | 2 | 5 | Low Medium 45 |
| Damage to Property Outside of the Defined Project Areas | 8 | 4 | 2 | 4 | High Medium 56 | 4 | 2 | 2 | 3 | Low 24 |
| Impact on Property Prices and Rentals | 8 | 4 | 2 | 4 | High Medium 56 | 6 | 4 | 2 | 4 | Low Medium 48 |
| Impact of In-Migration | 10 | 4 | 3 | 5 | High 85 | 4 | 3 | 2 | 5 | Low Medium 45 |
| KEY | | | | | | | | | | |
| Magnitude | | Duration | | Scale | | Probability | | | | |
| 10 Very high/ don't know | | 5 Permanent | | 5 International | | 5 Definite/don't know | | | | |
| 8 High | | 4 Long-term (impact ceases after closure of activity) | | 4 National | | 4 Highly probable | | | | |
| 6 Medium | | 3 Medium-term (5 to 15 years) | | 3 Regional | | 3 Medium probability | | | | |
| 4 Low | | 2 Short-term (0 to 5 years) | | 2 Local | | 2 Low probability | | | | |
| 2 Minor | | 1 Transient | | 1 Site only | | 1 Improbable | | | | |
| 1 None/Negligible | | | | | | 0 No chance of occurrence | | | | |
| Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: + | | | | | | | | | | |

5.1.8 Impact on Community Infrastructure and Services

5.1.8.1 Impact of Project use of Community Infrastructure and Services

The construction of the production facility will employ between a thousand and two thousand people over a 2.5-year period, who will be resident in the temporary camps, or living at home in cases where employees are





from the local area. During this phase of the project, CNOOC is unlikely to directly impact on health and welfare, education or emergency services in the local area and district, for the following reasons:

- Construction workers will be served by a fully provisioned clinic, with trained medical staff, to cater for any injuries, emergencies or general health issues experienced by personnel working on the project;
- Families and children will not accompany construction workers and no additional services in respect of education will be needed; and
- The EPC and drilling contractors will provide their own emergency services for smaller incidents and will have access to international emergency services in the event of a major accident. At all times, a fully equipped fire truck will be available along with self-contained breathing apparatus; and rescue equipment will be available for vertical rescue, general rescue and emergency management.

The magnitude of the direct construction - related impacts on existing infrastructure and services will be very low, local and short term, resulting in **low** impact significance. Impacts on infrastructure and services emanating from in-migration of potential job-seekers have been discussed in further detail in Section 7.3.6.3 of the ESIA Volume 3, Chapter 7.

5.1.8.2 *Impact of Access Provided by the Regional Road Upgrades*

The upgrading of the Hoima-Buhuka (P1) road and the extension of this road down the escarpment onto the Buhuka Flats has brought significant benefits to the Buhuka Flats villages in respect of access to community services. Where previously access to Parish and District services involved a long journey on foot, the communities can now gain access by vehicle. Together with improvements in other regional roads (the R7 and R4), this is expected to facilitate a general improvement in the health and education in the local population. While the road benefits have been separately considered and authorized, and are the responsibility of the Uganda Government, they are included here for completeness, since they have been built in support of the coming oil industry developments. The accessibility benefits will be local (applying to people on the Buhuka Flats), permanent, and will have a material effect on the ability of people to access essential services (high magnitude), resulting in an overall impact of **high** significance.



SIA: KINGFISHER FIELD DEVELOPMENT AREA, UGANDA



Figure 36: Regional road upgrades proposed above the escarpment





5.1.8.3 Impact of In-Migration

Construction phase impacts of the KFDA project on infrastructure and community services will be largely as a result of the indirect effects of in-migration. Currently, Hoima and Kikuube Districts are experiencing population growth attributable to high birth rates and in-migration. In-migrants typically originate from other countries such as the DRC and Sudan, with a substantial presence of refugees from these countries contributing to the total influx.

The recent upgrade of a section of the Hoima-Buhuka road and the construction of the road down the escarpment onto the Buhuka Flats has improved accessibility to the lake, encouraging settlers who have capitalised on fishing and other activities made possible by improved access. Based on the results of the household surveys and focus group discussions, migrants appear to originate largely from the DRC, as a large proportion of the trade in fish is across Lake Albert. Apart from a very high number of Congolese (estimated to be upwards of 70%¹⁵⁷), villages in the Buhuka Parish already house a multitude of ethnic groups, with the Alur tribe being the largest.

While some people are benefitting financially, the in-migration is contributing to pressures on community infrastructure and services, including the following:

- **Schooling:** The government schools in the parish are currently facing significant challenges, with increasing demand being placed on existing limited services. Private schools have exploited the gap that demand has created but are of varying quality. The private schools here, and elsewhere, are currently under scrutiny by the Department of Education which has indicated increased vigilance in respect of quality control and standards. At the same time, in the absence of adequate government-supplied educational infrastructure, demand will continue to exceed supply. Recruitment and retention of teachers is challenging due to lack of decent accommodation in the area, as well as relatively low salaries being offered. In-migration will increase pressure on schooling availability generally, and with a shortage in supply will probably drive private schooling prices up;
- **Health and welfare services:** Local health services are already experiencing impacts from the additional non-resident and resident populations associated with the project, including health care services (specifically related to children and maternity health), emergency housing support; and family support services;
- **Emergency services:** These services are not readily extended to the Buhuka Parish despite the improved access. Increased populations will increase pressure on those services that exist; and
- **Water supply:** Communities have indicated that one of their main development needs is water supply. Population influx has already served to exacerbate this situation and it is expected to worsen with increasing populations.

The construction phase of the KFDA project is expected to result in a further wave of migration into the LSA and RSA. Whilst Hoima Municipality will probably serve as one of the major hubs of potential influx (due to it already being a well-established urban centre and having a substantial population size), villages closer to the Buhuka Flats, above the escarpment, and on the Flats themselves, are also likely to experience population influx. This will be driven by opportunity seekers selling goods and services to the large number of construction workers on site, or seeking direct employment with CNOOC and its contractors, while also engaging in fishing activities (or related economic activities) for subsistence or sale. The CNOOC Influx Management Plan (2015) provides a typology of migrants, setting out key characteristics and motivating factors in respect of various types of migrants into the area.

The influx will stimulate economic growth in the area - which in turn is expected to attract more people. Considering this, the impacts may be both positive and negative - as the additional population will bring new

¹⁵⁷ Personal Communication, (2017) Village LC1s for the Buhuka Parish





skills and expertise into the area and result in economic growth, but will also increase the strain on social services, amenities and infrastructure for existing inhabitants.

Overall, in the absence of Government and CNOOC interventions, the impact of in-migration is likely to overwhelm the capability of the infrastructure and community services available to Buhuka Parish communities. Negative impacts are also likely to be experienced by the poorest members of the communities, who will be less able to take advantage of economic opportunities but will experience the negative effects of burgeoning growth. With regard to community infrastructure and services, the following outcomes are likely:

- A dilution of local Government influence, as newcomers into the area are typically unfamiliar (or indifferent about) local Government rules and leadership structure. This has already started causing tension within and between communities on the Buhuka Flats and this trend will be aggravated by further migrants; and
- The price of rented accommodation is likely to rise sharply. During the project’s construction phase, migrants in search of work may look for rental accommodation rather than purchase new housing. As additional demand for housing emerges, there will be a sustained increase in rental prices. While this will benefit the owners of accommodation, it will make rental costs for existing tenants (particularly poor tenants) unaffordable.

Impacts are likely to be of sub-regional geographic extent, long term and potentially high magnitude resulting in **high** significance.

5.1.8.4 Impact Mitigation and Monitoring

The following impact mitigation and monitoring is proposed:

- Sensitise the LC system and prepare to accommodate changes arising from the population influx. This is particularly important, as it is at this level that the stability of a village is decided, including the establishment of checks and balances for maintaining individual rights and responsibilities and for managing criminal elements;
- Promote the creation of social connections between the incoming permanent resident workforce and the existing community such as holding of sports days, to strengthen existing levels of community cohesion and assist in the long-term staff retention. Through its CLOs, CNOOC should seek opportunities to partner with and support services that provide support to families in crisis, particularly domestic violence and financial investments which strengthen capacity and cohesion; and
- Implement the strategy for minimising in-migration defined in the Influx Management Strategy and Framework Plan (Volume 4, Specialist Study 11). This will need a combined effort by Government and all oil industry partners.

5.1.8.5 Impact Significance Rating

Table 59: Construction phase impact on Community Infrastructure and Services

| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|--|----------------|----------|-------------------|-------------|--------------|-----------------|----------|-------------------|-------------|--------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Impact of Project Use of Community Infrastructure and Services | 1 | 2 | 2 | 4 | Low 20 | 1 | 2 | 2 | 4 | Low 20 |





| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|--|----------------|---|-------------------|-----------------|--------------|---------------------------|----------|-------------------|-------------|----------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Impact of Access Provided by the Regional Road Upgrades | 8 | 5 | 2 | 5 | High +75 | 8 | 5 | 2 | 5 | High +75 |
| Impact of In-Migration | 8 | 4 | 3 | 5 | High 75 | 4 | 4 | 3 | 5 | High Medium 55 |
| KEY | | | | | | | | | | |
| Magnitude | | Duration | | Scale | | Probability | | | | |
| 10 Very high/ don't know | | 5 Permanent | | 5 International | | 5 Definite/don't know | | | | |
| 8 High | | 4 Long-term (impact ceases after closure of activity) | | 4 National | | 4 Highly probable | | | | |
| 6 Medium | | 3 Medium-term (5 to 15 years) | | 3 Regional | | 3 Medium probability | | | | |
| 4 Low | | 2 Short-term (0 to 5 years) | | 2 Local | | 2 Low probability | | | | |
| 2 Minor | | 1 Transient | | 1 Site only | | 1 Improbable | | | | |
| 1 None/Negligible | | | | | | 0 No chance of occurrence | | | | |
| Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: + | | | | | | | | | | |

5.1.9 Individual, Family and Community Life

5.1.9.1 Disruption of Social Networks

Where people are resettled, they could suffer the following permanent or long-term disruption:

- troubled, discontinuous or fragmented social ties;
- dismantled production systems;
- individual/household impoverishment resulting from the loss of productive assets or income sources;
- relocation of individuals/households to alternative environments where their productive skills may be less applicable and the competition for resources greater;
- dispersion of kin groups; and
- Loss or diminishment of supportive networks, mutual assistance and cultural identity.

These impacts will especially manifest among PAP's that involuntarily move to new or distant locations from their original area of abode. At the same time, PAPs who voluntarily take up a cash compensation option may, inadvertently, place themselves in the same position. Without sensitive handling, the impact will be long term and irreversible, of high magnitude and major significance. Even with careful mitigation and monitoring it is likely that these impacts will persist, and will not be eliminated or reduced to minor or negligible levels.





5.1.9.2 Impact of Social Fragmentation

In urban sociology, fragmentation refers to the absence or the underdevelopment of connections between the society and the groupings of some members of that society on the lines of a common culture, nationality, race, language, occupation, religion, income level, or other common interests.

Although the Buhuka Parish is rural by nature of its setting, it has developed a distinctly non-rural nature with strong commercial activity along the main village roads. Apart from Kyabasambu, villages such as Nsonga and Kyakapere have a proliferation of bars, gambling and gaming institutions and a flourishing trade in sex workers. Particularly over the past three years, all lakeside villages have shown rapid growth of migrants from other parts of Uganda, Rwanda, South Sudan and especially the DRC. This has resulted in overbuilt and unplanned construction and severely constrained infrastructure and services. While there is some evidence of significant “hidden” wealth (mainly attributed to illegal smuggling to and from the DRC¹⁵⁸), there is also evidence of a poor quality of life for a significant proportion of village members who are dependent on natural resources (mainly wood, grass and fish) as part of a subsistence livelihood.

The opening of the escarpment road has played a significant role in this influx process. At the same time, it is clear that the vast majority of non-Ugandan people originate from the DRC¹⁵⁹ and have gained access to the Buhuka Flats via Lake Albert.

The lake-side villages clearly demonstrate a trend in which there is a disintegration of the collective sense of belonging and the coherent set of values and normative behaviour that characterise more stable communities. This is especially evident in Kiina, Nsonga and Kyakapere where relatively weak local management capacity exists. While some community members describe the changes as ‘progress’¹⁶⁰ many others feel helpless, angry and victimised in that they have lost their former social and psychological refuge. High levels of uncertainty about what the future will hold, confusion about what exactly to expect and associated hindered decision-making, conflict between individuals and groups (and with CNOOC itself) and feelings of distrust are commonplace. There is a perception that questions asked and issues raised in ongoing engagement with CNOOC are not fully understood. This distrust and sense of inability to resolve conflict with CNOOC in a constructive manner precipitated the court case lodged against CNOOC by the land owners association.

Increasingly, there is also a manifestation of unequal distribution of costs and benefits associated with changes caused by the project amongst the villages on Buhuka Flats. Some residents are perceived to have benefitted from the presence of CNOOC, mainly because they are seen to have managed to “escape” being trapped as a direct result of the relocation / compensation process. Inevitably, those interviewed expressed a desire to be relocated and to receive compensation as well. There is already evidence of a group (village) related sense of entitlement and advantage which disregards principles of reasonableness, equity and fairness. As an example, the large youth contingent from Kiina village indicated that they “demand that at least 60% of job opportunities from CNOOC should be provided” to them. Additionally, they demand that CNOOC increases the daily wages paid to members of the Kiina community to ensure that they earn more than they could if they spent the time fishing¹⁶¹. Kiina is well beyond the southern boundary of the direct physical impact that will be caused by the construction and operation of the Kingfisher production facility.

Without interventions by both CNOOC and Government, the impact of the construction phase of the project is expected to further exacerbate the social fragmentation that is already evident on the Flats causing local, long term, impacts of high magnitude and **high** significance. Even with careful mitigation and monitoring it is likely that these impacts will persist, and will not be eliminated or reduced to **low** levels of significance.

158 Eco & Partner Fieldworkers in conversation with local lakeside villagers (2017) Personal Communication

159 LC1s for Nsonga, Kiina and Kyakapere (2017) Personal Communication

160 Kiina Village Elder (2017) Group discussion, Public Consultation Meeting.

161 Kiina Village Youth (2017) Group discussion, Public Consultation Meeting





5.1.9.3 *Loss of Sense of Place*

During the construction phase, residents on the Buhuka Flats (and in particular residents from Kyabasambu, who live close to or overlook significant parts of the proposed project site) will experience ongoing and significant changes in their immediate environment and their associated sense of place. Prior to the development, the view of villagers was of Lake Albert on the one side and grasslands and the escarpment on the other. This view will be altered significantly to a combination of oil related developments, construction sites characterised by exposed earth, construction materials, and machinery. Outsiders making use of the escarpment road to access the area will create changes in social cohesion. The nature of the living environment will change from a tranquil, isolated, rural setting to one characterised by industrial development, dominated by non-residents. Noise and other intrusions will exacerbate the situation, affecting all dimensions that have made the Buhuka Flats unique – a resulting in an impact of **major** significance.

This change will be extremely difficult to mitigate directly. Even with the effective implementation of the key direct mitigation measures proposed (for example, minimising as far as possible the effects of visual disturbance and noise, as set out in Sections 7.1.3 and 7.1.4 of the ESIA Volume 3, Chapter 7 and the associated specialist studies); the impacts associated with sense of place will remain of major negative significance unless impacted households are provided with development alternatives to counteract any sense of inequity. The effect will be short term, local but of high magnitude, resulting in impacts of **high medium** significance.

5.1.9.4 *Impact Mitigation and Monitoring*

5.1.9.4.1 *Disruption of Social Networks*

Set up an accessible and local “one-stop shop” in the community for all issues concerning the construction process to handle aspects such as the provision of basic information, a contact point for emergencies and grievances (whether the concern is related to CNOOC, its contractors or sub-contractors) about work on the project. As part of this process, provide a resource person (potentially a community liaison officer) who is able to provide on-site information to communities on the RAP and associated processes, property and land issues during construction, to monitor and assist the construction contractor’s pre-entry agreement procedure and final re-instatement sign-off with owners and users and for resolving outstanding issues.

Provide comprehensive dispute resolution mechanism linked into a coherent two-way communication system (either as part of the ‘one-stop shop’ or aligned with it, with associated feedback mechanisms that will be readily accessible and available to all villagers and PAPs). This could be community liaison officers who could be the main point of contact for queries, questions and concerns on property and land issues, as well as directly related to the CNOOC process and programme.

5.1.9.4.2 *Impact of Social Fragmentation*

The following impact mitigation and monitoring is proposed:

- Ensure that consideration of conflict issues - latent, existing and potential – is built into all phases and aspects of the construction phase;
- Monitor and track responses to risks and impacts, involving workers and communities;
- Continue to implement the Community Relations Strategy (CRS) and establish a formalized communication forum. The forum should be open to representatives from villages (including but beyond the formalised governance system provided by LC1s), CSOs, NGOs, FBOs as well as traditional clan chiefs (or representatives) and other stakeholders as identified. Ensure regular meetings at local level, hosted by CNOOC, aimed at:
 - communicating with stakeholders to build understanding and demonstrate transparency and accountability.
 - strengthening channels for the provision of further information that may be needed.





- promoting mechanisms for understanding real issues and concerns related to the project and impacts being experienced from direct (unmitigated), indirect and cumulative impacts.
- publicly and transparently debating options for sharing out benefits at local level that will take account of the negative impacts experienced locally, including the costs and benefits of different options, their management implications and their role in supporting wider economic development.
- Finalise and implement - in consultation with all relevant stakeholders - the Community Development Action Plan (aligned with the Hoima District and Kyangwali Sub-county Development Plans) for implementation of activities aimed at:
 - promoting strategic Corporate Social Responsibility (CSR) projects which will not require CNOOC to usurp the government's role or act as substitute government agent in fulfilling human rights related delivery.
 - planning and implementing projects, in partnership with government, that will serve to alleviate existing challenges to the survival, livelihood and dignity of the people of the Buhuka Flats in a sustainable manner. This could include engaging NEMA as well as relevant authorities in implementation of effective solid waste management and associated recycling programmes;
 - planning and establishing adequate sports facilities for schools as well as for youth, in partnership with government and the Bunyoro Kitara Kingdom.
 - planning and achieving critical objectives set out in the project Livelihoods Restoration Plans.
 - planning and implementing immediate measures that will assist in earning and maintaining CNOOC's social license to operate.
 - taking collective action where appropriate to address environmental, social and human rights issues.
- Facilitate and financially support the establishment of a district/area-wide Development Organisation, with a formalised legal structure (such as a Foundation or a Community Development Agency). Such an organisation or agency would:
 - address issues related to human security, as an approach that brings together development, human rights, and peace and security (as defined by the United Nations General Assembly, 2012).
 - allow the identification and redress of widespread challenges to the survival, livelihood and dignity of villagers on the Buhuka Flats and beyond in a sustainable manner.
 - draw together the financial and human resources of the private and public sectors, the traditional leadership and other stakeholder bodies as well as donor and aid organisations.
 - develop issue-based action plans, including business plans for donor funding in respect of various focus areas of need that will address identified human security issues and concerns.
 - allow CNOOC to use its own budget to leverage significant additional budget from other role-players (including international 'GoFundMe' initiatives) and aid organisations with a specific mandate (e.g. the distribution of mosquito nets) to address specific problems encountered at village level.

5.1.9.4.3 Loss of Sense of Place

- As far as is possible, provide natural screening through the use of trees and other landscaping interventions to reduce the visual and aesthetic impacts emanating from construction activities as well as intrusion impacts such as noise and light pollution (refer to Section 7.1.4 of the ESIA Volume 3, Chapter 7);



- Minimise noise impacts in accordance with the recommendations of Section 7.1.3 of the ESIA Volume 3, Chapter 7;
- Engage the households within Kyabasambu as well as other settlements where there is a direct negative aesthetic impact from CNOOC construction activities in planned development initiatives that address areas of need to allow the development of a sense of equity specifically related to the loss of sense of place; and
- Promote partnerships between directly impacted households and legitimate NGOs that have a successful track record in local economic and enterprise development, including micro financing programmes to allow households access to economic opportunities. This would offer a key mechanism for counteracting feelings of being “trapped” by the development.

5.1.9.5 Impact Significance Rating

Table 60: Construction phase impact on Individual, Family and Community Life

| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|--|----------------|---|-------------------|-----------------|----------------|---------------------------|----------|-------------------|-------------|---------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Disruption of Social Networks | 1 | 2 | 2 | 4 | Low 20 | 1 | 2 | 2 | 4 | Low 20 |
| Impact of Social Fragmentation | 9 | 4 | 2 | 5 | High 75 | 4 | 4 | 2 | 5 | Low Medium 50 |
| Loss of Sense of Place | 8 | 2 | 2 | 5 | High Medium 60 | 4 | 4 | 2 | 5 | Low Medium 50 |
| KEY | | | | | | | | | | |
| Magnitude | | Duration | | Scale | | Probability | | | | |
| 10 Very high/ don't know | | 5 Permanent | | 5 International | | 5 Definite/don't know | | | | |
| 8 High | | 4 Long-term (impact ceases after closure of activity) | | 4 National | | 4 Highly probable | | | | |
| 6 Medium | | 3 Medium-term (5 to 15 years) | | 3 Regional | | 3 Medium probability | | | | |
| 4 Low | | 2 Short-term (0 to 5 years) | | 2 Local | | 2 Low probability | | | | |
| 2 Minor | | 1 Transient | | 1 Site only | | 1 Improbable | | | | |
| 1 None/Negligible | | | | | | 0 No chance of occurrence | | | | |
| Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: + | | | | | | | | | | |





5.2 Kingfisher Production Facility – Operational Phase

5.2.1 Overview

This section describes the socio-economic impacts associated with the project, pertaining to the operational phase of the CNOOC Kingfisher production facility.

5.2.2 Operational Workforce Related Impacts

5.2.2.1 Impact on Employment

Employment Opportunities

The operational phase of the project will require fewer personnel than the construction phase, and the associated skills necessary will be largely specific to an oil production facility, including engineering, administrative, health safety and environment, catering, maintenance and support staff. In the operational phase, around 120 full time jobs will be created at the production facility. Drilling jobs will continue in the operational phase of the project for the first five years while the last wells are completed. Based on its agreements with the Ugandan Government, CNOOC will employ as many local people as possible and it is understood that at least 80% will be Ugandans from year 1 of production (CUL LFMP, 2018)

CNOOC has an existing casual labour policy which reserves at least 60% of casual / unskilled jobs for local communities in the areas of its operations, and this is expected to apply to the operational phase of the project, in cases where unskilled labour is needed. Given the population size of villages within the Buhuka Parish as well as villages on top of the escarpment, there appears to be a locally available unskilled workforce.

CNOOC also has a recruitment policy which stipulates the procedure according to which professional (i.e. non-casual) appointments are undertaken. A major constraint affecting the local take up of most semi-skilled and skilled appointments will be the lack of general education and critical skills in the oil and gas industry. Consequently, the more skilled personnel are likely to be sourced in the national labour market and internationally. It is anticipated that most of the skilled operations workforce will reside in the project camp on the Buhuka Flats, working on a rotational basis. Employees who are local or within the Hoima District may be brought in daily on a Bus In Bus Out (BIBO) basis.

Employment creation will be a positive socio-economic impact. It will be long term, resulting in a sustainable impact in the economy, although the local benefits and even benefits at District and National level will be limited by skill constraints. Initially, skilled Ugandan personnel are only expected to take up a small percentage of the jobs and the magnitude of positive impact will only be medium. Taking into consideration the need for employment in Uganda, the impact significance will be **high medium**. With the implementation of the recommended measures to enhance operational employment impacts, the overall positive significance rating can be increased to **high**.

Skills Development/Training Opportunities

CNOOC has a fully developed employment and recruitment policy. Where required, the workforce is sourced through a range of recruitment processes, including internal and local, national and international recruitment. Internal succession, apprentice, trainee and graduate programs and contract labour have been designed as part of the project. CNOOC's Kingfisher field development project aims to implement a skills development strategy for their employees in order to improve the skills of the local labour pool by investing in technical, managerial and administrative skills of the workforce. Career development plans would need to be designed in order to effectively implement career and skills growth during the term of employment.

Training and skills development will be a positive impact, helping to develop the local operational workforce skills and qualifications and expanding the human capital available within the local economy. Given the relatively small number of people who will benefit, the magnitude of this impact will only be medium, but it will be permanent, resulting in a general improvement in skills regionally wherever the beneficiaries are employed in the future. With the shortage of skills in Uganda, it will be of **high** significance.



5.2.2.2 Impact of Accommodation on the Workforce

CNOOC policies concerning employment will include preferential hiring of local residents/communities and advertising employment opportunities within the local fishing villages (local labour market). Employees from these villages can continue to live with their families while employed by the project. Accommodation in the permanent camp will be provided to full time and contract employees, and visitors, who are not locally resident. Accommodation is expected to meet IFC PS1 requirements. Catering will also be provided for all personnel, including day workers. The impact will be positive and of **high medium** significance.

5.2.2.3 Employee Health and Safety

General Safety Impacts

Working on large industrial projects involves a wide range of potential hazards. The principle causes are described in Section 7.3.2.3 of the ESIA Volume 3, Chapter 7 under construction impacts. All of the hazards may be aggravated by specific behaviour leading to occupational accidents, illness or disease that could have chronic consequences, preventing the individual from continuing work, or fatalities.

In the absence of a highly regulated OH&S environment, with a zero tolerance management approach towards unsafe practices, the risk of disabling or fatal injuries on the production sites will be high, with potentially permanent consequences and a **high medium** significance rating. Subject to CNOOC's compliance with the Occupational Health and Safety standards established by Ugandan Government and its own Health and Safety policies and procedures, which are in place to meet the Ugandan legal requirements, as well as guidelines and protocols for sensitisation of employees and monitoring systems to verify compliance, this impact can be reduced to **low** significance.

Driver Safety

As for other aspects of work on a large industrial project, the use of vehicles and heavy mobile equipment may result in significant safety hazards in the absence of a highly regulated OH&S environment. Vehicle accidents are the leading cause of worker injuries and fatalities, with the USDOL Census of Fatal Occupational Injuries related to the Oil and Gas sector (BLS, 2016) reporting that 40% of all worker fatalities are directly linked to vehicle incidents. The main causes of work place accidents involving vehicles and movable equipment on industrial sites are typically:

- Failure to drive cautiously and defensively;
- Disregard of speed limits;
- Failure to wear seat belts;
- Use of cell phones while driving;
- Careless driving and/or driving / equipment operation by insufficiently trained personnel;
- Failure to maintain the lights and audible reversing signals on construction vehicles and equipment;
- Night driving;
- Use of alcohol or recreational drugs; and
- Driver/operator fatigue.

Without appropriate driver training and a zero tolerance management approach towards unsafe practices, the risk of disabling or fatal injuries to personnel caused by vehicles and moving equipment will be high, and potentially long term to permanent (disabling or fatal), with a **high medium** significance rating.

Graft and Exploitation

During all phases of the project, CNOOC will need to remain alert to the potential for graft and exploitation that Ugandan nationals as well as foreign (non-Ugandan) employees and service providers may experience. From



a Uganda national experience, there have been incidences of misrepresentation where money is extorted from job-seekers who are told that they are paying a placement fee for work at CNOOC. In addition, there have been incidents in which foreigners (particularly Chinese people) have been accosted by the Ministry of Internal Affairs, being forced to go to the Department of National Citizenship and Immigration Control to prove that they have work permits in place. People with a relatively poor command of English may feel sufficiently intimidated to offer money to be left alone. In addition, there have been increasing incidents of criminal attacks, including robbery and assaults on foreigners. Such attacks appear to be most commonly facilitated by the services of prostitutes who work in collaboration with crime syndicates that target foreigners. Impacts will be of **high medium** significance.

Alcohol and Drug Abuse

Alcohol and drug abuse is often prevalent in remote industrial facilities where employees are accommodated on site and this spins off into safety in the workplace. The unmitigated risks are highly significant, with a strong correlation between workplace accidents and the use of these substances. In the absence of appropriate management and monitoring, the risks of disabling injury or mortality (long term effects) due to substance abuse will be high, and impact significance will be **high**.

Diseases

The main disease risks to the project workforce are malaria, illnesses due to unsanitary conditions and behaviour and sexually transmitted diseases caused by unprotected interactions with local sex workers. Tuberculosis is also an issue of particular concern among casual workers with inadequate general health care.

- Malaria is widespread in the study area and may be exacerbated by standing water at the production facility that provides additional breeding sites for mosquitoes. The workforce will be exposed to these risks. According to the Rapid Health Impact Assessment (RHIA) undertaken for the project, malaria is the most prevalent health concern in the project area, with the disease accounting for 35-54% of all outpatient visits in the study area Health Clinics (APPENDIX B). Malaria case rates are also described as being on the increase, and that the illness is commonly associated with misconceptions and poor prevention behavior;
- Casual labourers employed on the project may be poorly informed about sanitary behaviour which will exacerbate the risk of a range of diseases related to contamination of food;
- Poor ventilation in living quarters and slovenly behaviour in respect of cleanliness may exacerbate diseases such as tuberculosis;
- Sexually transmitted diseases (STDs) typically proliferate in male-dominated industrial environments where workers are removed from their families for significant periods of time. Managing STDs is difficult since it involves altering worker behaviour to comprehensively ensure prevention. The policy of the organization in relation to sex workers in the personnel camps and interactions sexual interactions between personnel and local sex workers has a major influence on the spread of this disease among the workforce; and
- Poor hygiene and camp waste disposal practices may encourage rats and other pests that are disease vectors. Human waste will need to be managed via proper disposal and treatment facilities to avoid seepage (which may contaminate water sources). Food waste must be disposed of in a proper manner (incineration, burial or taken off site and disposed of in sanitary landfill sites) to prevent the proliferation of pests.

The impact of disease on the project workforce is potentially severe, with potentially disabling or even life threatening diseases (high magnitude) over the lifetime of the project causing a threat of **high** significance in the absence of the appropriate management.

However, subject to the development of a culture of best health practices among the workforce, vector-related and sanitary and hygiene-related health impacts on the workforce can be reduced to **low** significance. STD's can also be reduced on the basis of the measures proposed under mitigation below, but residual impacts are likely to remain since the management of these impacts is rarely entirely effective.





5.2.2.4 Impact Mitigation/ Enhancement and Monitoring

CUL is required to comply with the objectives of the National Oil and Gas policy and legal framework with regard to oil and gas development and benefits to the citizenry. CUL has set out to meet relevant National laws and regulations, policies and action plans, and international best practice to ensure that it complies with a high standard in the management of its labour force. CNOOC Limited is a member of the UN Global Compact, and therefore all its global operations, including CUL, are committed to comply with the principles in the Compact related to labour rights.

The following plans will apply to CUL's operations:

- CUL (2018). Labour Force Management Plan; and
- The CNOOC (2018) Labour Force Management Plan for Contractors and Subcontractors, prepared on behalf of CUL.

The Labour Force Management Plan (LFMP), while focussing more specifically on casual labour which will be characteristic of much of the unskilled labour employment during the construction phase of the production facility, nevertheless applies to a wide range of issues that will be equally applicable to other, permanent, employees during the production phase of the project. Casual labour employment will also continue throughout the production phase, with Contractor's coming onto site for a wide variety of tasks from time to time. The LFMP therefore applies to contractors working at the production facility during the operational phase and, in many respects, to CUL's permanent workforce in general.

The LFMP commits CUL to a range of specific actions designed to ensure that its labour practices are fair, transparent and in compliance with Ugandan policy and law and best practice standards, including IFC PS2. The LFMP deals with a wide range of issues, including recruitment and retention of employees, terms and conditions of employment, wage rates, minimum wages, timeliness of payment, entitlements and benefits (work hours, weekly rest, public holidays etc.), repatriation of workers, termination of services, workplace health and safety, HIV¹⁶²/AIDS policy and prevention, health and welfare arrangements, first aid facilities, measures against biological hazards (insects, pests, virus's, parasites, bacteria), training and development, freedom of association, equal treatment, employment of women, forced labour, grievance management, local content and migrant workers, damage to property and management of contractors and subcontractors.

For the purposes of the EISA, the following additional recommendations are made, drawn from the specialist studies. In some instances, there is overlap between the recommendations in the LPMF and the recommendations below:

5.2.2.4.1 Impact on Employment

- Implement the actions set out in the draft CNOOC (2018) Labour Force Management Plan (LFMP). Ensure that all contractors who work on site during the production phase of the project are aware of and comply with the management framework for casual labour set out in this document;
- Preferentially hire local people, in accordance with CNOOC policies and agreements with Government. Advertise employment opportunities within the local fishing villages (local labour market) so that as many people as possible are employed who can continue to live with their families as they offer their services to the project. Directly project-affected people should be given priority to win operational phase jobs, subject to their meeting the necessary employment requirements;
- Ensure that permanent employment is done via CUL's Kampala head office in order to discourage job seekers at the gate of the production facility. Widely advertise the employment process for the production phase so as to ensure local understanding of employment criteria and processes;

¹⁶² The human immunodeficiency virus (HIV) is a virus that causes the HIV infection. Over time, this becomes the Acquired Immuno-Deficiency Syndrome (AIDS).



- Develop and implement training and skills development programmes in the production workforce to expand the human capital available within the local economy; and
- Consider offering bursaries or internships to promising students (refer to discussion on the community development impacts) to build a sustainable and educated future workforce.

5.2.2.4.2 Skills Development

- Collaborate with the Petroleum Authority of Uganda (PAU), which is tasked with establishing, maintaining and operating a National Talent Register for the petroleum sector to ensure that CNOOC contributions in the form of bursaries and scholarships support the development of an appropriately skilled labour force;
- Align the CNOOC Education and Training related support initiatives as well as in-house training and competency development of Ugandan nationals with the critical and scarce skills requirements of the Oil and Gas sector;
- Consider promoting a process of Recognition of Prior Experience (RPE) and Recognition of Prior Learning (RPL) in collaboration with tertiary technical training institutions that will allow the accrual of credit for informal and non-formal skills development into the formal skills development sector;
- Promote STEM at school level by incorporating support to the development of science laboratories at schools, strengthening education in maths and science at schools and the development of well-stocked school libraries as a specific focus of CNOOC Community Development Plan; and
- Support initiatives that will promote and strengthen the levels of competence of master artisans and crafts persons within the Technical Education and Training (TVET) system, and design mechanisms that will support the entrance of female scholars into TVET institutions.

5.2.2.4.3 Impact on Employee Health and Safety

- Screen local employees/contractors for TB at recruitment and provide adequate care and treatment programs from the Project's workplace medical service while complying with the requirements of the national TB program;
- Develop a site-based TB management programme.
- Evaluate the origin of any incoming contracted construction workers (especially from high burden TB countries) and understand TB and MDR risks in this group. Ensure effective TB screening in the external contracted workforce prior to final appointment and mobilization as part of the Project's Fitness to Work (FTW) procedures to ensure that diseases are not introduced in the study area;
- Develop a vaccine preventable disease programme for all employees, and visitors based on risk for travelers and at-risk occupations. All employees and contractors residing in close contact in camps should receive vaccines for all immunisable diseases, including the quadrivalent meningococcal meningitis vaccine in order to mitigate risk in case of direct contact with such diseases;
- Develop an integrated workplace malaria and vector control programme to include source reduction and environmental management of breeding sites, routine inspections of accommodation units, appropriate IEC programmes for the workforce and contractors prior to secondment and for use in country, policies and programmes related to use of protective clothing and the use of malaria chemoprophylaxis and surveillance programmes between the workplace medical service and vector control team to determine the likely origin of, and root cause of malaria cases;
- Reduce potential human vector contact and control of breeding sites of disease vectors such as mosquitoes. Continually monitor activities on site to ensure adequate drainage and management of storm water to minimise breeding in the area;
- Ensure that all accommodation units in the permanent camp are proofed against mosquitoes;





- Develop a clear HIV policy and programme in the workplace which includes ensuring that there is adequate accommodation capacity at the temporary personnel camps to eliminate the need for contractors or visitors to seek accommodation in the local villages;
- Develop a code of conduct that actively discourages sexual relationships between the workforce and the local community;
- Work with the village and traditional leaders to manage truck stops, as well as district authorities to report any increase in high-risk sexual behaviour from elements of the workforce, including the collection of baseline data;
- Develop and implement an HIV and STI management programme in the workforce, to include awareness and education, treatment services that link to the public health service, provision of free condoms, access to counselling, proper provisioning of the work camps to dissuade workers travelling into communities for entertainment and support of family friendly accommodation in the camps;
- Develop and implement an HIV and STI prevention programme for suppliers, which is to include awareness and education about STI's. The design and placement of rest stops for drivers transporting goods and materials to and from the production facility should be away from local communities and properly subsidised for cheap food / entertainment;
- Implement camp curfews from 19:00 (as is the current CNOOC practice) after which time workers who reside in the camp must be in camp.
- Prohibit all drivers (permanent employees, contractors and suppliers) from giving lifts to the local community;
- Screen for STIs and hepatitis B/C virus as part of pre-employment fitness to work process. Treatable causes should be managed, and chronic carriers excluded from employment until managed;
- Support a HBV vaccination campaign/ or antibody testing on employee who may have not been vaccinated as a child;
- Develop nutritional programmes that promote proper nutritional practices at the workplace to prevent obesity and related health impacts, including education programmes in the workforce on financial management and support of the household units in employees that have traditionally followed a subsistence lifestyle;
- Develop a programme to address education about and management of non-communicable diseases related to use of drugs, alcohol and oral health issues;
- Incorporate veterinary concerns into the OHS management plan to include appropriate waste management to mitigate against feral dogs and an awareness of the risk of snake bites and other wild animal threats; and
- Train employees to ensure that they are aware of the requirements of the Occupational Health and Safety standards established by the Government of Uganda.



5.2.2.5 Impact Significance Rating

Table 61: Operational phase impacts on the workforce

| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|--|----------------|---|-------------------|-----------------|-----------------|---------------------------|----------|-------------------|-------------|-----------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Impact on employment | | | | | | | | | | |
| - Employment opportunities | 6 | 4 | 3 | 5 | High Medium +65 | 8 | 4 | 3 | 5 | High +75 |
| -Skills development and training | 6 | 5 | 3 | 5 | High Medium +70 | 8 | 5 | 3 | 5 | High +80 |
| Impact of workforce accommodation | 6 | 4 | 2 | 5 | High Medium +60 | 6 | 4 | 2 | 5 | High Medium +60 |
| Impact on Employee Health and Safety | | | | | | | | | | |
| general safety impacts | 8 | 5 | 2 | 4 | High Medium 60 | 2 | 2 | 2 | 4 | Low 24 |
| -driver safety | 10 | 5 | 2 | 4 | High Medium 68 | 2 | 2 | 2 | 4 | Low 24 |
| -graft and exploitation | 6 | 4 | 2 | 4 | Low Medium 48 | 4 | 2 | 2 | 3 | Low 24 |
| -alcohol and drug abuse | 8 | 5 | 2 | 5 | High 75 | 3 | 4 | 2 | 3 | Low 27 |
| -vector related diseases | 9 | 4 | 2 | 5 | High 75 | 2 | 2 | 3 | 4 | Low 28 |
| -sexually related diseases | 9 | 4 | 2 | 5 | High 75 | 4 | 4 | 2 | 4 | Low Medium 40 |
| KEY | | | | | | | | | | |
| Magnitude | | Duration | | Scale | | Probability | | | | |
| 10 Very high/ don't know | | 5 Permanent | | 5 International | | 5 Definite/don't know | | | | |
| 8 High | | 4 Long-term (impact ceases after closure of activity) | | 4 National | | 4 Highly probable | | | | |
| 6 Medium | | 3 Medium-term (5 to 15 years) | | 3 Regional | | 3 Medium probability | | | | |
| 4 Low | | 2 Short-term (0 to 5 years) | | 2 Local | | 2 Low probability | | | | |
| 2 Minor | | 1 Transient | | 1 Site only | | 1 Improbable | | | | |
| 1 None/Negligible | | | | | | 0 No chance of occurrence | | | | |
| Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: + | | | | | | | | | | |





5.2.3 Economic Impacts

The project will have impacts in the local, regional and national economy through direct and indirect economic benefits. While it is beyond the scope of this study to conduct a comprehensive macro-economic assessment, general economic impacts are discussed below.

5.2.3.1 National, Regional and Local Economic Development

Increase in Government Revenue

Direct oil and gas related government revenue is derived from (i) royalties (resource exploitation related levies based on the value of extracted resources); (ii) surface rentals (annual fees in respect of acreage held by oil companies); (iii) taxation (personal and business taxes as well as specific introduced taxes related to 'windfall gains', resource rent and the environment); (iv) bonuses (paid by the oil companies at defined stages during the exploration and production phases, as per their Profit Share Agreement); (v) what is termed 'Profit Oil' (income from excess oil production over that required to meet all cost recovery and payment requirements); and (vi) 'other fees' (contributions to training of government personnel and/or payments in cash in lieu this). As the sector develops, value chain related operations such as refineries and the sale of petroleum products will provide additional opportunities for income from taxation (see the ESIA Volume 4, Chapter 17 on Cumulative Impacts).

The specific terms of agreement between CNOOC and the government have not been made public, as is required in terms of the PFM Act 2015. Informed projections indicate that government revenues will remain low for a considerable period of time at current crude prices. Henstridge and Page (2012:28) estimate that it will take at least a decade from the start of production for cumulative oil revenues to climb to 5% of GDP, translating to approximately \$9 billion. They see this climbing to \$7.3 billion (41% of GDP) within the second decade, \$14.9 billion (83% of GDP), and \$19.8 billion (111% of GDP) by the end of the fourth decade of production (all based on 2012 \$ oil prices).

Despite the slow start in income generation, Henstridge and Page (2012:28) state that the deal implied by the terms is assumed to be a good one for Uganda: "Between 86 percent and 99 percent of the net present value of the combined investments - depending on assumptions about oil price and the time horizon for production - goes to the government through the various sources of tax revenue and dividends on a 15 percent equity share."

The impact in terms of this indicator is expected to be positive, long term, national in coverage (benefitting all levels of Government) and of **high** significance.

National and Regional Economic Growth

The expansion of the resource industry on the Buhuka Flats will have a beneficial cumulative impact in the region. This will include revenue for the government, employment opportunities at local, regional and national level and a direct and indirect effect on business development. Increased household income and expenditure will result. Both on its own and combined with the effect of the other oil industry developments, CNOOC's KFDA project is likely to generate significant economic multipliers¹⁶³. Research for other oil development projects has shown that economic multipliers of about 2.33 for value added¹⁶⁴ and between about 2.88¹⁶⁵ and 3.03 for labour income¹⁶⁶ apply. While these studies were undertaken for oil and gas developments in the USA, and the ratios do not necessarily hold true for developing economies, the general effect is clear.

The increase in work opportunities provided by the project will result in growth in the proportion of Ugandan citizens with higher incomes. Given the number of oil and gas projects under consideration in the sector, there is likely to be a continued and expanding demand for skilled labour. Wages for skills needed in the oil industry

¹⁶³ An economic multiplier is the increase in final income that can be derived arising from any new injection of spending, for example \$2.33 for every \$1 invested or spent. Also termed a 'trickle down' effect of economic growth as those who receive additional income spend that income in shops and businesses, which in turn drives further economic growth

¹⁶⁴ Macroeconomic subgroup, 2011

¹⁶⁵ Pennsylvania Economy League of Southwestern Pennsylvania, 2008

¹⁶⁶ Macroeconomic subgroup, 2011



are likely to increase. Employment in the oil industry will generate government revenue, deducted from salaries through Pay As You Earn (PAYE), as well as through Local Service Tax at local (sub-county) level.

At a regional scale, the magnitude of beneficial impacts will only be medium, but they will be long term. The significance rating is **high medium**. With the implementation of the recommended measures to enhance good governance and investment in local infrastructure and services, the overall significance rating can be increased to that of a **high** positive impact.

Local Economic Development

The KFDA project will stimulate demand for goods and services in the area, which in turn will have a direct and indirect impact on employment in the local and regional economy. CNOOC has developed a local procurement policy to support further development of the business supply chain locally and regionally through appropriate purchasing and business development strategies. This will also support the District and Central Government initiatives intended to improve the social capital of Buhuka Parish, Kyangwali Sub-county and Kikuube District.

The Buhuka area in general is experiencing rapid economic development. Since the opening of the escarpment road into the Flats, two large markets have developed, selling various goods and services, which attract an extensive daily clientele. This has resulted in induced and indirect employment opportunities being created. While most of the current trade is not directly linked to the Kingfisher development, being a consequence of the access provided by the escarpment road, it is an indirect benefit since the primary purpose of the road is to serve the Kingfisher project.

The further development of the local economy will be a benefit derived from the presence of the project in the area. It is possible that local economic growth will increase the ability of households to earn a cash-based income. In this regard, CNOOC has indicated that it purchases in the order of 65% of its goods and services from suppliers and contractors in Uganda, which number more than 100 providers to date. The Company also trains local suppliers to meet oil and gas quality, safety and other standards and learn the tendering and bidding process.

In the absence of specific interventions from CNOOC to increase local purchasing and assist local businesses to improve their ability to compete in the market, the benefits will probably be of low magnitude. Nevertheless, they will be long term and are considered to be positive and of **high medium** significance. This can be increased to **high** significance if CNOOC implements a full range of interventions to encourage local business development capability, and steadily increases project spend in the local economy (refer to the mitigation measures below).

Human Capital Development

There is a strong relationship between available human capital and the ability to attain social and economic growth and development and that the development and promotion of human capacity will be achieved most effectively through a coherent process of investment in the people of Uganda.

Human Capital represents the knowledge, skills and abilities that enable people to do their jobs, to be innovative and able to learn and adjust to changing economic and social environments. As such, it refers to the adaptive capacity of people to access opportunities. The process of human capital development concerns the creation of an enabling environment in which people can develop their full potential and lead productive, creative, lives in accordance with their needs and interests.

The definition of human capital stresses the concept as primarily, although not exclusively, centred around human capability and productivity engendered through knowledge and skills acquired from education, training and experience, and facilitated by an enabling environment. It development of human capital implies building an appropriate balance and critical mass of human resources and providing an enabling environment for all individuals to be fully engaged and to contribute to national development efforts.

Uganda has a low comparative world ranking on the Human Capital Index. It is currently ranked 106th out of 122 countries on the overall Human Capital Index (WEF, 2013:13), and 118th out of 122 countries in respect of the Educational Pillar of the Human Capital Index Ibid, p14).



The Business, Technical and Vocational Education and Training (BTVET) Strategic Plan 2011 – 2020 (MoGLSD, 2011) for Uganda, identifies the absence of and the urgent need for a comprehensive process to develop occupationally relevant skills and competencies, including skills for the oil and gas sector. The Oil and Gas Policy (MEMD, 2008:27) emphasises the provision of support for the development and maintenance of national expertise, including planning for the development of formal and industrial training and broadening the national education curricula in preparation for putting the necessary oil and gas workforce in place in the country.

The Industrial Baseline Survey, undertaken by CNOOC in collaboration with Total and Tullow (Hamman, 2014:29) states that it is evident that Uganda is currently unable to meet the manpower demands of the oil and gas sector and recommends, among other things, that oil and gas operators such as CNOOC (i) in partnership with government work towards strengthening the educational system; (ii) offer direct support to existing training institutions of repute; and (iii) the establishment of a technical and vocational education and training (TVET) centre, aimed at providing competence development for, inter alia, craftsmen (civil) and mechanical and electrical technicians required by the oil and gas industry. CNOOC is directly involved in this process.

Apart from this, CNOOC invests in Human Capital Development directly through the introduction of training programmes intended to increase the productivity and effectiveness of personnel (as described earlier). It is, as well, investing in the development of essential knowledge and skills required by the modern economy, including the oil and gas industry. This includes the provision of bursaries, engaging in partnerships with local vocational institutions in Kikuube and Hoima Districts for the expansion of existing skills and vocational training programmes as well as direct support to schools in its area of operation.

Beneficial impacts will be permanent, providing skills that can be used by the beneficiaries throughout their working lives. Job applicants will be sourced regionally, within Uganda, so the benefit will extend beyond the local area. Magnitude (at this geographic scale) will only be low to medium and impact significance will be **high medium**. With the implementation of the recommended measures to enhance key aspects such as TVET and STEM education and training, the overall significance rating can be increased to that of a **high** positive impact.

5.2.3.2 *Impacts Retarding Economic Development* *Over-dependence on the Oil Sector*

There is a risk that the Ugandan economy becomes heavily biased towards the support of the economic sectors that are directly or indirectly linked to and dependent on the oil sector¹⁶⁷. Given its importance for Uganda, the oil industry is set to become a dominant economic driver, potentially precipitating a “resource push” (also sometimes referred to as a “resource pull”) approach to growing the Ugandan economy. Should this happen, it will trigger development that is economically biased in favour of the oil industry and allied support services with an associated weakening of efforts to build technological capacity and a diversified economy.

Fluctuations in oil prices and Uganda’s longer-term ability to supply oil or decreasing levels of supply could create severe economic hardship for local businesses that are dependent on oil industry expenditure. Impacts will be long term, regional extent, negative and of **high** significance in the absence of appropriate interventions.

Although CNOOC cannot provide the lead in governance related issues, it can act as a persuasive and influential partner in promoting the development of a stable and diversified economy, at least within Kikuube and Hoima Districts. With diversification, this impact could become positive.

¹⁶⁷ This effect, known as the “resource curse” is widely debated (see Eggert 2001 for detailed review of arguments); this reference is centred on mining, the principles are the same for the oil and gas sector, but there is consensus that large increases in extractive industries can have negative impacts on economic and social performance. This is most common when extractive industries reduce the productivity from other sectors by attracting limited human capital and other productive resources.



Competition for Experienced Labour

The operational phase of the project is likely to exacerbate the current shortage of experienced labour in Hoima and Kikuube Districts and the region as a whole. Sourcing experienced workers from the district will drain available skills away from existing businesses, increasing scarcity of experienced personnel and increasing the cost of labour. While this is a benefit for already-skilled labourers, who will have increased demand for their services and potentially higher earnings, it will create a shortage of labour elsewhere, which will cumulatively impact on the entire Albertine region. Without mitigation, this impact will be long term, of medium magnitude and **low medium** significance.

Impact on Land and Property Rates

Local knowledge of the proposed KFDA project has resulted in speculation for land, where individuals move into the area and claim land for themselves. According to villagers on the Buhuka Flats, these speculators sometimes have title deeds which have been acquired fraudulently. This practice has been successfully challenged at least once, with a prominent government official being jailed for fraudulent transactions. Despite this, it is reported that speculators continue to try to trade up the price of land in the local area. Without mitigation, this impact is likely to continue from the construction phase into the operational phase.

Coupled with a struggling land management system, issues about the ownership of land are likely to increase. This impact will extend beyond the construction phase into the operational phase and could reach a point at which hostilities begin to emerge. Impacts will be long term, local (mainly on the Buhuka Flats) of medium magnitude and **medium high** significance without mitigation.

Government Revenue Losses due to Corruption

While tax contributions are generally considered to be positive (see above), their impact can have mixed results. Non-transparent payment of taxes, particularly in the extractive industries, has led to corruption and lost benefits when revenues are not paid transparently and monitored. For this reason, since 2007, the IFC has required all of its extractive industry projects to publicly disclose their material payments to host governments (IFC 2006). It is expected that CNOOC will adhere to this requirement.

Raw material exploitation typically generates high “economic rents¹⁶⁸” which provides numerous incentives for public and private agents to engage (at times excessively) in “rent-seeking” behaviour. There has already been evidence of a conflict of interest being demonstrated by some politicians and officials who have acquired interests and rights because of privileged knowledge about, for example, the siting of the proposed development and the acquisition of land pre-emptively. Fortunately, the Ugandan governance system, including that related to local and traditional management, has been robust and willing to promote equity. This includes the successful conclusion of legal challenges lodged by community stakeholder groups related to corrupt land acquisitions by civil servants (e.g. on the Buhuka Flats).

Uganda has enacted several pieces of new legislation aimed at promoting extractive sector governance. Nevertheless, there are still opportunities for conflicts of interest in the public sector through – for example – politicians and even public servants holding interests in the construction sector at a time when the scale of public contracts is set to accelerate substantially. Although initially mooted as desirable and legislators under the Parliamentary Forum on Oil and Gas have continued to push, Uganda has not yet signed up for the Extractive Industry Transparency Initiative (EITI). This means that Uganda still stands outside a forum that would expect specific actions to be taken to enhance transparency and mitigate the misuse of natural resource revenues.

Proceeds from the extractive sector pose specific challenges to host governments. Kekembo (2017) states that “the sheer magnitude of revenues, the complexities of the fiscal arrangements as well as the high volatility of revenue flows can be a substantial burden for public financial management”. He further states that Ugandan membership of the EITI would, as well, provide an essential “feedback loop between the government and

¹⁶⁸ The oil and gas industry generates substantial economic rents, in that the commodity value most often exceeds the cost of production by a significant margin. Total economic rents available for sharing among stakeholders is defined as the amount by which the total value of the resource exceeds the total economic cost of producing the natural resource.



citizens. This increased sector transparency through the EITI disclosure, can discourage corruption and bad governance that has ravaged many resource-rich countries.”

It will be important that CNOOC avoids situations where it may be accused of complicity in graft or of embroilment in patronage. The fact that CNOOC is not a supporter company of the EITI and is on record (as partner in Tullow) of declining to publish all its payments to the Ugandan Government has created a sense of unease amongst human rights campaigners. Irrespective of the accuracy of this perception, CNOOC has the opportunity, including through association with initiatives such as the EITI, to exert significant moral persuasion as well as real assistance to government as well as civil society in fighting corruption in the oil and gas sector. Its participation in the UN Global Compact and associated commitment to the 10 Principles of the UN Global Compact, in particular Principle 10, which states that “Businesses should work against corruption in all its forms, including extortion and bribery”, would reinforce this potential. Without these measures, this impact has the potential to be negative, with long term, regional consequences of **high medium** significance.

Lack of Funding to District Government

Kikuube and Hoima District Councils will benefit from the CNOOC development through a number of revenue streams. These include levying local taxes, greater property taxes as well as enhanced economic development and prosperity at district, parish and sub-parish level.

However, Hoima is currently underfunded, and it is unlikely that it will derive enough additional income to service the burgeoning development expected on the Buhuka Flats, particularly if there is a marked increase in population due to in-migration (refer to Section 5.1.6). Currently, for example, Hoima is allocated a mere 10% of its budget requirements for road maintenance¹⁶⁹ which makes it impossible to adequately manage and maintain existing roads.

The need to establish enabling infrastructure and a service-related environment in communities around the KFDA project will exacerbate the local government’s capacity problems in this regard. Hoima will need to fund infrastructure, service delivery and maintenance (including road maintenance) to create a stable environment around the KFDA project. This includes the need to provide adequate water and sanitation services, electricity, policing, regulatory enforcement and other essential services. In the absence of this, CNOOC faces the likelihood of community demands to take responsibility for these services itself, becoming, in effect, the government by default. This could create an extremely volatile situation, with service delivery protests on the Flats and a significant increase in the risk of violence affecting CNOOC personnel.

The impact will be long term and of potentially very high magnitude. The sensitivities are particularly high, given the high probability (perhaps definite) risk of civil unrest if material development benefits do not materialise to offset the cultural and social change that the Flats inhabitants will have to accommodate. Without mitigation, impact significance will be negative and **of high** significance. Alternatively, if Government plans to provide local services are timeously introduced, this impact can be reversed with positive social outcomes in the Buhuka Flats community and surrounding area.

5.2.3.3 Impacts due to In-Migration

The influx associated with the escarpment access road is already causing tension within and between communities on the Buhuka Flats. With continuing population influx in response to expectations about work and business opportunities associated with the KFDA project, the land speculation described above is expected to worsen. Increased populations, particularly of foreign inhabitants, will dilute local government influence, as newcomers may be unfamiliar (or disagree) with the existing leadership structure, and may also exacerbate grievances if Government does not commit to and implement development plans on the Buhuka Flats. Under these conditions, the risks of civil protests and violent confrontations will increase. A sign of future relationships is already evident, with some communities in the SIA focus group meetings demanding that CNOOC provide services and preferential treatment regarding future work. Without mitigation, this impact is expected to have very high magnitude, and will be long term, local, definite and of **high** significance.

¹⁶⁹ Hoima District Council Officials (2017) Personal Communication





5.2.3.4 *Impact Mitigation and Monitoring*

The following mitigation measures are proposed:

5.2.3.4.1 **National, Regional and Local Economic Development**

Increase in Government Revenue:

Support the implementation of all requirements of the Oil and Gas Revenue Management Policy of the Ministry of Finance, Planning and Economic Development.

National and Regional Economic Growth:

- Promote economic development and infrastructure improvement in the project area and the Hoima District in a partnership with central, regional and local government to develop a comprehensive infrastructure, services and local economic development plan; and
- Finalise the development and implementation of the Community Development Plan (CDP), including relevant aspects of livelihoods restoration and resource management planning set out therein, as well as provided for in the Alternative Livelihoods Restoration Plan.

Local Business Development:

- Develop comprehensive strategies to build the capacity of local service providers to compete within the local and regional business environment, ideally on a diversified basis that does not only serve the oil industry;
- Develop a local procurement policy and steadily increase project spend in support of local capacity and the further development of the business supply chain through appropriate purchasing and business development strategies;
- Identify and support programmes (including related to micro-financing) in support of vulnerable groups as required (elderly, single women or child headed households) in settlements most directly impacted by the development; and
- Maximise local procurement of goods and services, wherever reasonably possible. CNOOC has committed to this principle, which is expected to apply to the construction contractors responsible for the feeder pipeline as well.

Human Capital Development:

- Collaborate with the Petroleum Authority of Uganda (PAU), which is tasked with establishing, maintaining and operating a national human capacity register for the petroleum sector to ensure that CNOOC contributions in the form of bursaries and scholarships support the development of an appropriately skilled labour force;
- Align the CNOOC Education and Training related support initiatives as well as in-house training and competency development of Ugandan nationals with the critical and scarce skills requirements of the Oil and Gas sector;
- Consider promoting a process of Recognition of Prior Experience (RPE) and Recognition of Prior Learning (RPL) in collaboration with tertiary technical training institutions that will allow the accrual of credit for informal and non-formal skills development into the formal skills development sector;
- Promote STEM at school level by incorporating support to the development of science laboratories at schools, strengthening education in maths and science at schools and the development of well-stocked school libraries as a specific focus of CNOOC Corporate Social Responsibility (CSR); and



- Support initiatives that will promote and strengthen the levels of competence of master artisans and crafts persons within the Technical Education and Training (TVET) system, and design mechanisms that will support the entrance of female scholars into TVET institutions.

5.2.3.4.2 Impacts Retarding Economic Development

Over-dependence on the Oil Sector:

- Ensure that the Community Development Plan (CDP) for the Buhuka Flats and surrounding areas includes a focus on mechanisms that will promote an inclusive business development approach, in particular focusing on innovative technologies and solutions for environmental protection.
- Ugandan government to consider investment in broad-based economic development in the Districts, promoting traditional sectors such as agriculture, which will serve to reduce oil-related dependence.

Competition for Experienced Labour:

- Develop and implement training and skills development programmes in the production workforce to expand the human capital available within the local economy; and
- Consider offering bursaries or internships to promising students (refer to discussion on the community development impacts) to build a sustainable and educated future workforce.

Impact on Land and Property Rates:

- It is recommended that the project engages closely with governmental authorities to monitor land ownership and changes thereto surrounding the project development;
- Prepared to accommodate the changes arising from the population influx by sensitising the LC system. This is particularly important, as it is at this level that the stability of a village is decided, including the establishment of checks and balances for maintaining individual rights and responsibilities, and for managing crime; and
- Support work to develop comprehensive land policies. This includes support for Government capacity to do strategic, long-term land use planning that protects small holder farmers and helps balance multiple uses of land, including for oil and gas extraction.

Government Revenue Losses due to Corruption:

- Ensure that CNOOC meticulously implements all anti-corruption, business ethics related and internal compliance Policies and Programmes already in place, including the CNOOC Limited Code of Commercial Behaviour and Conduct of Employees, the Procedures for Handling Violation of Rules of CNOOC Limited Employees as well as its Guidelines for Overseas Operation with Compliance of CNOOC;
- Promote transparency in reporting of all revenue payments to the GoU and, especially, consider becoming a member company of the EITI. Publicly disclose the material payments made to the Ugandan Government. This should be in accordance with IFC anti-corruption guidelines. CNOOC should continue to follow its internal anti-corruption prevention and management system to minimise corruption and malpractice cases, or to deal with these when they do occur;
- Comply with the objectives of the National Oil and Gas policy and legal framework with regard to oil and gas development and benefits to the citizenry, and meet relevant National laws and regulations, policies and action plans, and international best practice, to ensure compliance with a high standard in the prevention of graft and corruption. CNOOC Limited is a member of the UN Global Compact, and therefore all its global operations, including CUL, are committed to fully comply with Principle 10 of the Compact related to anti-corruption, which stipulates the requirement that it must work against corruption in all its forms, including that related to bribery and extortion; and



- Voluntarily collaborate with and support multi-stakeholder forums that engage questions of ethics and corruption in the oil and gas industry, including Civil Society Organisations, NGO coalitions as well as the Uganda Human Rights Commission (UHRC).

Lack of Funding to District Government:

- Contribute to economic development and infrastructure improvement in the project area, in partnership with central, district and local government. Government to finalise, review and implement plans for structured urban development on the Buhuka Flats; and
- Develop a transparent community development and contribution policy.

5.2.3.4.3 In-Migration

- Engage closely with government to monitor land ownership and changes thereto surrounding the project development;
- Implement the recommendations of the Influx Management Strategy and Framework Plan; and
- Prepare to accommodate the changes arising from the population influx by sensitising the LC system. This is particularly important, as it is at this level that the stability of a village is decided, including the establishment of checks and balances for maintaining individual rights and responsibilities, and for managing crime.

5.2.3.5 Impact Significance Rating

Table 62: Operational phase economic impacts

| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|---|----------------|----------|-------------------|-------------|-----------------|-----------------|----------|-------------------|-------------|-----------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Regional and Local Economic Development | | | | | | | | | | |
| <i>-Increase in Govt. Revenue</i> | 9 | 4 | 4 | 5 | High +85 | 9 | 4 | 4 | 5 | High +85 |
| <i>-Impact on national and regional economic growth</i> | 6 | 5 | 3 | 5 | High Medium +70 | 8 | 5 | 3 | 5 | High +80 |
| <i>-Impact on Local economic development</i> | 7 | 5 | 2 | 5 | High Medium +70 | 9 | 5 | 2 | 5 | High +80 |
| <i>-Human Capital Development</i> | 6 | 4 | 3 | 5 | High Medium +65 | 9 | 4 | 3 | 5 | High +80 |
| Factors Retarding Economic Development | | | | | | | | | | |
| <i>-Overdependence on the oil sector</i> | 8 | 4 | 3 | 4 | High Medium 60 | 6 | 4 | 3 | 4 | High Medium +62 |





| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|--|----------------|---|-------------------|-------------|-----------------|-----------------|---------------------------|-------------------|-------------|---------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| -Competition for experienced labour | 6 | 4 | 3 | 4 | Low Medium 52 | 2 | 2 | 3 | 4 | Low 28 |
| -Impact on land and property rates | 9 | 4 | 2 | 4 | High Medium 60 | 4 | 2 | 2 | 3 | Low 24 |
| - Govt revenue losses due to corruption | 8 | 4 | 3 | 4 | High Medium 60 | 4 | 4 | 3 | 2 | Low 22 |
| -Lack of funding to District Govt | 9 | 4 | 2 | 5 | High 75 | 9 | 4 | 2 | 5 | High +75 |
| Impact of In-Migration | 9 | 4 | 2 | 5 | High 75 | 4 | 4 | 2 | 4 | Low Medium 40 |
| KEY | | | | | | | | | | |
| Magnitude | | Duration | | | Scale | | Probability | | | |
| 10 Very high/ don't know | | 5 Permanent | | | 5 International | | 5 Definite/don't know | | | |
| 8 High | | 4 Long-term (impact ceases after closure of activity) | | | 4 National | | 4 Highly probable | | | |
| 6 Medium | | 3 Medium-term (5 to 15 years) | | | 3 Regional | | 3 Medium probability | | | |
| 4 Low | | 2 Short-term (0 to 5 years) | | | 2 Local | | 2 Low probability | | | |
| 2 Minor | | 1 Transient | | | 1 Site only | | 1 Improbable | | | |
| 1 None/Negligible | | | | | | | 0 No chance of occurrence | | | |
| Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: + | | | | | | | | | | |

5.2.4 Community Health, Safety and Security Impacts

The Health Impact Assessment for the project (APPENDIX B) provides a systematic evaluation of the twelve Environmental Health Areas (EHAs) of project-triggered health impacts. The EHA framework is used in the 2007 IFC Guidance Notes for Performance Standard No. 4, Community Health, Safety, and Security. These impacts are related to health and safety of communities in and around the project area, and include housing, diseases, accidents and injuries, crime and nuisance.

The impacts described in this section are covered in more detail in Chapter 7 of the ESIA Volume 3, under the Construction Phase, when there will be over 1,200 contract personnel on site. Personnel numbers will reduce during the operational phase to a full-time staff compliment of around 120 personnel, resulting in a decrease in negative health and safety risks in surrounding communities, although these impacts will become long term.

5.2.4.1 Impact of Diseases

Sexually Transmitted Diseases

Fewer personnel on site after decommissioning of construction activities will reduce the potential impact of the project on the local spread of STD's. The implementation of the project's environmental management system is also likely to improve over time, once the construction phase is over. However, without specific management control, there is a continuing risk of the spread of project-related STDs as a result of the operational phase of the project, particularly if CNOOC policies relating to the control of HIV/AIDS and other STDs are not fully implemented. Project personnel with money to spend will be an attraction to young women in the local





community with no other way of earning a living. As in the construction phase, in the absence of appropriate control, impacts are expected to be long term, promoting the regional spread of HIV and other sexually transmitted diseases, definite and of **high** significance.

Vector-Based Diseases

Malaria is prevalent in the local community and the project is unlikely to exacerbate the spread of the vector once the construction phase is completed, when the numbers of personnel on site are reduced and disturbed areas where water could pond and provide breeding sites for mosquitoes are rehabilitated. Impact magnitude will remain high, but the likelihood of spreading the disease should reduce, resulting in long term impacts of **low medium** significance. With interventions by CNOOC, the project could contribute positively to the control of malaria in the LSA.

Non-Communicable Diseases

The introduction of large numbers of newcomers into what has been, until recently, a 'sheltered' area, may contribute to the current disease burden in communities in the Local and Regional Study Areas. Differences in lifestyle between incoming individuals and groups may alter the incidence of non-communicable diseases, such as diabetes, hypertension and cardiovascular disease. Should this happen, local health services will be ill equipped to offer appropriate infrastructure or services. This impact will be negative, long term, regional and of **low medium** significance. With interventions by CNOOC, the project could contribute positively to the control of non-communicable diseases in the LSA.

Water-Borne Diseases

The main reason for project impact on water-borne disease would be uncontrolled defecation by project personnel in the project area, particularly in or near water courses. This issue is discussed under the construction phase and proposals are made to manage it. Once the construction phase is over and the project settles into a routine, the likelihood of this continuing is small, subject to the training of personnel and contractors and the provision of adequate, clean, toilet facilities at locations which are convenient to access. These impacts will be local, long term and of **low medium** magnitude and significance, reduced to **low** significance with appropriate management.

5.2.4.2 Impact on Pollution

Treated Sewage Effluent

Treated sewage effluent in excess of approximately 45 m³/day will be discharged from a sewage treatment plant at the permanent camp, while a similar quantity of around 50 m³/d will be discharged from the drilling camp while drilling continues. Treated sewage effluent from the drilling camp is used on the lawns and gardens at the camp.

The camp effluent will be required to meet the project standard for domestic effluent, which is based on the Ugandan legal standard. Details are not available at present but it is likely that the final effluent, after chlorination, will be delivered into River 1 north of the EPC camp. Section 7.1.2.2 of the ESIA Volume 3, Chapter 7 describes the potential biological response to increased nitrogen and phosphorous entering the lake just south of well pad 2, and the possibility of creating algal blooms (particularly water hyacinth) in the nearshore environment around the discharge point. From a social perspective, this could decrease access to the water to local fisherman, creating more difficult fishing conditions. It could also impact on fish stocks, although this would probably be very localised. In the absence of mitigation, the social aspects of this impact are considered to be of high magnitude but local in scale, long term and of **high medium** significance. It is recommended that the measures described in Section 7.1.2.1.1 of the ESIA Volume 3, Chapter 7 in relation to disposal of treated sewage effluent via irrigation be implemented within the areas indicated in Figure 5. This should continue through the operational phase.



Domestic Waste Generation

Ugandan legal requirements for the management of domestic waste include avoidance, minimisation, recycling/re-use followed by disposal as the last option. CNOOC will be required to comply with this standard for domestic waste management at the CPF, wells and permanent camp. In the absence of proper management, impacts are potentially of **high medium** significance, particularly if wastes were left in the open in areas of public access, where there could be leaching to groundwater, where dogs or other animals could gain access to it. Section 7.1.2 of the ESIA Volume 3, Chapter 7 provides further details.

5.2.4.3 Impact on Community Safety

Traffic and Pedestrian Safety

The risks of traffic accidents and injuries affecting communities will reduce during the operational phase, with vehicle traffic and general project activity outside of the defined working areas being far less than that experienced during construction. Nevertheless, a number of villages on the Buhuka Flats (Nsunzu, Nsonga, Kyabasambu and Kyakapere) are close to ongoing project activity and pedestrians and stock are likely to use the escarpment road and the infield roads. This will pose an ongoing risk to communities, particularly to children and stock. Without appropriate controls in place to manage vehicles and traffic, train and monitor drivers and educate the communities about traffic risks, traffic could result in injuries of high magnitude (disabling injuries or fatalities), with risks extended over the lifetime of the project (long term), being highly probable or definite, long term and of **high** significance.

Release of Hazardous Materials or Waste

Under normal operating conditions, health impacts caused by community exposure to hazardous products or emissions (process waste streams, spilled chemicals) are expected to be negligible, with the exception of possible small spillages of hazardous materials outside of controlled areas if not carefully managed (see Section 7.1.2 on surface and groundwater impact and Section 7.1.1 on air quality impact of the ESIA Volume 3, Chapter 7 and the associated specialist studies). No liquid process emissions (with the exception of treated sewage effluent) will be released from the CPF. All produced water will be disposed down reinjection wells and hazardous waste generated at the CPF and on the well pads will be collected and disposed of by hazardous waste contractors at a certified hazardous waste disposal site. Spillages of oil and other hazardous materials within the working areas of the plant and on the well pads will be collected, either in the closed drain system (for processing areas where oil spills are likely) or in the open drain system (where occasional spillage is possible). In both cases, these spillages are managed, in terms of the design, to eliminate the risk of any discharge of oil-contaminated water. Where chemical discharges are expected, such as from the laboratories, these are separately contained, treated and tested prior to release, to ensure that no harmful substances that exceed the project standards are discharged (refer to Volume 4, Specialist Study 5, and Section 7.1.2 of the ESIA Volume 3, Chapter 7).

Impact will depend on whether there is sufficient redundancy and management control built into the systems to prevent hazardous products or wastes from escaping from the controlled areas. The risks of major accidents are discussed in Section 10 of the ESIA Volume 3, Chapter 7. The probability of small spillages outside of controlled areas is at worst medium, but in the event of their occurring in the sensitive social environment of the Buhuka Flats, they could nevertheless cause health impacts of very high magnitude and long duration, with **high** significance. The most effective form of management would be avoidance, by ensuring that effective management systems are in place to prevent spillages, but where mitigation is necessary, to ensure that there is sufficient redundancy in the pollution control systems to contain any spillages are out of specification wastes within the controlled areas.

Violence and Crime

Violence and crime are already significant problems on the Buhuka Flats. Women, in particular, are subjected to high levels of sexual assault and rape, with female child defilement seen as a particularly severe problem



in the villages along Lake Albert.¹⁷⁰ Uganda is ranked 38th in the world on the UNDP's Gender Inequality Index and child marriages are prevalent, particularly in traditionally rural areas such as the Flats.

In the absence of strict policies relating to the interaction of the personnel at Kingfisher production facility with local inhabitants, there are likely to be occasional violent incidents, typically fuelled by drug use or alcohol, or by sexual relationships with local women. A lack of courtesy and discipline will stir up antagonism in relationships between project workers and local people, and arrogant attitudes displayed by workers, who are generally wealthy compared with community members, may also spark confrontations. These issues can generally be managed by a zero tolerance approach to aggression and violence among workers, and by training of staff to be thoughtful and courteous to local inhabitants, but in unmanaged conditions can be an important concern. Incidents are highly probable in the absence of mitigation, causing impacts of medium magnitude and **high medium** significance. With appropriate management, this impact can be minimised and will be of **low** significance.

Fires

Project teams doing hot work create a risk of fire which could escape into the surrounding environment. Similarly, careless disposal of cigarettes by personnel working outside of controlled areas may also increase fire hazard in the local environment. Bush and grass fires on the Buhuka Flats would be a major risk to anyone unable to escape. Housing is clustered close together and most homes have rooves that are thatched. The probability of this impact is medium, but in windy conditions the magnitude of impact could be very high, with long term consequences. Impacts will be of **low medium** significance reducing to **low** significance with appropriate management.

5.2.4.4 Impact of Nuisance

Noise Nuisance

Noise nuisance will remain a major impact for the remaining period of drilling in the operational phase (5 years), at the locations where the drilling is taking place. There will be one drilling rig on site that moves between the well pads over the 5-year period. The villages closest to the rig will experience elevated noise levels over an extended period. Impacts will be most severe at night, since drilling is a 24-hour operation. The traditional housing along the lake shore (clay bricks, thatched roof, no ceiling) provides little protection against noise (for details, refer to Section 7.1.3 of the ESIA Volume 3, Chapter 7). Mitigation will reduce the impact, but it will still exceed the Ugandan and IFC standards at many households and significant residual impacts will still result. Once drilling is complete, noise impact in the surrounding community caused by the production facility will be minor. This impact is not rated in this section - refer to Section 7.1.3 of the ESIA Volume 3, Chapter 7 and Volume 4, Specialist Study 6 for details.

Dust Nuisance

Impacts of combustion (mainly NO₂) at the production facility are not expected to cause nuisance nor are nuisance - odours expected to be significant. These impacts are not rated here - refer to Section 7.1.1 of the ESIA Volume 3, Chapter 7 and Volume 4, Specialist Study 1 for details.

5.2.4.5 Major Accidents

Major accidents could cause highly significant impacts in surrounding communities, resulting in injuries, impact on livelihoods (spillage affecting the Lake Albert), or other major effects. These impacts are considered under 'Unplanned Events' in Section 10 of the ESIA Volume 3, Chapter 7.

5.2.4.6 Impacts of In-Migration

Population increases in the LSA are expected to have a wide range of consequences affecting community health, safety and security, most of which will be negative. They will include:

¹⁷⁰ Kyabasambu Women's Group (2017) Public Consultation Process





- Vector-related diseases: Malarial risks in communities may increase as a result of increases in areas where seasonal ponding can occur. Increased solid waste generation, in particular during the rainy season, may create additional mosquito breeding grounds for the malaria vector due to reduced predation;
- Sexually transmitted diseases: Foreign migrants, particularly single males, often cause an increase in STDs in the areas in which they reside;
- Water borne diseases: Water on the Flats is presently sourced either from the lake or from the gravity flow scheme. Above the escarpment most potable water comes from boreholes. Cholera and typhoid are already constant problems due to poor sanitary practices. Where outdoor toilets exist they are generally unhygienic and do not prevent the leaching of organic pollutants into local groundwater and surface water. Households dispose of solid waste and waste water beyond the homestead, including into the lake, which is also used for bathing and drinking water. Increasing population pressures and even poorer sanitation typically associated with migrants' habitation will aggravate the existing problems on the Flats and above the escarpment.
- Health Services: Migrants will increase pressures on health services, causing a further decrease in the already limited capability
- Crime: There is already an increase in crime which is attributed by local people to 'foreigners' migrating into the LSA. The opening of the escarpment road has allowed easy access to and from the Flats which facilitates opportunities for crime such as stock theft. Gender crime has become a major issue.
- Fire risks: The proximity of thatched housing to each other, coupled with the frequent use of wood fuel fires, creates the danger of localised household fires spreading rapidly through villages, which will be exacerbated by in-migration and further densification of the villages. The settlements along Lake Albert are characterized by dense mixed housing combinations of traditional round thatched huts, rectangular mud and wattle structures with tin roofs and 'flat roofs' or 'long houses' (brick buildings with flat corrugated iron roofing). Wattle and mud structures and flat roofs are frequently rented out, with single room accommodation for up to four families per structure. In some instances, a single (long house) structure may provide rental accommodation for up to 40 people. In an environment such as this, the risks of mortality due to a fire are extremely high.
- Food and Nutrition-related Diseases: Migrants will increase sanitation risks on the Flats, increasing the risk of contamination of food products. Increasing pressure on grazing resources, medicinal plants and other natural resources will further reduce their availability to the existing local population.
- Zoonotic diseases: The increasing incidence of livestock grazing on the Flats brought in by migrants may pose an additional burden of zoonotic diseases, such as increased exposure to ticks. Historically, the livestock on the Flats has remained generally free of ticks in part through elements of natural resistance as well as through isolation from other herds.

Overall, the magnitude of health safety and security impacts due to in-migration will be very high, long term to permanent, and of **high** significance.

5.2.4.7 *Impact Mitigation and Monitoring*

The following specific mitigation measures are proposed (impact mitigation for emergencies is included in Section 15 of the ESIA Volume 3, Chapter 7):

5.2.4.7.1 *Impact of Diseases*

- Ensure that induction programmes are held for all new employees, as well as ongoing sensitisation for new as well as existing employees about the Employee Code of Conduct. A copy of the Code of Conduct is to be presented to all new workers post induction, and signed by each person. The Code of Conduct must continue to address the following aspects:



- respect for local residents and customs.
- zero tolerance of bribery or corruption.
- zero tolerance of illegal activities by construction personnel including prostitution, illegal sale or purchase of alcohol, sale, purchase or consumption of drugs, illegal gambling or fighting.
- zero tolerance policy of drunkenness and no alcohol and drugs policy during working time or at times that will affect ability to work or within permanent camp or acquired from outside the camp whilst accommodated in the camp.
- a programme for drug and alcohol abuse prevention and random testing that is equivalent in scope and objectives to the policies prescribed in the Code of Conduct.
- description of disciplinary measures for infringement of the Code and company rules. If workers are found to be in contravention of the Code of Conduct, which they signed at the commencement of their contract, they must face proportionate disciplinary procedures.
- Update and publicise the Code of Conduct in the settlements potentially affected by operations as well as the permanent camp as part of the community relations plan. This will help ensure that the local residents are aware of the expected behaviour of operational staff. Posters with the Camp Rules should also be posted in neighbouring settlements or lodged with the LC1 of each village and communication related to such rules monitored;
- Ensure that entertainment facilities for workers at the permanent accommodation camp meet the reasonable needs of operational staff and continue to apply clear rules for conduct during leisure time as well as the need to remain within the camp boundaries during leisure time;
- Provide appropriate sporting facilities, including organised sporting activities for workers at the permanent accommodation camp;
- Implement interventions aimed at reducing the impacts of vector borne diseases through mechanisms such as sanitary improvements and minimising areas where water is impounded as a result of operational related activities;
- Ensure that no waste whatsoever, including operational waste is dumped in watercourses or at any site that impacts on villagers or their land use;
- Ensure that the CNOOC use of water does not disturb public water availability and that sources of water are carefully selected.
- Support the development of a Community Health Information System (CHIS) to monitor specific key health indicators in a longitudinal fashion, including to monitor the BOD from malaria and other mosquito-borne diseases in partnership with the district health authorities;
- Develop community-based anti-mosquito interventions in partnership with the Ugandan National Malaria Control Programme (NMCP) and related national strategies;
- Encourage mosquito source reduction in communities through environmental control mechanisms based on community work groups;
- Develop health intervention programmes in support of community nutrition education and health programmes, including school deworming and feeding schemes and the promotion of food gardens for roll-out into the settlements impacted by the operations. As part of the process, mobilise NGOs and CBOs that operate in this space;
- Establish a baseline and surveillance system for a knowledge, attitude, practices (KAP) survey on ways TB is transmitted and prevented, BOD from ARIs, and questionnaires on specific environmental hygiene determinants related to housing and influx;





- Evaluate opportunities for health systems strengthening (HSS) with government and key partners for improved case detection and treatment of TB especially from Buhuka Flats and the immediate escarpment area as well as training on the management of integrated management of childhood illness (IMCI) to support care for ARIs;
- Evaluate opportunities for health systems strengthening (HSS) with government and key partners for the detection of MDR-TB in the district, by supporting the use procurement and use of the GeneXpert diagnosis system in the public health system;
- Support community-based information, education and communication (IEC) campaigns to promote improved knowledge and awareness of TB, other infectious diseases and their associated determinants;
- Re-assess project impacts on community-dependent ecosystem services and develop corresponding mitigation measures. This includes the design and development of appropriate environmental health programmes to reduce the potential risk of airborne pollutants such as dust, which may impact on community health;
- Develop educational materials regarding the prevention of water, sanitation and waste related diseases;
- Monitor changes to footprints of animal husbandry activities adjacent to the CNOOC facilities;
- Develop and maintain epidemic preparedness policies and programmes to reduce the impact of any suspected or confirmed outbreak of a communicable disease at the local level;
- Plan and regularly update outbreak control risk assessments by keeping abreast of pandemic alerts through WHO notifications. Project outbreak management plans should align and be integrated with local government outbreak response systems;
- Develop and maintain strong relationships with local health authorities to receive local disease outbreak reports; and
- Support the improvement of veterinary public health services in study area, including preventive programs such as vaccinating and sterilizing dogs, vaccinating livestock and the control of public slaughter of livestock.

5.2.4.7.2 Pollution of water courses

- Ensure that no waste whatsoever, including construction waste is dumped in watercourses or at any site that impacts on villagers or their land use; and
- Ensure that the use of water does not disturb public water availability.

5.2.4.7.3 Impact on Community Safety and Security

- Ensure the ongoing implementation of the Community Health, Safety and Security Plan and an Emergency Response Plan as required to meet IFC performance standard 4;
- Incorporate and integrate the Voluntary Principles on Security and Human Rights into CNOOC operational related security management policies, awareness creation and training materials and procedures and assessment processes;
- Communicate regularly with stakeholders about the CNOOC operations as well as plans in support of community initiatives, as a means of reducing local unease or resistance. It is a critical requirement that CNOOC builds trust with its stakeholders in respect of the continuing safe operation of all facilities;
- Ensure the ongoing functionality and accessibility of the grievance procedure that has been implemented for the local community, and that complaints related to CNOOC contractor or employee behaviour that infringes on the health, safety or security of community members that are lodged are responded to in a satisfactory manner. The grievance procedure must include ongoing efforts in respect of:



- Circulation of contact details of community liaison officers or, if separate, of 'grievance officers' or other key contact.
- Circulation of details of the Witness NGO as well as the mechanisms to access the NGO.
- Raising of awareness amongst the local community regarding the grievance procedure and how it will work.
- Establishment of a grievance register that is continuously updated and maintained by CNOOC.
- Provision of a mechanism to provide feedback to individuals, groups and village councillors regarding actions that have been taken in response to complaints lodged.
- Prepare an updated Traffic Management Plan. This is to be based on CNOOCs existing driving and traffic management plan [CNOOC, undated, Land Transportation Specification, UL-QHSE-L3 (GE)-023 Rev A], updated to accommodate specific aspects related to the operational phase of the project. The final plan should include provision for speed control along roads, requirements for training of drivers to ensure competence (including those of contractor's / suppliers), monitoring of driver hours and performance, tracking devices in vehicles to monitor speed limit compliance, monitoring of vehicle roadworthiness, requirements for warning signs along in-field roads, ongoing education of communities in the LSA, particularly children, and procedures to follow in the event of an accident;
- Construct pedestrian walkways along the perimeter of the in-field access roads. Educate local inhabitants to use these walkways and not the roads;
- Mechanisms for ensuring site security and associated access management onto CNOOC property;
- Rights and responsibilities regarding movement within the concession area;
- Specific 'no-go' areas as well as interaction with security guards and risks to those within and outside the project site posed by its security arrangements;
- Manage the risks of fire through specific management requirements for hot works and through education of personnel about careless behavior in respect of cigarette smoking;
- Ensure that transport and storage of hazardous materials and wastes are comprehensively aligned with regulatory and community health and safety compliance requirements;
- Ensure that relevant personnel are trained in safe transport, storage, use and handling of hazardous materials as well as use of spill kits and disposal practices;
- Ensure that any hazardous material storage areas are provided with containment measures as per regulatory and community health and safety compliance requirements;
- Provide support for the establishment of an appropriate crime prevention and policing forum in collaboration with role-players from central, district as well as local levels;
- Consider establishing a corruption and crime "whistle-blower" mechanism that allows for anonymous reporting, as well as issuing rewards for reports that are of critical importance in respect of crime and/or general security;
- Ensure that community forums are created in which landowners can raise issues and discuss with CNOOC staff any ongoing concerns about safety associated with Kingfisher operations or about crime believed to be related to the CNOOC infrastructure and facilities;
- Provide all stakeholders with contact details of maintenance and emergency staff at the production facility and ensure that this information remains updated. Local inhabitants will be CNOOCs eyes and ears in this regard, and can be of assistance in day to day monitoring of any events that should be noted or acted upon in relation to the safety and maintenance of CNOOC infrastructure and facilities;



- Ensure that maintenance staff wear CNOOC-branded safety vests and use CNOOC branded vehicles to provide land owners with an immediate means of distinguishing them from intruders;
- Establish reliable systems to monitor violence and crime at the community level; and
- Establish appropriate policies and management mechanisms for countering the use of CNOOC jetties or areas adjacent to them for illegal activities, including related to smuggling of goods out of or into Uganda via Lake Albert. Establish protocols with the appropriate authorities regarding the management of incidents.

5.2.4.7.4 Noise and Dust Nuisance Impacts

Implement all mitigation measures recommended by specialist studies related to, e.g. noise and air quality.

5.2.4.7.5 In-Migration

- Continue to implement the strategy for minimising in-migration defined in the Influx Management Strategy and Framework Plan (Volume 4, Specialist Study 11). This will need a combined effort by Government and all oil industry partners;
- Provide ongoing assistance to Government to engage in a partnership for local development as part of the programme to implement the Community Development Plan. This process should include practical mechanisms and mitigation strategies for the loss of grazing land caused by the project and the general loss of resources caused by increasing populations;
- Undertake a regular census in the area and, in collaboration with all relevant central, district and local authorities and develop strategic plans to ensure adequate provision of basic services such as housing, water and sanitation, power, education and health care.

5.2.4.8 Impact Significance Rating

Table 63: Operational phase impacts on community health, safety and security

| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|------------------------------------|----------------|----------|-------------------|-------------|----------------|-----------------|----------|-------------------|-------------|-----------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Impact on diseases | | | | | | | | | | |
| -Sexually transmitted diseases | 9 | 4 | 3 | 5 | High 80 | 4 | 4 | 3 | 4 | Low Medium 44 |
| -Vector related diseases | 8 | 4 | 3 | 3 | Low Medium 45 | 5 | 4 | 2 | 4 | Low Medium +44 |
| -Non-communicable diseases | 5 | 4 | 3 | 4 | Low Medium 48 | 5 | 5 | 2 | 5 | High +60 |
| - Waterborne diseases | 6 | 4 | 2 | 4 | Low Medium 48 | 4 | 4 | 2 | 2 | Low 20 |
| - Housing and respiratory diseases | 8 | 4 | 3 | 4 | High Medium 60 | 6 | 4 | 3 | 4 | High Medium +60 |





| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|--|----------------|---|-------------------|-------------|-----------------|-----------------|----------|---------------------------|-------------|---------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Impact of Pollution | | | | | | | | | | |
| - Treated sewage effluent | 8 | 4 | 2 | 4 | High Medium 56 | 2 | 2 | 2 | 3 | Low 18 |
| - Domestic waste generation | 8 | 4 | 3 | 4 | High Medium 60 | 4 | 4 | 3 | 2 | Low 22 |
| Impact on Community Safety | | | | | | | | | | |
| - Traffic and pedestrian safety | 10 | 4 | 2 | 5 | High 80 | 4 | 4 | 2 | 3 | Low 30 |
| - Release of hazardous materials or wastes | 10 | 4 | 2 | 5 | High 80 | 10 | 4 | 2 | 2 | Low Medium 32 |
| - Violence and crime | 7 | 4 | 2 | 5 | High Medium 65 | 3 | 4 | 2 | 2 | Low 18 |
| - Fires | 10 | 4 | 3 | 3 | Low Medium 51 | 4 | 4 | 2 | 2 | Low 20 |
| Impact of In-Migration | 10 | 5 | 2 | 5 | High 85 | 6 | 5 | 2 | 3 | Low Medium 33 |
| KEY | | | | | | | | | | |
| Magnitude | | Duration | | | Scale | | | Probability | | |
| 10 Very high/ don't know | | 5 Permanent | | | 5 International | | | 5 Definite/don't know | | |
| 8 High | | 4 Long-term (impact ceases after closure of activity) | | | 4 National | | | 4 Highly probable | | |
| 6 Medium | | 3 Medium-term (5 to 15 years) | | | 3 Regional | | | 3 Medium probability | | |
| 4 Low | | 2 Short-term (0 to 5 years) | | | 2 Local | | | 2 Low probability | | |
| 2 Minor | | 1 Transient | | | 1 Site only | | | 1 Improbable | | |
| 1 None/Negligible | | | | | | | | 0 No chance of occurrence | | |
| Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: + | | | | | | | | | | |

5.2.5 Housing, Land and Resource Impacts

The project will have no direct requirement for land once construction is complete and no further land take is expected that would impact on households or grazing. This impact is not rated below. Impacts will be related to increases in rental prices and restrictions on land use.





5.2.5.1 *Increased rental prices*

The industrial development on the Buhuka Flats will result in an increase in rentals for accommodation. The price of rented accommodation is likely to rise sharply. During the project's operational phase, migrants in search of work may look for rental accommodation rather than purchase new housing. As additional demand for housing emerges, there will be a sustained increase in rental prices. While this will benefit the owners of accommodation, it will make rental costs for existing tenants (particularly poor tenants) unaffordable. Impacts for poor inhabitants on the Buhuka Flats and above the escarpment who are obliged to rent will be of high magnitude and long-term duration, with **high medium** significance.

5.2.5.2 *Restrictions on Land Use*

The CNOOC project is a hazardous installation, and this study has recommended that a buffer is established around the CPF and other infrastructure, which prohibits further settlement or other built infrastructure (Figure 37). Other uses of land, including grazing could continue as they are at present. Based on the current settlement patterns these additional restrictions on use rights will have little impact on present land use and the impact will be long term, of low magnitude and **low medium** significance.

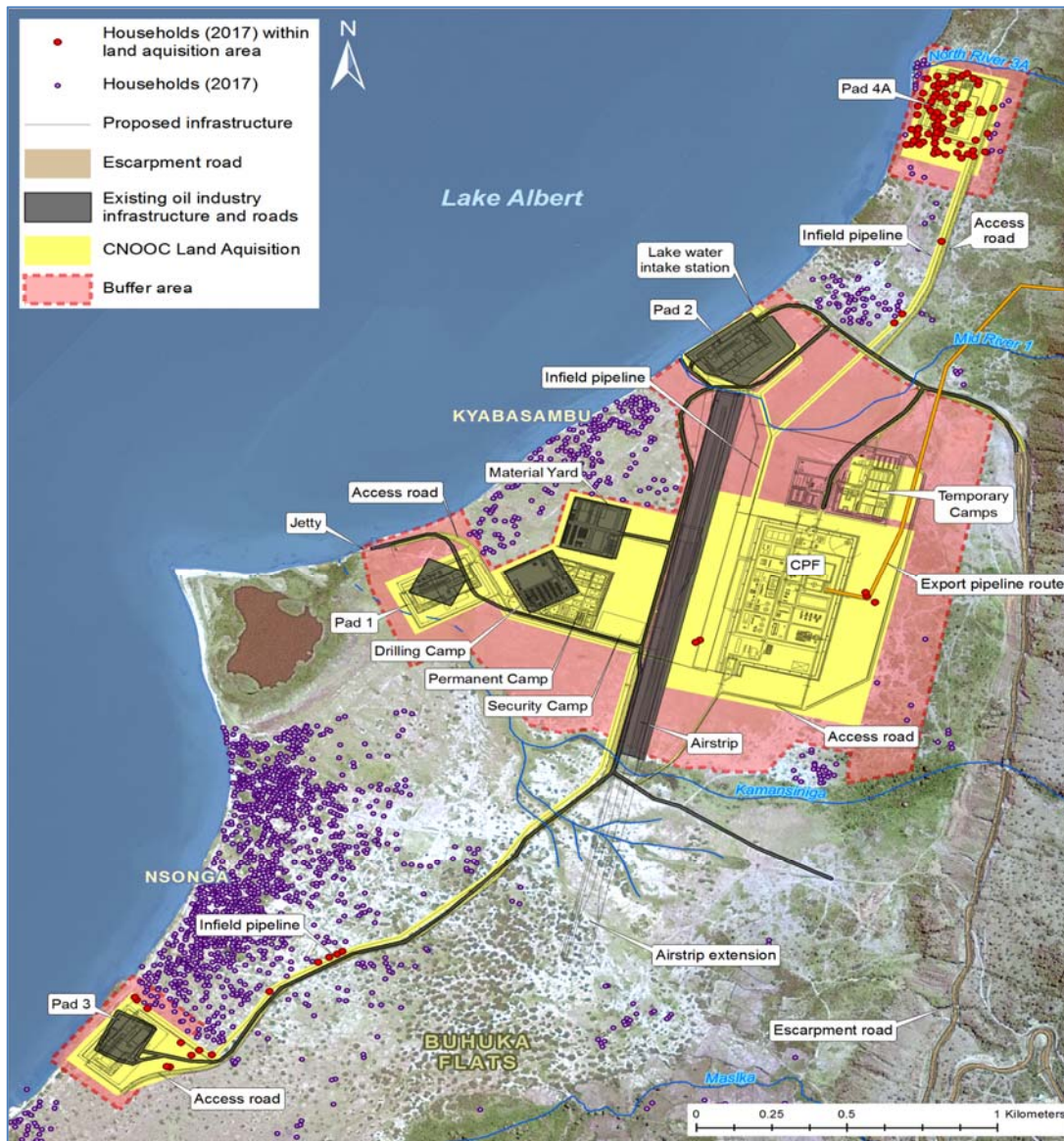


Figure 37: Proposed land use restrictions around the CNOOC Production Facility on the Buhuka Flats

5.2.5.3 Impact of In-Migration

The Buhuka Flats are likely to become a hub of small scale informal commercial activity, induced largely by the KFDA project and the good access to the lake fishery. This will encourage further settlement among migrants seeking work and opportunities, both on the Flats and above the escarpment. The following land and resource impacts are expected, caused by migrants:

- Opportunistic and uncontrolled fishing will increase significantly. Fish trade appears to be conducted across the lake into the DRC (e.g. at Panyimur, Bwera and Ntoroko), while vast quantities of silver fish of fingerling size are harvested and sold (primarily as poultry feed) within Uganda as well as in Kenya. With continuing settlement and uncontrolled access to the lake, the existing communities on the Flats are likely to face an increasing threat to their livelihoods, with a strong likelihood that local fish catches will become



further depleted, forcing local fisherman to venture further and further afield to maintain the food security of their families;

- Grazing and soil capability will deteriorate, with increasing numbers of cattle and other stock on the Flats and a further reduction in available grazing area due to settlement. There is already unsustainable grazing pressure on the Flats leading to land degradation such as loss of soil fertility or erosion, causing declines in productivity and negatively impacting local waterways. Land use patterns are already changing, due to the increasing populations, including goat keeping and extensive planting of cotton and watermelon in the areas between Kiina and Kacunde, Kacunde and Senjojo and west of Senjojo. This reflects migrants' priorities for different crops and livestock, which is leading to changing demand and allocation of scarce water resources, introduction of potentially invasive alien species, and use of fertilizers and pesticides that can damage the local environment. Over time, with further population increases, changes in species composition may be expected to favour less palatable grasses and invasion by invasive species will increase. Erosion is also likely to become an increasingly significant problem in the highly erodible soils of the Flats, exacerbating the reduction in grazing capacity;
- Wetlands, which provide vital ecosystem services such as reeds for house roofing and other materials, will be increasingly abused by unsustainable harvesting and the physical damage and eutrophication caused by overstocking. These resources will become scarce, directly affecting the livelihoods of the pre-existing lake communities;
- Clean water will become scarce, with most surface water resources being impacted by stock and poor sanitary conditions associated with the enlarging settlements;
- The existing resource depletion along the escarpment will worsen, with accelerating rates of charcoal manufacturing combined with the impacts of wood harvesting practiced by villagers from the Buhuka Flats for cooking purposes; and
- 'Bushmeat', which helps supplement the diets of people with scarce resources, and which is already scarce, will become virtually unavailable, as migrants increase pressure on remaining wild animal populations on the Flats and on and above the escarpment.

While all of these impacts are already emerging as a result of the escarpment road, independently of oil industry activity (and were subject to a separate environmental authorization), the Buhuka Flats communities are unlikely to make distinctions in this regard. Without careful and systematic planning of settlement and commercial development in these areas there is a high risk of conflict both within the communities and between communities and CNOOC and the government, who are already being blamed by some communities on the Flats for the influx of migrants and over-exploitation of their natural resource base. The housing and land use impacts caused by in-migration, as a whole, are expected to be permanent, of high magnitude and **high** significance.



5.2.5.4 Impact Mitigation and Monitoring

The following impact mitigation and monitoring is proposed:

5.2.5.4.1 Increased Rental Prices

- Ensure that CNOOC staff who reside outside the LSA are required to return to their place of residence during periods of leave to avoid potential use of rental property in the area; and
- Provide accommodation for all personnel who do not reside in the LSA and are not brought in on a BIBO or FIFO basis.

5.2.5.4.2 Restrictions on Land Use

- Ensure that local communities are fully aware of the reasons for the buffer. Install painted markers to demonstrate where the restrictions are; and
- Consider the use legal instruments to enforce the buffer zone as a long term means of protecting the interests of both communities and the Kingfisher development. CNOOC would be required to motivate this proposal to Government for action.

5.2.5.4.3 In-Migration

- Implement the strategy for minimising in-migration defined in the Influx Management Strategy and Framework Plan (Volume 4, Specialist Study 11). This will need a combined effort by Government and all oil industry partners; and
- Assist Government to implement a Community Development Plan with practical mechanisms and mitigation strategies for the loss of grazing land caused by the project and the general loss of resources caused by increasing populations.

5.2.5.5 Impact Significance Rating

Table 64: Operational phase impact on Housing, Land and Resources

| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|--|----------------|---|-------------------|-----------------|----------------------|-----------------------|----------|-------------------|-------------|---------------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Impact of increased Property Rentals | 8 | 4 | 2 | 4 | High Medium 56 | 6 | 4 | 2 | 4 | Low Medium 48 |
| Impact of Restrictions on Land Use (Land Use Buffer) | 2 | 4 | 2 | 4 | Low Medium 32 | 2 | 4 | 2 | 4 | Low Medium 32 |
| Impact of In-Migration | 10 | 5 | 2 | 5 | High 85 | 6 | 5 | 2 | 3 | Low Medium 33 |
| KEY | | | | | | | | | | |
| Magnitude | | Duration | | Scale | | Probability | | | | |
| 10 Very high/ don't know | | 5 Permanent | | 5 International | | 5 Definite/don't know | | | | |
| 8 High | | 4 Long-term (impact ceases after closure of activity) | | 4 National | | 4 Highly probable | | | | |
| 6 Medium | | 3 Medium-term (5 to 15 years) | | 3 Regional | | 3 Medium probability | | | | |





| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|-------------------------------|-----------------------------|----------|-------------------|-------------|--------------|---------------------------|----------|-------------------|-------------|--------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| 4 Low | 2 Short-term (0 to 5 years) | | 2 Local | | | 2 Low probability | | | | |
| 2 Minor | 1 Transient | | 1 Site only | | | 1 Improbable | | | | |
| 1 None/Negligible | | | | | | 0 No chance of occurrence | | | | |

Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: +

5.2.6 Infrastructure and Community Services

5.2.6.1 Impact of Project Use of Community Infrastructure and Services

The project is not expected to use the District health services and there are no other local or district services that are provided that the project will use. The production facility will be provided with a fully equipped clinic and trained staff, including a medical doctor. Local communities will not have access to this facility, but all permanent and contract staff personnel will, so the impact on existing community infrastructure and services should have negligible magnitude and **low** significance.

5.2.6.2 Impact of Access Provided by the Regional Road Upgrades

The upgrading of the Hoima-Buhuka road and the extension of this road down the escarpment onto the Buhuka Flats has brought significant benefits to the Buhuka Flats villages in respect of access to community services. Where previously access to Parish and District services involved a long journey on foot, the communities can now gain access by vehicle. This is expected to facilitate a general improvement in the health and education in the local population. The upgrading of other regional roads (the PI from Hoima, the R7 and R4) will further improve access above the escarpment. This beneficial impact will persist through the operational phase of the project, being permanent, with high magnitude (given the excellent access provided to the vulnerable local communities in the District since the road was built) and **high** significance. While these roads have been separately considered and authorized, they are included here for completeness, since they have been built in support of the coming oil industry developments.

5.2.6.3 Impact of In-Migration

Operational phase impacts of the Kingfisher project on infrastructure and community services will be largely as a result of the indirect effects of in-migration. While the project will make use of the road infrastructure, most of the road improvements, which will benefit the broader community, have been in support of the oil industry.

In-migration impacts in the operational phase will be an extension of those occurring during the construction phase. It is expected that migration into the area will continue through the operational phase in the absence of actions to prevent or minimise it. While there may be a decline in the rate of influx described under the construction phase impacts, there is still expected to be ongoing long-term population growth around the production facility on the Buhuka Flats, and in the LSA in general, by people migrating into the area in pursuit of CNOOC-related employment and business opportunities. Overcrowding may result in some people leaving the Flats and settling above the escarpment. Over the longer duration of the operations phase, the population demographics may change as the child population enters adulthood and enters the labour market.

Currently, it is projected that there will be an approximate 3.1% annual growth in the Districts, leading to a 168% cumulative growth in population in Kikuube and Hoima Districts for the period from 2014 to 2050¹⁷¹ However, there is already experience on the Buhuka Flats of the effects of in-migration (refer to Figure 38), where rapid

¹⁷¹ UBOS (2014) Projected Population Growth rate per District





expansion in the project area over the past 4 years has seen an average growth rate of 12% and more per annum for some of the settlements. This includes Nsunzu which has grown by 76% over the 2014 - 2017 period, Nsonga which has grown by 17%, Kyabasambu which has grown by 32%, and Kyakapere which has grown by 36%. The recent upgrade of a section of the Hoima-Buhuka road and the construction of the road down the escarpment onto the Buhuka Flats has improved accessibility to the lake, encouraging settlers who have capitalised on fishing and other activities made possible by improved access. Based on the data in Figure 38, Kikuube and Hoima Districts projections described above may be a significant underestimate. While some people are benefitting financially, this is contributing to pressures on community infrastructure and services, including the following:

- **Schooling:** The government schools in the parish are currently facing significant challenges, with increasing demand being placed on existing limited services. Private schools have exploited the gap that demand has created but are of varying quality. The private schools here, and elsewhere, are currently under scrutiny by the Department of Education which has indicated increased vigilance in respect of quality control and standards. At the same time, in the absence of adequate government-supplied educational infrastructure, demand will continue to exceed supply. Recruitment and retention of teachers is challenging due to lack of decent accommodation in the area, as well as the relatively low salaries being offered; and
- **Health and welfare services:** Local health services are experiencing impacts from the additional non-resident and resident population associated with the project, including health care services (specifically related to children and maternity health), emergency housing support; and family support services.

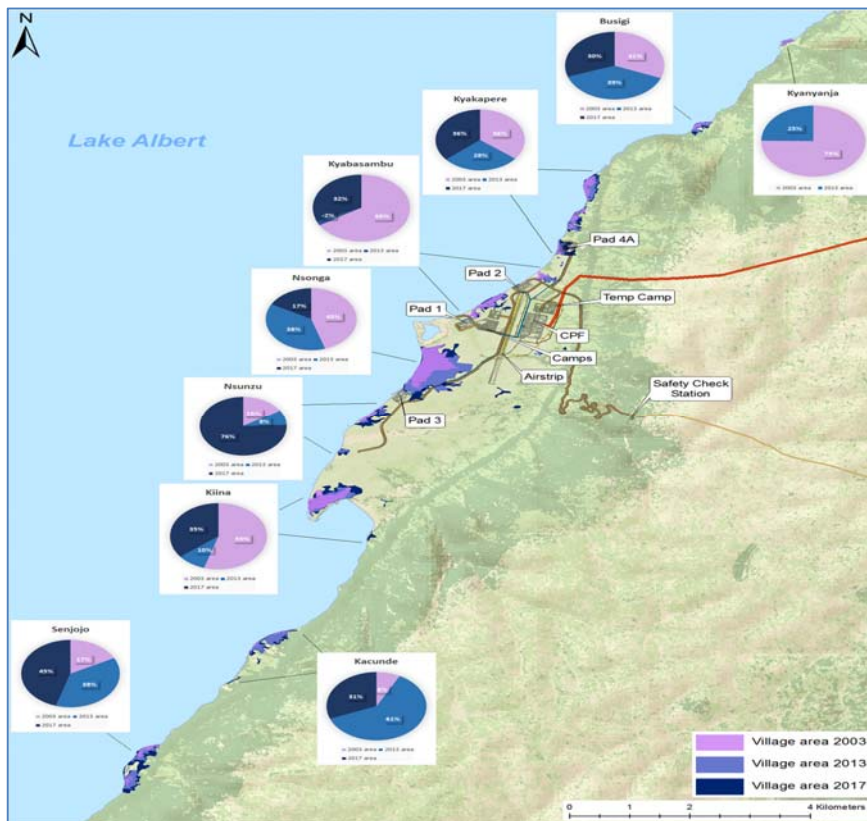


Figure 38: Village growth on the Buhuka Flats in the period 2003 - 2017, showing the impact of in-migration



Overall, in the absence of Government interventions, with assistance from CNOOC, the impact of in-migration will overwhelm the capability of the infrastructure and community services available to Buhuka Parish communities. Negative impacts are also likely to be experienced by the poorest members of the communities, who will be unable to take advantage of economic opportunities but will experience the negative effects of burgeoning growth. With regard to community infrastructure and services, the following outcomes are likely (as in the case for construction phase impacts):

- A dilution of local Government influence, as newcomers into the area are typically unfamiliar (or indifferent about) local Government rules and leadership structure. This has already started causing tension within and between communities on the Buhuka Flats and this trend will be aggravated by further migrants; and
- The price of rented accommodation is likely to rise sharply. During the project's construction phase, migrants in search of work may look for rental accommodation rather than purchase new housing. As additional demand for housing emerges, there will be a sustained increase in rental prices. While this will benefit the owners of accommodation, it will make rental costs for existing tenants (particularly poor tenants) unaffordable.

Impacts are likely to be of sub-regional geographic extent, long term and potentially high magnitude and **high** significance.

5.2.6.4 *Impact Mitigation and Monitoring*

The following impact mitigation and monitoring is proposed:

5.2.6.4.1 **Access Provided by Regional Road Upgrades**

- Ensure that project staff avoid making use of social infrastructure, including during periods of leave, unless they are resident in the project area.

5.2.6.4.2 **Access Provided by Regional Road Upgrades**

- Contribute to training and skills development initiatives that will promote the capacity of local communities to capitalise on the economic opportunities presented by the regional road upgrade, including collaborating with appropriate CSO partners, NGOs as well as donor organisations;
- Contribute to economic development and infrastructure improvement in the project area through a community development plan (CDP); and
- Promote opportunities for use of the road infrastructure to support the implementation of sustainable reduction, re-use and recycling options in respect of Solid Waste Management. In particular, the urgent need to avoid further impacts on the environment and Lake Albert from plastic waste (and in support of existing legislation).

5.2.6.4.3 **In-Migration Impacts on Infrastructure and Social Services**

- Support capacity building for town planning in anticipation of influx and growth in key settlements.
- Establish collaborative initiatives with central, district and local authorities to support the development and establishment of current and projected essential infrastructure related to water supply, health and education services as well as sanitation and solid waste management;
- Support the development of local capacity to offer effective crime prevention, safety, security and policing services;
- Ensure that the Livelihoods Restoration Plan, as well as the Community Development Plan actively take on board practical mechanisms and mitigation strategies for minimising pressure on infrastructure and social services posed by ongoing in-migration. This process should take cognizance of the extent to which households are reliant on subsistence food sources;



- Provide support in alleviating the cumulative pressures on social infrastructure through the timely provision of information to service providers relating to the size and demographic make-up of the projected operations workforce who may need to utilise social services, including any potential additional requirements to adequately respond to potential emergencies;
- Establish a baseline and surveillance system for the state of housing in the area using techniques such as mapping and review of satellite images. Review this regularly to show change from baseline and to support future interventions with the local or district authorities;
- Develop an adequate baseline to describe the water and sanitation conditions in the community prior to the Project development, including the resettlement areas and areas where influx is likely to occur; and
- Support the development of sustainable alternatives to the use of wood fuel and charcoal.

5.2.6.5 Impact Significance Rating

Table 65: Operational phase impact on Infrastructure and Community Services

| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|--|----------------|----------|-------------------|-------------|--------------|-----------------|----------|-------------------|-------------|---------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Infrastructure and Community Services | | | | | | | | | | |
| - Impact of Project Use of Community Infrastructure and Services | 1 | 4 | 2 | 4 | Low 28 | 1 | 4 | 2 | 4 | Low 28 |
| - Impact of Access Provided by the Regional Road Upgrades | 8 | 5 | 2 | 5 | High +75 | 8 | 5 | 2 | 5 | High +75 |
| Impact of In-Migration | 8 | 4 | 3 | 5 | High 75 | 3 | 4 | 2 | 5 | Low Medium 45 |

| KEY | | | |
|--------------------------|---|-----------------|---------------------------|
| Magnitude | Duration | Scale | Probability |
| 10 Very high/ don't know | 5 Permanent | 5 International | 5 Definite/don't know |
| 8 High | 4 Long-term (impact ceases after closure of activity) | 4 National | 4 Highly probable |
| 6 Medium | 3 Medium-term (5 to 15 years) | 3 Regional | 3 Medium probability |
| 4 Low | 2 Short-term (0 to 5 years) | 2 Local | 2 Low probability |
| 2 Minor | 1 Transient | 1 Site only | 1 Improbable |
| 1 None/Negligible | | | 0 No chance of occurrence |

Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: +





5.2.7 Individual, Family and Community Life

5.2.7.1 Impact of Social Fragmentation

Without appropriate planning interventions, social fragmentation is expected to escalate over time, continuing through the construction phase of the project into the operational phase. Social fragmentation is discussed in Section 5.1.9. The reader is referred to this section for details. The breakdown of the social fabric and traditional values (cultural and spiritual capital) in communities on the Flats and above the escarpment, due largely to the effect of in-migration encouraged by the CNOOC production facility and its improved road access, will pose an increasing threat to the company's social license to operate. Among settlers, there will be winners and losers, but the original fishing communities, resident before the start of oil exploration activity on the Flats, are likely to fall predominantly within the latter group, carrying most of burden of lost social cohesion without the capacity to take advantage of new opportunities.

For these socially vulnerable people, the magnitude of impact of these changes will be high, and the impact significance will be **high**, caused both directly by the operation of the Kingfisher production facility and indirectly by in-migration.

5.2.7.2 Impact Mitigation and Monitoring

The following impact mitigation and monitoring is proposed:

- Ensure that consideration of conflict issues - latent, existing and potential – is built into all phases and aspects of operations;
- Monitor and track responses to risks and impacts, involving workers and communities;
- Continue to implement the Community Relations Strategy (CRS) and extend the existing parish-based Oil and Gas Activities Monitoring Committee approach, and which meets on a quarterly basis. Ensure adaptation of this approach to promote a process of formalised communication forum that is open to representatives from villages (including but beyond the formalised governance system provided by LC1s), CSOs, NGOs, FBOs as well as traditional clan chiefs (or representatives) and other stakeholders as identified. Ensure regular meetings at local level, hosted by CNOOC, aimed at:
 - communicating with stakeholders to build understanding and demonstrate transparency and accountability.
 - strengthening channels for the provision of further information that may be needed.
 - promoting mechanisms for understanding real issues and concerns related to the project and impacts being experienced from direct (unmitigated), indirect and cumulative impacts.
 - publicly and transparently debating options for sharing out benefits at local level that will take account of the negative impacts experienced locally, including the costs and benefits of different options, their management implications and their role in supporting wider economic development.
- Develop - in consultation with all relevant stakeholders - a Community Development Action Plan (aligned with Kikuube and Hoima Districts and Kyangwali Sub-county Development Plans for implementation of activities aimed at:
 - promoting strategic Corporate Social Responsibility (CSR) projects which will not require CNOOC to usurp the government's role or act as substitute government agent in fulfilling human rights related delivery.
 - planning and implementing projects, in partnership with government, that will serve to alleviate existing challenges to the survival, livelihood and dignity of the people of the Buhuka Flats in a sustainable manner. This could include engaging NEMA as well as relevant authorities in implementation of effective solid waste management and associated recycling programmes.



- planning and establishing adequate sports facilities for schools as well as for youth, in partnership with government and the Bunyoro Kitara Kingdom.
- planning and achieving critical objectives set out in the project Livelihoods Restoration Plans.
- planning and implementing immediate measures that will assist in earning and maintaining CNOOC's social license to operate.
- taking collective action where appropriate to address environmental, social and human rights issues.
- Facilitate and financially support the establishment of a district/area-wide Development Organisation, with a formalised legal structure (such as a Foundation or a Community Development Agency). Such an organisation or agency would:
 - address issues related to human security, as an approach that brings together development, human rights, and peace and security (as defined by the United Nations General Assembly, 2012).
 - allow the identification and redress of widespread challenges to the survival, livelihood and dignity of villagers on the Buhuka Flats and beyond in a sustainable manner.
 - draw together the financial and human resources of the private and public sectors, the traditional leadership and other stakeholder bodies as well as donor and aid organisations.
 - develop issue-based action plans, including business plans for donor funding in respect of various focus areas of need that will address identified human security issues and concerns.
 - allow CNOOC to use its own budget to leverage significant additional budget from other role-players (including international 'GoFundMe' initiatives) and aid organisations with a specific mandate (e.g. the distribution of mosquito nets) to address specific problems encountered at village level.
 - Ensure that at the point of CNOOC closure, such a development organisation could reasonably be expected to be self-sustaining. As well, to have made a lasting contribution to the well-being of the region, particularly within the villages on the Buhuka Flats.

5.2.7.3 Impact Significance Rating

Table 66: Operational phase Impact on Individual, family and community life

| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|--------------------------------|----------------|---|-------------------|-------------|-----------------|-----------------|-----------------------|-------------------|-------------|---------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Impact of Social Fragmentation | | | | | | | | | | |
| - Impact of CNOOC activities** | 9 | 4 | 2 | 5 | High 75 | 2 | 4 | 2 | 3 | Low 24 |
| Impact of In-Migration | 9 | 4 | 2 | 5 | High 75 | 3 | 4 | 2 | 4 | Low Medium 36 |
| KEY | | | | | | | | | | |
| Magnitude | | Duration | | | Scale | | Probability | | | |
| 10 Very high/ don't know | | 5 Permanent | | | 5 International | | 5 Definite/don't know | | | |
| 8 High | | 4 Long-term (impact ceases after closure of activity) | | | 4 National | | 4 Highly probable | | | |





| | | | |
|-------------------|-------------------------------|-------------|---------------------------|
| 6 Medium | 3 Medium-term (5 to 15 years) | 3 Regional | 3 Medium probability |
| 4 Low | 2 Short-term (0 to 5 years) | 2 Local | 2 Low probability |
| 2 Minor | 1 Transient | 1 Site only | 1 Improbable |
| 1 None/Negligible | | | 0 No chance of occurrence |

Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: +

*** Depending on the extent of Government commitment to foster development in the LSA, these impacts could become positive*

6.0 SOCIO-ECONOMIC IMPACT ASSESSMENT - PIPELINE

6.1 Pipeline Development – Construction Phase

6.1.1 Issues Identified – Pipeline

Table 67 provides an overview of the issues and concerns raised during the consultation process and have been set out in accordance with the major impact categories related to environmental, cultural, social and development related focus areas.

Table 67: Issues Raised by I&APs – Pipeline Development Area

| IMPACT CATEGORY | ISSUE FOCUS AREA | ISSUE |
|--|------------------------------------|---|
| Environmental Issues (with direct socio-economic implications) | Forest and Wetland related impacts | <ul style="list-style-type: none"> ■ Severe deforestation, including increased evidence of new informal and non-project related developments ■ Commercial and household production is taking place in unsuitable and unsustainable environments such as wetlands and forests. These environments are likely to be affected easily by climatic change impacts and other environmental issues. |
| | Agricultural impacts | <ul style="list-style-type: none"> ■ Shortage of grazing and possibly the prolonged dry season has resulted in decreased milk and meat production. ■ Crop yields have declined. In 2013, the community of Hanga used to harvest between three and four sacks of beans from one garden. However, in 2017, the community harvested less than two basins of beans. ■ Increased pests and diseases in the crops. Prior to 2013, the community did not have frequent crop diseases, however in 2017 the crops are infested with new diseases such as the armyworm which affected almost everyone who had planted maize in early 2017. ■ Low crop yields have decreased people’s income levels, hence it is difficult for community members to attain some of the household necessities. ■ Increased theft has resulted in the loss of crops, poultry, cows and goats among others. Thus, poverty has intensified among even employed or hardworking community members. ■ There is a perception among the elders of less rainfall, hence the region is drier and the seasons have changed. It rains either later than expected or it does not rain at all. The temperatures are also overly high. ■ Historical drill waste dump sites have still not been rehabilitated and remain un-grassed. ■ The Hanga community is concerned that a thick bush is likely to grow along the pipeline route as they will not be allowed to go near |





| | | |
|-------------------------------|--|---|
| | | <p>the pipeline after construction. During the dry season, the bush may catch fire and burn the communities' homes and gardens.</p> <ul style="list-style-type: none"> ■ Concerns that pipeline construction may disrupt subterranean water flow. ■ Concerns around the safety and environmental impacts of a pipeline failure. |
| <p>CULTURAL ISSUES</p> | <p>Youth and family impacts</p> | <ul style="list-style-type: none"> ■ Increased incidence of sex work among young girls ■ Increased domestic violence ■ Decreased marriage security ■ Increased drop out of pupils who would rather seek employment opportunities opposed to studying. ■ Increased cases of child labour and school drop out if projects are not closely monitored. ■ Hohwa community members noted that children born of temporary workers often have no form of identity in terms of who their biological fathers are as well as the clan they belong to. It is often difficult to trace the biological fathers after they have left the village upon the completion of a project. There is a perception that this is particularly the case when “intermarriages” take place between local Ugandan women and visiting workers from Rwanda or the Congo (this issue is based on direct experience of villagers along the route of the road development). |
| | <p>Tradition and Heritage</p> | <ul style="list-style-type: none"> ■ Perception that acculturation is occurring in previously traditional communities ■ Although still infrequent in the villages along the proposed pipeline, there has been increased conflict between Clans and people of varying nationalities (including amongst various Ugandan tribes) ■ DRC is lawless and “Live for the day” without reward for future. This is “infectious” because the discipline of traditional life is being replaced by a hedonistic approach. ■ Historical cultural areas that require preservation and protection need to be identified. Not each village has its own sacred sites or people specifically trained (traditionally) to utilize the site (e.g. rain makers). But these traditionally trained people are diminishing and there are not necessarily sufficient advocacy programmes in place ■ Diminishing of cultural values and the importance of cultural ceremonies and rituals. Also dilution of language dialect. Also the “side-stepping” of the traditional processes mean that the traditional allocation of land is denied to the children. ■ Influx of outsiders in settling on land is taking place outside the traditional processes e.g. through buying/bribing and other improper ways. Obtaining a land title is often difficult for locals from the land board but from outside it is possible to be granted title on customary land when members of local clans are unable to obtain land titles. ■ The kingdom system has broken down leaving a vacuum in terms of how land is distributed and valued. In some instances the nature of the involvement of the Land Board has not only been questioned but has been labelled as corrupt. ■ Informal land tenure has meant irregular selling of land by traditional chiefs and/or LC1s |





| | | |
|----------------------------|--------------------------------------|--|
| | | <ul style="list-style-type: none"> ■ Influx of foreigners has seen increased conflict for space between farmers and pastoralists. ■ Limited space and access to resources has caused some historical farming practices like seasonal migration to become unsustainable. |
| SOCIAL IMPACTS | Poverty/economic impacts | <ul style="list-style-type: none"> ■ Increased scholarships for students ■ Conflict over land occasioned by influx of foreigners ■ Increased likelihood that individuals claim ownership over land, decreasing the communal land available. Community land is increasingly under threat to private ownership. ■ CNOOC is seen as unapproachable with a perception that grievances cannot be properly addressed because it is guarded by soldiers. ■ Not all impacted landowners are adequately compensated. ■ The displacement of more schools. For example, in the refinery area (not directly connected to the CNOOC development itself), 2 schools were displaced and have never been replaced. ■ JV partners gave the promise that there would be a quarterly process of meetings. Unfortunately, this hasn't taken place. As well it is with selected audiences in respect of issues that CNOOC (in good faith) are "sharing information". Instead of a dialogue, it has become an information dissemination process. ■ In the Kabwoya community, the commercial production of sugar exceeds the production of food, hence causing a threat to food security in the sub county as families concentrate on none food crops. This is offset (and possibly exasperated), by increased food prices and better markets for locally grown food. |
| | Health and well-being impacts | <ul style="list-style-type: none"> ■ The mortality rates in the community are high due to the community not having access to a health facility within close proximity. ■ Increased incidences of HIV/AIDS and children born out of wedlock due to the increased migrant worker population ■ Concerns around possible failure or rupture of the pipeline leading to additional emergency impacts ■ Repeated resettlement of families displaced by the road and pipeline construction. Families are relocated on numerous occasions, making resumption of a normal life impossible |
| DEVELOPMENT IMPACTS | Infrastructure impacts | <ul style="list-style-type: none"> ■ Improved road infrastructure ■ The increased access to traffic into the region has not been supported by matching increases in road infrastructure spend. ■ Pace of influx has not been met with appropriate government planning and budgeting. There appears to need to be an overhaul of the way that land is valued and traded. Ugandans are often disadvantaged in negotiations because of the belief that arguing over God-given land bestows a curse. This puts newcomers to the district at an advantage. ■ The increased trade in land has resulted in fragmentation and decreased productivity ■ The Hanga community was asked to stop growing long lasting crops, for example bananas and cassava among others. Community members enquired as to whether the discontinuation of such crops will cause hunger/food insecurity in their homes considering that they entirely depend on such crops for food. |





| | | |
|--|--------------------------|--|
| | | <ul style="list-style-type: none"> ■ Due to an increased number of people coming into Hohwa to settle, do business, farm and build, the price of land has equally increased. Land related conflicts at all levels of the community are equally on the rise. |
| | Land impacts | <ul style="list-style-type: none"> ■ Males in Hohwa village noted that the climate has drastically changed in the last 3 years. Rainfall has not been regular as before. May be due to 2015-2016 El Nino. ■ Considerable concerns around the growth of thick bush across the pipeline transect. |
| | Community impacts | <ul style="list-style-type: none"> ■ The food industry has grown in the last few years. Drivers for the growth among others include, improved road access to the area and increased influx of people to Hohwa. ■ In the case of the Izahura, neighbours to the land earmarked for the pipeline are afraid and uncertain because they were asked to sign documents even though they were clearly told that their land would not be affected. Thus, most of them are selling their land and leaving their homesteads ■ Migrants from outside the region put an additional, unplanned burden on the health, social and educational facilities ■ Women have highlighted the need for help with literacy and financial management |

6.1.2 Construction Phase Overview

This section outlines socio-economic impacts associated with the project as it pertains to the proposed Pipeline Route.

The socio-economic impacts that have been identified are directly linked to the pipeline infrastructure construction, operation as well as post closure. Due to the nature of the pipeline development, there are significant project related events that precede the actual pipeline installation process. These will lead to project related impacts that will require mitigation and have been included as part of the discussion of impacts under that for the construction phase.

The construction phase of this project and the associated project infrastructure, including a worker accommodation camp, is expected to result in the following social impacts, based on the valued environmental components (VECs), which are aspects of the broad human and socio-economic environment that are valued by people. They are discussed in the following sub-sections:

- Construction Workforce - Related Impacts
 - Impact on employment opportunities
 - Impact on skills development and training opportunities
 - Impact on accommodation of workforce
 - Impact on employee health and safety
- Economic Impacts
 - National, regional and local economic development
 - Factors retarding economic development
 - Impacts due to in-migration
- Community Health, Safety and Security Impacts





- Impact on diseases
- Impact on pollution
- Impact on communicable diseases
- Impact on nuisance
- Impact related to Major Accidents
- Impacts of in-migration
- Housing, land and natural resources
 - Loss of housing and land
 - Damages to property
 - Impacts on property prices and rentals
 - Impacts of in-migration
- Community Services and Infrastructure Impacts
 - Impact of project use of community infrastructure
 - Impact of project use of local roads
 - Impacts of access provided by regional road upgrades
 - Impact of in-migration
- Individual, Family and Community impacts
 - Impacts of unmet expectations
 - Mistrust and social licence to operate
 - Disruption of social services.

6.1.3 Construction Workforce Related Impacts

This section describes the socio-economic impacts associated with the construction phase of the feeder pipeline.

6.1.3.1 Impact on Employment

6.1.3.1.1 Employment Opportunities

As at April 2018, CNOOC employed 60 Ugandan Nationals, 35 Expatriates and 21 Contractors (as part of the project, engineering and drilling and completion teams). The company's recruitment policy stipulates the procedure according to which professional (i.e. non-casual) and casual appointments are to be made. The casual labour policy reserves at least 60% of casual jobs for local communities in the areas of its operations (there is an undertaking that 100% of casual workers will be sourced from Uganda, with at least 60% from adjacent villages); and this is expected to apply to both the construction and operational phases of the project as well. The CNOOC recruitment policy for casual labour is based on a lottery/raffle system that allows all villagers who apply for work an equal but random chance of being appointed, depending on the number of labour 'slots' or openings available per village. This additional requirement has been introduced to preclude LC1 bias in favour of selected applicants.

Based on its agreements with the Ugandan Government, CNOOC will employ as many local people as possible for semi-skilled and skilled job opportunities. CNOOC has indicated that approximately 180 temporary unskilled and semi-skilled jobs will be created for Ugandan nationals during the pipeline construction phase. Twenty skilled positions will be filled by foreign pipeline construction management and technical experts.





Employment will be provided through a selection process that includes all affected villages. In addition, CNOOC's EPC contractor may employ casual workers from the villages around the project for short-term work, like bush clearing. Given the incidental nature of this work, it is not possible to quantify employment numbers at this stage. CNOOC's policy also defines the legal rights of casual labourers in accordance with Ugandan legislation and describes the procedure according to which casual labourers are to be appointed.

Given the population size of villages within the Buhuka Parish as well as villages on top of the escarpment, there appears to be an available workforce. This workforce will be capable of unskilled and some semi-skilled tasks, but a major constraint affecting the local take up of semi-skilled and skilled appointments will relate to a lack of specific education and, to a lesser degree, scarce and critical skills in the oil and gas industry.

Employment creation in the local area and wider region is therefore considered to be an important positive socio-economic impact, but it will be short term and the benefits will quickly work their way out of the economy, limiting the magnitude of impact to low. It will be short term and the benefits will quickly work their way out of the economy, but taking into consideration the need for cash income, the impact significance will be **medium**. With the implementation of the recommended measures to enhance construction employment impacts, the overall significance rating can be increased to **high**.

6.1.3.1.2 Skills Development/Training Opportunities

CNOOC has developed a policy which guides the recruitment and employment process and all contractors and sub-contractors are expected to comply with this policy. CNOOC aims to implement a skills development strategy for their employees to improve the skills of the local labour pool by investing in technical, managerial and administrative skills of the workforce.

Training and skills development will be a positive impact in developing the feeder pipeline construction workforce skills and qualifications and in expanding the human capital available within the local and regional economy. At present, the extent to which the pipeline contractor will be required to implement CNOOC's training policy over the short duration of the construction contract is uncertain and there are practical limitations to what can be achieved within this period. The impact will involve a relatively small number of people, resulting in a rating of medium magnitude, but the benefit will be permanent, and in the context of the great need for skills development in Uganda, the overall impact significance will be **high medium**.

6.1.3.1.3 Layoff of Casual Labour

Layoff of most of the local casual workers hired during construction will accelerate as the construction phase reaches an end. This could be around 180 casual jobs. Most of these people will not find employment in the operational phase which has much fewer opportunities for casual workers. This may impact on food security among local families who have become dependent on the income from the lost jobs. This is a well-known problem affecting large construction projects, and has sometimes been accompanied by work stoppages and violent protests, particularly if the terms and conditions of casual employment have not been properly explained to the workers. Without appropriate control, the magnitude of impact could be high, given the vulnerability of the affected workers, and the potential for deteriorating relationships between the company and workers. The residual effects will extend beyond the construction phase into the medium term. The unmitigated impact will be negative and of **high medium** significance.

6.1.3.1.4 Accommodation of the Workforce

In the Basis of Design, CNOOC has made provision for a temporary camp to be built by the EPC Contractor. This camp will provide accommodation for some 200 pipeline - related construction personnel who do not live in the local area. Employees from local villages can continue to live with their families while temporarily employed by the project. Accommodation in the permanent camp will be provided to full time and contract employees who are not locally resident, and visitors.

Appropriate accommodation and catering facilities will be provided for all contract workers living in the contractor's temporary camp and catering will be provided for all workers, including day workers. Accommodation is expected to meet IFC PS1 requirements. The impact will be positive and of **high medium** significance.



6.1.3.2 Employee Health and Safety

Local Ugandan statistics for the causes of injury in the construction industry are not readily available. However, the Labour Force Management Plan for Contractors and Subcontractors (CNOOC, 2015:29) outlines a number of broad categories of oil and gas related workplace hazards. These are:

- Physical hazards that include contact injuries and accidents, UV radiation, falling from height and fire;
- Chemical hazards, in particular related to contact with dangerous chemicals that may lead to various health problems;
- Biological hazards leading to infections and parasitic diseases among workers that are the result of contamination from living organisms or their by-products such as bacteria, moulds, parasites and dust; and
- General hazards, including radiation, noise, vibration and extreme temperature.

These hazards may all be aggravated by specific behaviours, such as working in areas without adequate lighting; carelessness or tiredness affecting attention to the task; inadequate, incorrect, or non-existent use of Personal Protective Equipment (PPE); failure to use rotating machinery with the necessary safeguards, general ignorance of, or failure to follow, recognised and documented safety procedures, dehydration and working on potentially hazardous tasks while alone.

Any of the above hazards and behaviours may lead to occupational accidents, illness or disease that could have chronic consequences, preventing the individual from continuing work. The Rapid Health Impact Assessment (APPENDIX B) highlights the following issues regarding work - related illness and injuries as important considerations, particularly during the construction phase:

- A significant proportion of the workforce will be sourced from a low skill labour pool and would potentially be unaware of workplace-based health and safety requirements, making them more prone to high risk behaviour and accidents during the construction phase;
- Ugandan labour laws, associated enforcement of health and safety regulations and compensation for occupational injuries and disease lag behind international best practice standards. Disability management and appropriate compensation standards and regulations are limited and are not aligned with IFC and other international standards and requirements; and
- There is a limited emergency response system in the broader study area and indeed district.

6.1.3.2.1 General Construction Safety Impacts

In the context of a pipeline construction project, the safety hazards are more specifically set out in Table 68.

Table 68: Typical Causes of Health and Safety Impacts by Pipeline Work Category

| |
|--|
| <p>Site Clearing, Grading and Fencing Overhead (large branches) and underground hazards; Vehicle-generated dust; Poor ground conditions or rough terrain; Venomous snakes and insects; and Rotating equipment such as chainsaws and angle grinders.</p> <p>Pipe handling Pipe loading and transport, including road use, contractor management, lifting hazards, stockpile pipe falls and pipe falls from height; Pipe loadout and stringing, including overhead hazards as a result of lifting, carrying, strapping or rigging, swinging pipes, dropped loads and/or rolling pipes; and Pipe bending (and cutting), falls from height, swinging pipes, hot works.</p> |
|--|





Welding, cutting and tie-ins

Pipe movement, including falling, swinging or springing pipes;
Sparks, buffer wires and burns;
Grinder kickback or broken grinding discs;
Malfunctioning or poor handling of equipment such as air pressure hoses and oxygen and acetylene torches; and
Dust, pipe and other particles or weld flash (arc eyes).

Trenching, bedding, padding and backfilling

Open trenches;
Trench collapse;
Overhead and underground hazards;
Wet, uneven and/or slippery surfaces and associated slips, trips and falls;
Rotating equipment (crushing of backfill); and
Snakes, venomous insects and fauna.

Blasting and Field Joint coating

Abrasive blasting;
Manual handling of equipment;
Pressure hazards;
Equipment failure, malfunction and/or poor handling, including of air pressure hoses;
Chemicals, fuels, chemical fumes and skin exposure or inhalation; and
Static electricity, fire / explosions during testing.

In the absence of a highly regulated OH&S environment, with appropriate safety training and a zero-tolerance management approach towards unsafe practices, the probability of accidents during the construction phase will be high, resulting in impacts of very high magnitude (disabling or fatal injuries) with potentially permanent consequences and with a **high medium** significance rating. With strict implementation of a high standard of health and safety management, injuries can be reduced to minor non-disabling accidents which are short term and of **low** significance.

Driver and Mobile Equipment Safety

The main causes of accidents involving project - related vehicles and movable equipment on and off site are:

- Failure to drive cautiously and defensively;
- Disregard of speed limits;
- Failure to wear seat belts;
- Use of cell phones while driving;
- Careless driving and/or driving / equipment operation by insufficiently trained personnel;
- Failure to maintain the lights and audible reversing signals on construction vehicles and equipment;
- Night driving; and
- Driver/operator fatigue.

Without appropriate driver training and a zero-tolerance management approach towards unsafe practices, the risk of disabling or fatal injuries (very high magnitude) caused by construction vehicles and moving equipment will be high, with a **high medium** significance rating. As in the case of general safety issues, these risks can be minimised by good practice, and injuries can be reduced to minor non-disabling (short term) accidents which are short term and of **low** significance.





Graft and Exploitation

During all phases of the project, CNOOC will need to remain alert to the potential for graft and exploitation that foreign (non-Ugandan) employees and service providers may experience. There have been incidents in which foreigners (particularly Chinese people) have been accosted by the Ministry of Internal Affairs, being forced to go to the Department of National Citizenship and Immigration Control to prove that they have work permits in place. People with a relatively poor command of English may feel sufficiently intimidated to offer money to be left alone. Locals keen to find employment have, as well, been subjected to graft and exploitation through unscrupulous role-players who pretend to recruit on behalf of CNOOC. Unsuspecting victims are required to pay a “registration fee” to be included on the recruitment roll. Impacts may affect uninformed locals on the one hand and CNOOC foreign personnel on the other hand and will be of **low medium** significance.

Alcohol and Drug Abuse

Alcohol and drug abuse is often prevalent in construction camps and this spins off into safety in the workplace. As indicated above, the unmitigated risks are highly significant, with a strong correlation between workplace accidents and the use of these substances.

Although there are no specific statistics regarding the impact of substance abuse in the workplace for Uganda, substance abuse has been found to be the third leading cause of workplace violence. Particularly in situations that involve dangerous equipment, locations, or duties, substance abuse can be deadly, and employees that abuse substances are 3.6 times more likely to be involved in workplace accidents than their co-workers (USA Department of Labour).

In the absence of appropriate management and monitoring, the risks of severe (permanent) injury or mortality due to substance abuse will be high, and impact significance will be **high medium**.

Vector-Related Diseases

Malaria in Uganda can have significant negative impacts on worker health and productivity. In the vicinity of the feeder pipeline, there is a paucity of accurate data about vector typology and behaviour, exact prevalence of malaria and indicators related to knowledge, practices and behaviours. This limits the ability to monitor impacts or interventions from a clear point of departure. However, from the data that is available, as set out in the HRIA, the proposed pipeline environment is expected to be a high risk malarial area, supporting numerous breeding sites that are conducive to the promotion of disease transmission. According to the Rapid Health Impact Assessment (RHIA) undertaken for the project, malaria is the most prevalent health concern in the proposed pipeline area, with the disease accounting for 35-54% of all outpatient visits in the study area Health Clinics (APPENDIX B). Malaria case rates are also described as being on the increase, and that the illness is commonly associated with misconceptions and poor prevention behaviour. There is limited capacity within the proposed pipeline area for the support of malaria and vector control preventive initiatives. The magnitude of malaria impacts on the workforce, without appropriate interventions, will be potentially high, permanent (potentially life threatening), local and of **high medium significance**.

Sexually Transmitted Diseases

The potential spread of sexually transmitted disorders (STDs), including HIV¹⁷²/AIDS, must be regarded as a serious potential impact on the workforce, with the risk of the spread of the diseases due to interaction between construction workers and local communities. Typically, the presence of a large number of well-paid predominantly single males in construction camps encourages sex workers from local communities and further afield, with a resultant risk of the spread of HIV/AIDS and other STDs among construction workers due to unprotected sex. Without a high degree of management, this workforce impact will be long term (depending on the availability of treatment), of very high magnitude, regional scale (spread to other areas when construction worker leave) and **high** significance.

^{172 172} The acronym HIV refers to the human immunodeficiency virus (HIV) is a virus that causes the HIV infection. Over time, this becomes the acquired immunodeficiency syndrome (AIDS).





Sanitary and Hygiene-Related Diseases

Maintaining hygienic conditions in a large workforce unaccustomed to requirements in respect of sanitation and hygiene will require ongoing education and management. In addition to the provision of appropriate sanitary facilities for human and food wastes, personal hygiene must be taught and enforced.

Food waste must be disposed of in a proper manner (incineration, burial or taken off site and disposed of in sanitary landfill sites) to prevent the proliferation of pests.

Without proper management in place, outbreaks of diseases caused by poor sanitation and hygiene are highly likely, causing negative health impacts in the workforce and lost man-hours. The magnitude of the impact is potentially high, with local, medium term, effects, resulting in impacts of **low medium** significance.

6.1.3.3 Impact Mitigation and Monitoring

CUL is required to comply with the objectives of the National Oil and Gas Policy, 2008 and legal framework with regard to oil and gas development and benefits to the citizenry. CUL has set out to meet relevant National laws and regulations, policies and action plans, and international best practice to ensure that it complies with a high standard in the management of its labour force. CNOOC Limited is a member of the UN Global Compact, and therefore all its global operations, including CUL, are committed to fully comply with the principles in the Compact related to labour rights.

The following plans will apply to CUL's operations:

- CUL (updated). Labour Force Management; and
- The Labour Force Management Plan for Contractors and Subcontractors.

The Labour Force Management Plan (LFMP) focuses specifically on casual labour which will be characteristic of much of the unskilled labour employment during the construction phase of the pipeline. The LFMP commits CUL to a range of specific actions designed to ensure that its labour practices are fair, transparent and in compliance with Ugandan policy and law and best practice standards, including IFC PS2. The LFMP deals with a wide range of issues, including recruitment and retention of employees, terms and conditions of employment, wage rates, minimum wages, timeliness of payment, entitlements and benefits (work hours, weekly rest, public holidays etc.), repatriation of workers, termination of services, workplace health and safety, HIV Aids policy and prevention, health and welfare arrangements, first aid facilities, measures against biological hazards (insects, pests, virus's, parasites, bacteria), training and development, freedom of association, equal treatment, employment of women, forced labour, grievance management, local content and migrant workers, damage to property and management of contractors and subcontractors.

For the purposes of the EISA, the following recommendations are made (which may overlap in some instances with the recommendations of the LFMP):

6.1.3.3.1 Employment

- Comply with the Occupational Health and Safety standards established by the Government of Uganda and all IFC Performance Standard requirements, including Performance Standard 2, related to labour and working conditions;
- Implement the actions set out in the Labour Force Management Plan (LFMP). Ensure that all contractors who work on site during the construction phase of the pipeline are aware of, adopt and comply with the Casual Labour recruitment Guidelines and the Labour Force Management Plan. EPC Contractors should be briefed by the lead department before commencement of contract execution to minimise on local employment conflicts;
- Preferentially hire local people, in accordance with CNOOC policies and agreements with Government. Advertise employment opportunities within the local fishing villages (local labour market) so that as many





people as possible are employed who can continue to live with their families as they offer their services to the project. The construction contractor is to prepare an employment strategy for unskilled and skilled labour, and to ensure a focus on pipeline-affected communities, demonstrating that similar numbers of people are employed from each village. This must be revised and reviewed at the commencement of pipeline construction. The distribution of jobs will be monitored as a KPI. A project information centre must be established in each sub-Parish crossed by the pipeline and/or community liaison workers appointed who will serve as a source of information on potential job opportunities and probably as a location for recruitment. This strategy must include procedures to identify and verify the areas in which applicants live, as well as information about experience, skills and potential training needs, as per the requirements set out in the applicable CNOOC procedures;

- Develop and implement training and skills development programmes in the construction workforce to expand the human capital available within the local economy; and
- Consider offering bursaries or internships to promising students (refer to discussion on the community development impacts) to build a sustainable and educated future workforce.

6.1.3.3.2 Layoff of Casual Labour

- Ensure that labourers fully understand their conditions of contract with respect to its temporary nature;
- Train the elected office bearers (LC1's) to ensure that they understand and communicate appropriate information to their communities about the temporary nature of construction phase employment.

6.1.3.3.3 Workplace Health and Safety (General)

Adopt a zero tolerance approach to employees who transgress health and safety rules;

- Train employees to ensure that they are aware of the requirements of the Occupational Health and Safety standards established by the Government of Uganda and the project health and safety rules;
- Implement health education programmes for employees in order to disseminate information regarding general social pathologies and spread of disease;
- Ensure effective management of camp facilities. Consider a closed camp status;
- Properly design the accommodation and other facilities in the personnel camp to prevent overcrowding and need to use rented accommodation available in communities;
- Ensure that there is sufficient provision for worker recreation in order to minimise the lure of substance abuse and use of external sexual services and facilities. While it is understood that it is extremely difficult to ensure prevention, it will be necessary for CNOOC to put very specific measures in place to address such issues. The current CNOOC practice of sequestering workers who reside in the camp to the camp site from 19:00 at night assists in minimising the potential interaction between workers and villagers, including sex workers;
- Incorporate veterinary concerns into the OHS management plan to include appropriate waste management which mitigates against feral dogs and an awareness of the risk of snake bites and other wild animal threats;
- Ensure adequacy of welfare and amenities, including the supply of adequate drinking water as per WHO recommended 5 litres per day, cloak rooms, sanitary facilities separate for men and women, adequately furnished eating places, hand wash rooms/areas and proper meals;
- Develop effective management of emergencies, illness and injuries through adequate medical provision, equipped first aid points at the workplace and as needed in the field and the availability of emergency response facilities; and



- Create awareness of all Occupational Health and Safety requirements from and measures for workers that include adequate orientation as well as ongoing/routine training and sensitisation on OSH.

6.1.3.3.4 Driver and Mobile Equipment Safety

- Implement driver and mobile equipment training programmes in accordance with internationally recognised guidelines for workplace safety.

6.1.3.3.5 Diseases

- Develop communicable disease strategies and site-based plans to include tuberculosis, influenza and meningitis, with the objective of promoting/protecting workplace health;
- Develop a vaccine preventable disease programme for all employees and visitors based on risk for travellers and at-risk occupations. All employees and contractors residing in close contact in camps should receive vaccines for communicable diseases where these are appropriate, including for the quadrivalent meningococcal meningitis vaccine;
- Screen local employees/contractors for TB at recruitment and provide adequate care and treatment programs from the Project's workplace medical service while complying with the requirements of the national TB program;
- Develop an integrated workplace malaria and vector control programme to include source reduction and environmental management of breeding sites, that all accommodation units in the permanent camp are proofed against mosquitoes, routine inspections of accommodation units, appropriate IEC programmes for the workforce and contractors prior to secondment and for use in country, policies and programmes related to use of protective clothing and the use of malaria chemoprophylaxis and surveillance programmes between the workplace medical service and vector control team to determine the likely origin of, and root cause of malaria cases;
- Reduce potential human vector contact and control of breeding sites of disease vectors such as mosquitoes. Continually monitor activities on site to ensure adequate drainage and management of storm water to minimise breeding in the area;
- Develop a clear HIV policy and programme in the workplace which includes ensuring that there is adequate accommodation capacity at the temporary personnel camps to eliminate the need for contractors or visitors to seek accommodation in the local villages;
- Develop and implement an HIV and STI prevention programme for suppliers, which is to include awareness and education about STI's. The design and placement of rest stops for drivers transporting goods and materials to and from the production facility should be away from local communities and properly subsidised for cheap food / entertainment to avoid the potential for prostitution and to eliminate the need for drivers to seek accommodation in the local villages;
- Develop a code of conduct that actively discourages sexual relationships between the workforce and the local community;
- Incorporate effective and adequate Health and Safety measures, including the provision of adequate and sufficient PPC/E of nationally or internationally recognised standards to all workers, clear signage about safety and precautionary warnings around and within construction and high risk areas, protection against biological hazards, including insect and snake bites and provide mobile toilets in different work areas (where formal toilets are not available) to prevent uncontrolled defecation/urination and faecal contamination among members of the workforce;
- Work with the village and traditional leaders to manage truck stops, as well as district authorities to report any increase in high-risk sexual behaviour from elements of the workforce, including the collection of baseline data;



- Develop and implement an HIV and STI management programme in the workforce, to include awareness and education, treatment services that link to the public health service, provision of free condoms, access to counselling, proper provisioning of the work camps to dissuade workers travelling into communities for entertainment and support of family friendly accommodation in the camps;
- Prohibit all drivers (permanent employees, contractors and suppliers) from giving lifts to the local community;
- Screen for STIs and hepatitis B/C virus as part of pre-employment fitness to work process. Treatable causes should be managed, and chronic carriers excluded from employment until managed; and
- Support a HBV vaccination campaign/ or antibody testing on any employee who may have not been vaccinated as a child.

6.1.3.3.6 Alcohol and Drug Abuse

- Continue the CUL policy of prohibiting the possession and use of drugs and alcohol at all of its camps and worksites and those of its contractors and the associated routine search of vehicles and bags to ensure that unauthorised substances are not taken into the camps facilities; and
- Develop a programme to address education about and management of non-communicable diseases related to use of drugs and alcohol issues.

6.1.3.3.7 Other

- Develop nutritional programmes that promote proper nutritional practices at the workplace to prevent obesity and related health impacts, including education programmes in the workforce on financial management and support of the household units in employees that have traditionally followed a subsistence lifestyle.

6.1.3.3.8 Graft and Exploitation

- Ensure that CNOOC puts in place and meticulously implements all required anti-corruption, business ethics related and internal compliance Policies and Programmes, including the CNOOC Limited Code of Commercial Behaviour and Conduct of Employees, the Procedures for Handling Violation of Rules of CNOOC Limited Employees as well as its Guidelines for Overseas Operation with Compliance of CNOOC;
- Ensure that all employees, contractors and sub-contractors are alert to situations where they may become the victims of crime or targets for corrupt practices, including that perpetrated by civil servants;
- Develop and implement a campaign at national, district and local level to ensure that there is a comprehensive understanding of the manner in which CNOOC appoints staff, as well as associated sensitisation related to graft and exploitation;
- Ensure that all employees, contractors and sub-contractors are alert to situations where they may become the victims of crime or targets for corrupt practices, including that perpetrated by government officials; and
- Ensure that there is a protocol in place for reporting and managing incidences of intimidation and/or corruption. This protocol should include a coherent process for supporting persons who are unable to communicate fluently in English.



6.1.3.4 Impact Significance Rating

Table 69: Construction phase impacts on the workforce

| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|--|----------------|---|-------------------|-------------|-----------------|-----------------|----------|-----------------------|-------------|-----------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Impact on employment | | | | | | | | | | |
| - Employment opportunities | 6 | 2 | 3 | 5 | High Medium +55 | 8 | 2 | 3 | 5 | High Medium +65 |
| -Skills development and training | 6 | 5 | 3 | 5 | High Medium +70 | 7 | 5 | 3 | 5 | High Medium +75 |
| -Layoff of casual labour | 8 | 3 | 3 | 4 | High Medium 56 | 4 | 2 | 3 | 4 | Low Medium 36 |
| Impact of workforce accommodation | 6 | 2 | 3 | 5 | High Medium+ 55 | 8 | 2 | 3 | 5 | High Medium +65 |
| Impact on Employee Health and Safety | | | | | | | | | | |
| -general safety | 10 | 5 | 2 | 4 | High Medium 68 | 2 | 2 | 2 | 4 | Low 24 |
| -driver safety | 10 | 5 | 2 | 4 | High Medium 68 | 2 | 2 | 2 | 4 | Low 24 |
| -graft and exploitation | 7 | 2 | 2 | 3 | Low Medium 33 | 4 | 2 | 2 | 3 | Low 24 |
| -alcohol and drug abuse | 10 | 5 | 2 | 4 | High Medium 68 | 4 | 2 | 2 | 3 | Low 24 |
| -vector related diseases | 9 | 5 | 2 | 4 | High Medium 64 | 2 | 2 | 3 | 4 | Low 28 |
| -sexually related diseases | 10 | 5 | 3 | 5 | High 90 | 4 | 2 | 3 | 5 | Low Medium 45 |
| -sanitary and hygiene - related diseases | 8 | 3 | 2 | 4 | Low Medium 52 | 2 | 2 | 3 | 3 | Low 21 |
| KEY | | | | | | | | | | |
| Magnitude | | Duration | | | Scale | | | Probability | | |
| 10 Very high/ don't know | | 5 Permanent | | | 5 International | | | 5 Definite/don't know | | |
| 8 High | | 4 Long-term (impact ceases after closure of activity) | | | 4 National | | | 4 Highly probable | | |





| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|-------------------------------|-------------------------------|----------|-------------------|-------------|--------------|---------------------------|----------|-------------------|-------------|--------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| 6 Medium | 3 Medium-term (5 to 15 years) | | 3 Regional | | | 3 Medium probability | | | | |
| 4 Low | 2 Short-term (0 to 5 years) | | 2 Local | | | 2 Low probability | | | | |
| 2 Minor | 1 Transient | | 1 Site only | | | 1 Improbable | | | | |
| 1 None/Negligible | | | | | | 0 No chance of occurrence | | | | |

Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: +

6.1.4 Economic Impacts

The project will have impacts in the local, regional and national economy through direct and indirect economic benefits. While it is beyond the scope of this study to conduct a comprehensive macro-economic assessment, general economic impacts are discussed below.

6.1.4.1 National, Regional and Local Economic Development

6.1.4.1.1 National and Regional Economic Growth

The development of the oil and gas resource industry, through the CNOOC project, will have a beneficial impact in the region. This will include revenue for the government, employment opportunities at local, regional and national level and a direct and indirect effect on business development. Increased household income and expenditure will result. On its own and combined with the effect of the other oil industry developments, the CNOOC project is likely to generate significant economic multipliers¹⁷³. Research for other oil development projects has shown that economic multipliers of about 2.33 for value added¹⁷⁴ and between about 2.88¹⁷⁵ and 3.03 for labour income¹⁷⁶ apply. While these studies were undertaken for oil and gas developments in the USA, and the ratios do not necessarily hold true for developing economies, the general positive economic multiplier effect is clear.

The increase in work opportunities provided by the project will result in growth in the proportion of residents with higher incomes. Given the number of oil and gas projects under consideration in the sector, there is likely to be a continued and expanding demand for skilled labour. Wages for skills needed in the oil industry are likely to increase. Employment in the oil industry will generate government revenue, deducted from salaries through Pay As You Earn (PAYE) as well as through Local Service Tax levied on income earners residing in the administrative area.

This economic impact will be positive and of medium magnitude (a significant number of Ugandan people benefitting from economic growth, as a result of the project), and will be permanent and extend to people and businesses at regional and national level, resulting in a **high medium** significance rating. Benefits can be further increased with the implementation of the recommended measures to enhance good governance and investment in local infrastructure and services.

Local Economic Development

The proposed development will stimulate demand for goods and services within the districts, which in turn will have a direct and indirect impact on employment in the local and regional economy. CNOOC has

¹⁷³ An economic multiplier is the increase in final income that can be derived arising from any new injection of spending, for example \$2.33 for every \$1 invested or spent. Also termed a 'trickle down' effect of economic growth as those who receive additional income spend that income in shops and businesses, which in turn drives further economic growth.

¹⁷⁴ Macroeconomic subgroup, 2011

¹⁷⁵ Pennsylvania Economy League of Southwestern Pennsylvania, 2008

¹⁷⁶ Macroeconomic subgroup, 2011





developed a local procurement policy to support further development of the business supply chain locally and regionally through appropriate purchasing and business development strategies. This will also support the district and central government initiatives intended to improve the social capital of Kikuube and Hoima Districts.

It is possible that local economic growth will increase the ability of households to earn a cash-based income. In this regard, CNOOC has indicated that it purchases in the order of 65% of its goods and services from suppliers and contractors in Uganda, which number more than 100 providers to date. The Company also trains local suppliers to meet oil and gas quality, safety and other standards and learn the tendering and bidding process.

The overall benefits to local businesses (both direct as a result of local project expenditure and indirect as a result of the growth of the informal business sector) will be of low magnitude, will have short duration (opportunities will dwindle once the cash injection from people employed on the contracts ends), will be local and of **medium** significance.

Human Capital Development

There is a strong relationship between available human capital and the ability to attain social and economic growth and development. It is recognised that the development and promotion of human capacity will be achieved most effectively through a coherent process of investment in the people of Uganda.

Uganda has a low comparative world ranking on the Human Capital Index, being currently ranked 106th out of 122 countries on the overall Human Capital Index (WEF, 2013:13), and 118th out of 122 countries in respect of the Educational Pillar of the Human Capital Index Ibid, p14).

The Business, Technical and Vocational Education and Training (BTNET) Strategic Plan 2011 – 2020 (MoGLSD, 2011) for Uganda, identifies the absence of and the urgent need for a comprehensive process to develop occupationally relevant skills and competencies, including skills for the oil and gas sector. The Oil and Gas Policy (MEMD, 2008:27) emphasises the provision of support for the development and maintenance of national expertise, including planning for the development of formal and industrial training and broadening the national education curricula in preparation for putting the necessary oil and gas workforce in place in the country.

The Industrial Baseline Survey, undertaken by CNOOC in collaboration with Total and Tullow (Hamman, 2014:29) states that it is evident that Uganda is currently unable to meet the manpower demands of the oil and gas sector and recommends, inter alia, that oil and gas operators such as CNOOC (i) in partnership with government work towards strengthening the educational system; (ii) offers direct support to existing training institutions of repute; and (iii) facilitates the establishment of a technical and vocational education and training (TVET) centre, aimed at providing competence development for, inter alia, craftsmen (civil) and mechanical and electrical technicians required by the oil and gas industry. CNOOC is directly involved in this process.

Given the relatively short period envisaged for the construction phase of the project, beneficial human capital development is likely to be limited, unless specific training programmes are put in place, without enhancement will be of **low** significance.

6.1.4.1.2 Impacts Retarding Economic Development

Competition for Experienced Labour

The construction phase of the project is likely to exacerbate the current shortage of experienced labour at local and district level. Sourcing experienced workers from the district will drain available skills away from existing businesses, increasing scarcity and cost of labour. While this is a benefit for already-skilled labourers, who will have increased demand for their services and potentially higher earnings, it will create a shortage of labour elsewhere, which will cumulatively impact on the entire Albertine region. Without mitigation, the magnitude of this impact will be medium, and it will be regional in scale, short term (reversible at the end of construction) and highly probable, resulting in impacts of **low medium** significance





Impact on Land and Property Rates

Local knowledge of the proposed KFDA project has resulted in speculation for land, where individuals move into the area and claim land for themselves. According to residents along the proposed pipeline route, these speculators sometimes have title deeds which have been acquired fraudulently. This practice has been successfully challenged at least once, with a prominent government official being jailed for fraudulent transactions. Despite this, it is reported that speculators continue to try to trade up the price of land in the local area.

Without mitigation, this impact is likely to be experienced during the construction phase of the pipeline. Coupled with a struggling land management system, issues about the ownership of land are likely to increase. This impact could reach a point at which hostilities begin to emerge. Impact magnitude is expected to be high at local scale, short term (largely reversible after construction), with a high probability of occurrence and high **medium** significance.

Disruption of Livelihoods

Some people will lose their only sources of livelihood including their access to small sections of land on which subsistence agriculture is practiced. Whilst there will be compensation in respect of crops, individuals who have been in a position to use land by prior permission may find it extremely difficult to source affordable alternatives. This could, potentially, result in a disruption of livelihood-related activities or even their suspension, with associated increased levels of poverty, pending completion of the construction phase.

This magnitude of the impact is potentially very high, with long term consequences for the affected individuals. The impact will be local (restricted to the area along the pipeline) and highly probable, resulting in **high medium** significance.

6.1.4.1.3 Impacts due to in-migration

The influx associated with the escarpment access road is already causing tension within and between communities on the Buhuka Flats and to a lesser extent along the feeder pipeline route. With a steady population influx into the area in response to expectations about work and business opportunities associated with the construction activities, the demand for land and price speculation is expected to continue increasing throughout the construction phase. Tensions are also expected to escalate as migrants settle in the area and compete with local people of natural resources and for jobs on the construction contract. In countries with high levels of unemployment and politically unstable neighbours, economic migration in response to perceived opportunities can be highly significant. While the numbers settling along the pipeline and around the personnel camp cannot be predicted with any certainty, this impact will be felt locally, will be only partly reversible, long term (many migrants may not return to their place of origin), and of high magnitude, taking into account the vulnerability of communities along the pipeline route. It is highly likely that this impact will occur, but since there is some uncertainty about it, the probability is designated as a 'definite' rating score (5). The overall impact significance without mitigation will be **high**.

6.1.4.2 Impact Mitigation and Monitoring

The following impact mitigation is recommended:

6.1.4.2.1 National, Regional and Local Economic Development

National and Regional Economic Development:-

- Contribute to economic development and infrastructure improvement in the project area, in partnership with central, district and local government;
- Develop a transparent community development and contribution policy;
- Encourage the development of government fiscal programmes to manage inflation and support vulnerable groups as required (elderly, single women or child headed households);



- Develop programmes to manage inflation and support vulnerable groups as required (elderly, single women or child headed households); and
- Support educational and vocational training reform that will develop the range of skills necessary for Uganda to benefit more fully from the sector, including support of science, technology, **engineering**, and mathematics (STEM) at schools and technical and vocational education and training centres.

Local Economic Development:-

- Maximise local procurement of goods and services, wherever reasonably possible. CNOOC has committed to this principle, which will apply to the construction contractors responsible for the feeder pipeline as well; and
- Create a detailed and specific local procurement policy (LPP) that will provide benefits to the local community by prioritising sustainable business opportunities with local enterprises, particularly SMMEs. The LPP should set out the steps that will be taken to work with and build the capacity of local suppliers to become more competitive and profitable. This may include the provision of external training and support, aimed at improving their operational, safety, environmental and technical standards to a standard that allows them to compete effectively for contract opportunities. From an internal perspective, the LPP should integrate real measures to identify local procurement opportunities, to communicate the business case to all relevant stakeholders and to put incentives and opportunities in place that will incentivise a supply chain process committed to ethical local procurement.

Human Capital Development:-

- Identify unskilled construction workers who demonstrate the necessary experience and aptitude for potentially becoming part of a valued workforce, and introduce a directed in-service mentoring and capacity building support programme;
- Promote STEM at school level by incorporating support to the development of science laboratories at schools, strengthening education in maths and science at schools and the development of well-stocked school libraries as a specific focus area for the CNOOC Community Development Plan;
- Consider offering bursaries or internships to promising students (refer to discussion on the community development impacts) to build a sustainable and educated future workforce;
- Collaborate with the Petroleum Authority of Uganda (PAU), which is tasked with establishing, maintaining and operating a National Talent Register for the petroleum sector to ensure that CNOOC contributions in the form of bursaries and scholarships support the development of an appropriately skilled labour force; and
- Support initiatives that will promote and strengthen the levels of competence of master artisans and crafts persons within the Technical Education and Training (TVET) system, and design mechanisms that will support the entrance of female scholars into TVET institutions.

6.1.4.2.2 Impacts Retarding Economic Development

Competition for Experienced Labour:-

- Develop and implement training and skills development programmes for the construction workforce to expand the human capital available within the local economy; and
- Create opportunities for supporting and up-skilling suitable candidates from the temporary unskilled construction workforce so that their experience and competence is built in a manner that aligns their competencies with workforce skills needs.

Land and Property Rates:-



- Support work to develop comprehensive land policies. This includes support for Government capacity to do strategic, long-term land use planning that protects small holder farmers and helps balance multiple uses of land, including for oil and gas extraction.

Disruption of Livelihoods:-

- Implement the recommendations of the RAP, as well as the Alternative Livelihoods Strategy; and
- Ensure that the Community Development Plan addresses issues related to disruption of livelihoods and the promotion of livelihood-related safety networks.

6.1.4.2.3 Impacts of In-Migration

- Engage closely with government to monitor land ownership and changes thereto surrounding the project development;
- Implement the recommendations of the Influx Management Strategy and Framework Plan (Volume 4, Specialist Study 11); and
- Prepare to accommodate the changes arising from the population influx by sensitising the LC system. This is particularly important, as it is at this level that the stability of a village is decided, including the establishment of checks and balances for maintaining individual rights and responsibilities, and for managing crime.

6.1.4.3 Impact Significance Rating

Table 70: Construction phase economic impacts

| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|---|----------------|----------|-------------------|-------------|-----------------|-----------------|----------|-------------------|-------------|-----------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| National, regional and Local Economic Development | | | | | | | | | | |
| - National and Regional Economic Growth | 6 | 2 | 4 | 5 | High Medium +60 | 8 | 2 | 4 | 5 | High Medium +60 |
| -Local Economic Development | 4 | 2 | 2 | 5 | Low Medium +40 | 7 | 2 | 2 | 5 | High Medium +55 |
| -Human Capital Development | 3 | 5 | 2 | 3 | Low +30 | 5 | 5 | 3 | 4 | Low Medium +52 |
| Impacts Retarding Economic Development | | | | | | | | | | |
| -competition for experienced labour | 6 | 2 | 3 | 4 | Low Medium 44 | 3 | 2 | 2 | 4 | Low 28 |
| -land and property rates | 10 | 2 | 2 | 4 | High Medium 56 | 4 | 2 | 2 | 4 | Low Medium 32 |





| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|--|----------------|---|-------------------|-----------------|----------------|---------------------------|----------|-------------------|-------------|---------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| -disruption of local livelihoods | 10 | 4 | 2 | 4 | High Medium 64 | 4 | 2 | 2 | 4 | Low Medium 32 |
| Impacts due to In-Migration | 10 | 4 | 2 | 5 | High 80 | 6 | 4 | 2 | 4 | Low Medium 48 |
| KEY | | | | | | | | | | |
| Magnitude | | Duration | | Scale | | Probability | | | | |
| 10 Very high/ don't know | | 5 Permanent | | 5 International | | 5 Definite/don't know | | | | |
| 8 High | | 4 Long-term (impact ceases after closure of activity) | | 4 National | | 4 Highly probable | | | | |
| 6 Medium | | 3 Medium-term (5 to 15 years) | | 3 Regional | | 3 Medium probability | | | | |
| 4 Low | | 2 Short-term (0 to 5 years) | | 2 Local | | 2 Low probability | | | | |
| 2 Minor | | 1 Transient | | 1 Site only | | 1 Improbable | | | | |
| 1 None/Negligible | | | | | | 0 No chance of occurrence | | | | |
| Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: + | | | | | | | | | | |

6.1.5 Community Health, Safety and Security Impacts

The Health Impact Assessment for the project (APPENDIX B) provides a systematic evaluation of the 12 Environmental Health Areas (EHAs) of project-triggered health impacts. The EHA framework is used in the 2007 IFC Guidance Notes for Performance Standard No. 4, Community Health, Safety, and Security. These impacts are related to health and safety of communities in and around the project area, and include housing, diseases, accidents and injuries, crime and nuisance.

6.1.5.1 Impact of Diseases and Health Service Infrastructure

6.1.5.1.1 Sexually Transmitted Diseases

Contractors and workers are commonly perceived as being wealthy by the local population, especially in rural settings such as the escarpment villages along the proposed pipeline route. Previous experience of infrastructure development projects, described by village elders, has shown that these circumstances encourage cash-strapped people to sell sex as a commodity, to generate vital income. Adolescent girls are often the victims of these practices. Members of an external workforce who are allowed to mingle at will with inhabitants from settlements are likely to father children with local women. Given the temporary nature of the work, once the construction activities cease, it is common that both the women and children are abandoned when the workers move on, leaving single female-headed households.

The presence of large construction accommodation camps may also serve to attract sex workers from further afield, with an inevitable associated increased risk of the spread of sexually transmitted diseases.

Without a high degree of management, this type of behaviour will continue and probably increase once contract personnel are on site, resulting in the further spread of STDs, both locally and potentially back to the home villages of workers who do not live in the area (regionally). The unmitigated impact will be long term, being only partly reversible depending on the availability of treatment, of high magnitude and **high** significance.





6.1.5.1.2 Soil and Water Borne Diseases

Water related diseases such as cholera and typhoid remain a constant problem within the Study Area. The project construction teams will be provided with water and sanitation services. The spread of infectious diseases by construction teams could therefore be caused only in the event that personnel defecate or urinate in the field, particularly in water courses. This is likely if appropriate field facilities are not available to personnel working along the pipeline route and also if field teams are not properly trained. Without management control, and in the context of vulnerable rural communities with limited access to health infrastructure, the magnitude of this impact will be medium, duration will be medium term (the impact may persist after construction depending on the availability of treatment), and impact significance will be **low medium**.

6.1.5.1.3 Vector-Based Diseases

Malarial risks in communities near the pipeline may increase as a result of the construction of the project, mainly due to the creation of areas where seasonal ponding can occur. Flooded or open trenches during construction, in particular during the rainy season, will create additional mosquito breeding grounds for the malaria vector, by providing habitats with reduced predation. Nevertheless, this problem is already ubiquitous in the local villages due to many suitable breeding areas for the vectors, including irrigated lands, fresh water points, stagnant water pools in ditches and depressions, as well as marshy areas. The impact will affect local communities along the pipeline route, will be of low magnitude (adding little to the existing malarial risks) and medium term (assuming the effects persist for some time after construction ends), and will result in impacts of **low medium** significance.

6.1.5.1.4 Housing and Respiratory Diseases

The traditional wattle-daub or mud-block constructed houses found in the villages characteristically do not have windows. The associated poor ventilation can cause respiratory health problems that are exacerbated in the presence of damp and mould. An additional factor that negatively impacts air quality is the number of persons sharing the (usually) single room dwelling.

In the case of relocation, new homes provided by CNOOC are well ventilated, multi-roomed and offer general and specific health benefits, including factors that impact respiratory conditions and may be regarded as a positive, permanent, impact of **high** significance for the resettled families.

6.1.5.1.5 Health Service Infrastructure and Capacity

From the baseline socio-economic description, it is clear that health infrastructure and services are lacking in the local study area, and that self-reported disease and illness levels are high and have a significant influence on households' ability to engage in their livelihoods. If communicable and non-communicable diseases increase as a result of the introduction of the project workforce, additional pressure that will be placed on health care systems is likely to result in decreased levels of service.

Teenage pregnancies are already a concern in the region, and according to the Hoima District Police Child and Family Division, there has been a general increase in the numbers of recorded teenage pregnancies. The Division further notes that violence and substance abuse are also increasingly common in the District.

Previous developments in the area, such as that for the road infrastructure project, are reported by village elders to have resulted in sexual engagements between workers and local people. In particular, they expressed concern about young and even under-aged girls having fallen pregnant. Early pregnancies and inadequate health care services contribute to a high maternal death rate, while pneumonia, diarrhoea, malaria and malnutrition produce a very high child mortality rate¹⁷⁷. Given this, villagers are generally vulnerable to inadequate health care, whilst teenage girls are highly sensitive to this impact. Impact magnitude (decreased level of health service due to pressures caused by the project workforce) will be high, with local, short term effects resulting in an overall impact significance of **high medium**, particularly for teenage girls.

¹⁷⁷ Population Institute, 2015





6.1.5.2 *Impact of Pollution*

6.1.5.2.1 *Hydrotesting*

Before commissioning of the pipeline, its integrity is tested by filling it with water and pressurising it. On occasions, biocides and corrosion inhibitors are added to the water, depending on the residence time before it is discharged. Details are not presently available but it is assumed that the water will be discharged into the nearest drainage lines. Without management, its release can present a severe risk in the aquatic environment, resulting in mortality of downstream fauna and flora and risks to communities and stock. Social impacts would potentially have high magnitude, extending into the medium term, with **high medium** significance.

6.1.5.2.2 *Treated Sewage Effluent*

Treated sewage effluent in excess of approximately 50 m³/day will be discharged from a package sewage treatment plant at the personnel camp. The effluent will be required to meet the project standard for domestic effluent, which is based on the Ugandan legal standard. Details are not available at present but it is likely that the final effluent, after chlorination, will be delivered into a soakaway. Local soils are loamy clays which are suitable for this purpose. Subject to compliance with the project standard, the magnitude of impact on groundwater and consequent community health risk is negligible and short term and local in extent. Impact significance will be **low**.

6.1.5.2.3 *Domestic Waste Generation*

Ugandan legal requirements for the management of domestic waste include avoidance, minimisation, recycling/re-use followed by disposal as the last option. Subject to compliance with these requirements, and management of disposal, domestic camp waste is unlikely to cause community health risks (such as leaching of contaminants to groundwater or infestations of pests). Impact magnitude will be minor, and impacts will be local and short term, with **low** significance.

6.1.5.3 *Impact on Community Safety*

6.1.5.3.1 *Traffic and Pedestrian Safety*

Regular travel of construction vehicles, particularly on the dirt roads along the pipeline route, is likely to increase safety risks for pedestrians and other vehicles. Construction traffic to and from the personnel camp and the worksites along the pipeline will be mainly along dirt roads near the pipeline and along the construction right of way itself.

A significant increase in traffic combined with a number of factors including poor current road conditions, uneven surfaces and the limited understanding of road safety among local drivers and pedestrians may increase accident risks in local communities. Vehicles hauling pipeline construction materials and workers may cause traffic hazards in trading centres or near schools and along narrow roads in places where construction traffic is not using the construction right of way. This will be exacerbated by the generation of dust, particularly by the heavy transport vehicles. Children, women and elderly people are often at higher risk of traffic-related accidents. Children are typically curious about large construction sites, and pipeline construction will be something they have not seen before. Many are likely to turn up at the edge of the construction right of way to watch. Pedestrians will also need access across the pipeline right of way in places. Access requirements have not yet been fully assessed, but where they exist, pedestrians will be at risk when crossing the working areas. Where the pipeline trench is open they will be unable to cross safely unless provision is made for crossing points.

Overall, without a high level of management, construction traffic accidents could lead to damages, injuries and even fatalities in local communities. The impact will have very high magnitude (causing severe nuisance or injury), could be long term (in the case of injuries or fatalities), local, and of **high medium** significance.





6.1.5.3.2 Violence and Crime

As with a number of other impacts identified, while there is not necessarily a direct correlation between the levels of violence and crime and construction phase activities of CNOOC, these risks will need to be considered in terms of their direct potential impacts as well as in respect of CNOOC's Social Licence to Operate.

There is a likelihood of some construction workers causing violent incidents in local communities, possibly fuelled by drug use or alcohol. This is more likely to be an issue in Hohwa, which is the village closest to the construction accommodation camp, but cannot be discounted in any other villages where construction activities will be nearby. Arrogant attitudes displayed by construction workers, who are generally wealthy compared with community members, may also spark violent confrontations. These issues can generally be managed by lack of tolerance to aggression and violence among construction workers by management, but in unmanaged conditions can be an important concern. Incidents are probable in the absence of mitigation, and given the vulnerability of local communities, will cause impacts of high magnitude (both in terms of injury to third parties and the effect on CNOOC's social license to operate), with residual effects possibly extending beyond the short term, and **high medium** significance.

6.1.5.3.3 Hazardous Materials and Wastes

Hazardous materials (mainly oils and fuels, acids, paints and cleaning agents) will be contained within the personnel camp and are unlikely to result in risks to surrounding communities. At the work sites, quantities of potentially dangerous wastes are produced such as pipe cuttings, waste welding rods and flux, oil spills from vehicles and equipment and other incidental discarded construction material and waste. If this is not properly cleaned up it may result in a future long term hazard for local communities. Given extensive rural settlement near the pipeline route and the likely use of the pipeline right of way for grazing, after construction teams leave, the sensitivity to potentially hazardous industrial waste along the servitude, not properly cleaned up is high. Without mitigation, the magnitude of this impact will be high, extending beyond the construction phase. Impact significance will be **high medium**.

6.1.5.3.4 Fires

The pipeline team's work with welding equipment to join pipes and other equipment together so there is a risk of accidental fires escaping from the project working areas onto community land. Bush and grass fires on the Buhuka Flats and above the escarpment to Kabaale would be a major risk to people and stock unable to escape. In windy conditions, given the social sensitivity to uncontrolled bush fires, the impact magnitude, should a fire be caused by construction, would be very high, with potentially long term consequences. Without mitigation, the probability of such an incident occurring is medium, resulting in **low medium** impact significance. With appropriate management and emergency preparedness, this impact can be reduced to **low** significance.

6.1.5.3.5 Major Accidents

Major accidents could cause highly significant impacts in surrounding communities, resulting in injuries, impact on livelihoods, or other major effects. Although there are no specific data available in respect of CNOOC transport related accidents, international research and experience over more than a decade, as documented by the National Institute for Occupational Safety and Health (NIOSH^{178, 179, 180, 181}) provides statistics on work-related vehicle accidents specifically in respect of the oil and gas industry. Based on the research over time, vehicle accidents are the leading cause of oil and gas extraction worker fatalities, with roughly forty percent of on-the-job directly attributable to this. The vast majority of such accidents appear to be directly related to level of specific experience and/or non-compliance with stated safety and health systems and procedures in place within the workplace.

¹⁷⁸ National Institute for Occupational Safety and Health (NIOSH) (2012) *Fatal Facts, Oil Patch No. 1-2012*

¹⁷⁹ NIOSH (2004) *Report on fatalities attributable to a vehicle hazards*

¹⁸⁰ NIOSH (2012) *Census of Fatal Occupational Injuries*

¹⁸¹ NIOSH (2004) Publication No. 2004-136, *Statistics on work-related vehicle accidents and prevention options for employers* accessed at <https://www.osha.gov/SLTC/oilgaswelldrilling/safetyhazards.html>





6.1.5.3.6 Impacts of In-Migration

In countries with high levels of unemployment and politically unstable neighbours, economic migration in response to perceived opportunities can be highly significant. The placement of the construction camp close to Hohwa will lead to an influx of migrants into the area, seeking work and business opportunities associated with the construction activities. The demand for land and price speculation is expected to continue increasing throughout the construction phase. Tensions are also expected to escalate as migrants settle in the area and compete with local people for natural resources and for jobs on the construction contract. While the numbers settling along the pipeline and around the personnel camp cannot be predicted with any certainty, this impact will be felt locally, will be only partly reversible, long term (many migrants may not return to their place of origin), and taking into account the vulnerability of receiving communities, with high levels of joblessness and resource poverty, will be of high magnitude, with an overall **high** significance rating.

6.1.5.4 Impact Mitigation and Monitoring

The following mitigation/ enhancement measures are proposed in respect of the community health, safety and security impacts identified:

6.1.5.4.1 General

- Develop a Community Health, Safety and Security Plan and an Emergency Response Plan as required to meet IFC performance standard 4;
- Develop an induction programme, including a Code of Conduct, for all workers directly related to the project. A copy of the Code of Conduct is to be presented to all workers and signed by each person. The Code of Conduct must address the following aspects:
 - respect for local residents and customs.
 - zero tolerance of bribery or corruption.
 - zero tolerance of illegal activities by construction personnel including prostitution, illegal sale or purchase of alcohol, sale, purchase or consumption of drugs, illegal gambling or fighting.
 - zero tolerance policy of drunkenness on the ROW and no alcohol and drugs policy during working time or at times that will affect ability to work or within accommodation camps or acquired from outside the camp whilst accommodated in the camp.
 - a programme for drug and alcohol abuse prevention and random testing that is equivalent in scope and objectives to the policies prescribed in the Code of Conduct.
 - description of disciplinary measures for infringement of the Code and company rules. If workers are found to be in contravention of the Code of Conduct, which they signed at the commencement of their contract, they must face proportionate disciplinary procedures.
- Publicise the Code of Conduct in settlements potentially affected by the construction camps, as well as those along the RoW, as part of the community relations plan. This will help ensure that the local residents are aware of the expected behaviour of construction staff. Posters with the Camp Rules should also be posted in neighbouring settlements or lodged with the LC1 of each village;
- Provide entertainment facilities for workers at the construction accommodation camp and establish clear rules for conduct during leisure time as well as the need to remain within the camp boundaries during leisure time; and
- Implement a grievance procedure that is easily accessible to the local community, through which complaints related to CNOOC contractor or employee behaviour that infringes on the health, safety or security of community members can be lodged and responded to (see issues in this regard in Box 5). CNOOC must respond to such complaints in a considered manner, including:



- Circulation of contact details of community liaison officers or, if separate, of 'grievance officers' or other key contact.
- Circulation of details of the Witness NGO as well as the mechanisms to access the NGO.
- Raising of awareness amongst the local community regarding the grievance procedure and how it will work.
- Establishment of a grievance register that is continuously updated and maintained by CNOOC.
- Provision of a mechanism to provide feedback to individuals, groups and village councillors regarding actions that **have been taken in response to complaints lodged**.

Box 5: Existing Problems with respect to Grievances

According to IFC's Performance Standard 1, if ongoing risks to or adverse impacts on project-affected communities are anticipated, the Project Sponsor is required to "establish a grievance mechanism to receive and facilitate resolution of the affected communities' concerns and grievances about the client's environmental and social performance" (IFC, 2006, p. 5). To respond to this requirement, CNOOC need to appoint a Witness NGO to provide oversight, to receive grievances and to oversee the process to address these concerns.

The CNOOC Grievance Mechanism, which is already in use, is not thought to be effective by many villagers. The general perception is that CNOOC has not taken grievances sufficiently seriously and that villagers are powerless to have issues that they believe are important addressed, if CNOOC does not regard them to be important. There is also no evidence that a critical Witness NGO had been appointed to provide oversight of resettlement and compensation discussions between CNOOC and villagers. Grievances are received by CLOs at the Kingfisher Camp, the CNOOC office in Hoima and when they visit communities. As well, there are oil and gas advisory committees within every parish which meets on a quarterly basis. Despite this, it is clear that community members still hold the opinion that they are not being heard. It is necessary to take grievance management closer to the people and to ensure that subsistence stakeholders are able to have their concerns addressed without having to spend any money is realistic and fair. This is a critical issue, and will need to be addressed by CNOOC. Failure to ensure that villagers believe that they are actually being 'heard' will negatively impact on the company's Social Licence to Operate.

6.1.5.4.2 Impact on Diseases

- Develop a Communicable Diseases Action Plan as an essential tool in managing disease related impacts;
- Develop an Employee Health Awareness Policy and ensure its implementation among CNOOC personnel and its contractors or sub-contractors. The policy must provide for:
 - Extend the current short-term HIV/AIDS testing and counselling services being provided and implement related advocacy, factual data provision, awareness creation as well as behaviour change issues around the transmission and infection of HIV/AIDS in a manner that allows linkages with the Government of Uganda HIV/AIDS related initiatives.
 - Health awareness training for workers including communicable diseases at induction and then periodically throughout construction.
 - Awareness raising on communicable diseases for communities close to camps (via posters, leaflets, through health clinics, community meetings).
 - Liaison with local health authorities.





- Implement interventions aimed at reducing the impacts of vector borne diseases through mechanisms such as sanitary improvements and minimising areas where water is impounded as a result of construction activities.

6.1.5.4.3 Impact on Health Services

- Monitor worker compliance with the Code of Conduct;
- Minimise opportunities for fraternising between workers and members of the community, in particular young girls;
- Support community sensitisation and youth counselling initiatives aimed at promoting risk-seeking behaviour amongst youth; and
- Support community-based sensitisation regarding HIV/AIDS, STIs and risks related to early pregnancies.

6.1.5.4.4 Impact on Pollution

- Ensure that no waste whatsoever, including construction waste is dumped in watercourses or at any site that impacts on villagers or their land use; and
- Ensure that the use of water does not disturb public water availability and that sources of water are carefully selected.

6.1.5.4.5 Impact on Community Safety

- Ensure that the current CNOOC Land Transportation Specification: Document CUL-QHSE-L3(GE)-023 is further developed in a manner that allows the adoption and implementation of a comprehensive CNOOC driving and vehicle management plan as part of the initial activities which will be adopted for the construction phase. Based on this, CNOOC must adopt the best transport safety practices with the goal of preventing traffic accidents and minimizing injuries suffered by project personnel and the public, as well as creating awareness among the local people and villages about road safety, through the extension of current CNOOC road safety awareness programmes. Other mitigation should include:
 - Adopting appropriate and comprehensive measures to address emerging/new issues as they arise.
 - Implementing practical measures such as the enforcement of slow speeds and water spraying to suppress dust from heavy truck convoys on dirt roads.
 - Ensuring the placement of flag man at trading centres as necessary.
 - Emphasizing the need to conserve the natural environment through aspects such as avoiding the use of the Bugoma Forest Road and the respect for wildlife.
 - Emphasising the need to avoid night driving, except in emergency situations.
 - Labelling all vehicles on the sides with stickers which have recognisable, easy to recall numbers, to assist with ease of identification and subsequent reporting, in case of road safety violations and/or accidents.
 - Emphasising safety aspects among project drivers, specifically ensuring that drivers respect speed limits through busy and built up areas.
 - Ensuring the roster and shifts structure for the project allows employees plenty of opportunity for sleep and rest between shifts and on their days off.
 - Adopting a proactive approach to managing driver fatigue, based on adequate hours of rest to avoid overtiredness.
 - Avoiding dangerous routes and times of day to reduce the risk of accidents.



- Positioning traffic guides at children crossings to control driver speeds and seeking cooperation with local educational facilities (school teachers) for road safety campaigns.
- Implementing safe traffic control measures, including road signs and flag persons to warn of dangerous conditions and children crossings.
- Provision of alternative transport (bus) for the construction workforce.
- Ensuring contractors regularly maintain vehicles to minimize potentially serious accidents such as those caused by brake failure commonly associated with loaded construction vehicles.
- Ensuring contractors compile a list of service schedules of all equipment deployed on site.
- Minimising interaction of pedestrians with construction vehicles through collaboration with local communities and responsible authorities (e.g. police) to improve signage, visibility and overall safety of roads particularly along stretches located near schools or through busy areas.
- Considering additional warning tape at accident-prone stretches and sensitive locations (schools and hospitals) if identified as required.
- Developing and implementing road safety awareness campaigns along all transport routes, particularly at centres, school zones and health facilities and collaborating with local communities about education about traffic and pedestrian safety (e.g. one road safety campaign at a nearby location once a month).
- Partner with the Ugandan Police Force Community Liaison Officers to allow sensitisation of communities on issues related to crime;
- Ensure that there is timely public notification of planned construction works and close consultation with local communities to identify optimal solutions for road diversions and pedestrian crossings to maintain community access and social links;
- Provide fencing around the construction and accommodation camp that is sufficiently robust to prevent it from being broken, climbed or breached by employees or local people;
- Manage the risks of fire through specific management requirements for hot works and through education of personnel about careless behaviour in respect of cigarette smoking;
- Promote the establishment of village level fire-fighting and emergency preparedness capacity, including the sourcing of fire-fighting equipment capacity; and
- Promote awareness amongst members of the settlements about potential fire hazards, and mechanisms for promoting household safety from fires.

6.1.5.4.6 Impact of In-Migration

- Implement the strategy for minimising in-migration defined in the Influx Management Strategy and Framework Plan (Volume 4, Specialist Study 11). This will need a combined effort by Government and all oil industry partners;
- Assist Government to plan, develop and implement community infrastructure and support that improves the living conditions of project-affected people;
- Implement the Community Development Plan and the Alternative Livelihoods Restoration Plan that offers practical mechanisms and mitigation strategies for the loss of grazing land caused by the project and the general loss of resources caused by increasing populations; and
- Plan locations for hiring labour to avoid attracting job seeking migrants to the front gates of the various project work areas and into sensitive communities. Ensure that the EPC and Drilling contractors comply with these requirements.





6.1.5.5 Impact Significance Rating

Table 71: Construction phase community health, safety and security impacts

| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|--|----------------|----------|-------------------|-------------|----------------|-----------------|----------|-------------------|-------------|---------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Impact on Diseases and Health Service Infrastructure | | | | | | | | | | |
| -Vector related diseases | 4 | 3 | 2 | 4 | Low Medium 36 | 3 | 2 | 2 | 4 | Low 28 |
| -Sexually transmitted diseases | 10 | 4 | 3 | 5 | High 85 | 5 | 4 | 3 | 4 | Low Medium 48 |
| -Soil and waterborne diseases | 6 | 3 | 2 | 4 | Low Medium 44 | 2 | 2 | 2 | 4 | Low 24 |
| - Housing and respiratory diseases | 8 | 5 | 2 | 5 | High +75 | 8 | 5 | 2 | 5 | High +75 |
| -Health Service Infrastructure and Capacity | 8 | 2 | 2 | 5 | High Medium 60 | 2 | 2 | 2 | 5 | Low 30 |
| Impact on Pollution | | | | | | | | | | |
| - Hydrotesting | 10 | 3 | 2 | 4 | High Medium 60 | 2 | 2 | 2 | 4 | Low 24 |
| -Treated sewage effluent | 2 | 2 | 2 | 4 | Low 24 | 2 | 2 | 2 | 4 | Low 24 |
| - Domestic wastes | 2 | 2 | 2 | 5 | Low 30 | 1 | 2 | 2 | 5 | Low 25 |
| - Hazardous materials and wastes | 9 | 3 | 2 | 4 | High Medium 56 | 2 | 2 | 2 | 4 | Low 24 |
| Impact on Community Safety | | | | | | | | | | |
| - Traffic and pedestrian safety | 10 | 4 | 2 | 4 | High Medium 64 | 2 | 4 | 2 | 3 | Low 24 |
| - Violence and crime | 8 | 4 | 2 | 4 | High Medium 56 | 4 | 4 | 2 | 2 | Low 20 |
| - Fires | 10 | 4 | 2 | 3 | Low Medium 48 | 4 | 3 | 2 | 2 | Low 18 |





| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|--|----------------|---|-------------------|-------------|-----------------|-----------------|---------------------------|-------------------|-------------|---------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Impact of In-Migration | 10 | 4 | 2 | 5 | High 80 | 6 | 4 | 2 | 4 | Low Medium 48 |
| KEY | | | | | | | | | | |
| Magnitude | | Duration | | | Scale | | Probability | | | |
| 10 Very high/ don't know | | 5 Permanent | | | 5 International | | 5 Definite/don't know | | | |
| 8 High | | 4 Long-term (impact ceases after closure of activity) | | | 4 National | | 4 Highly probable | | | |
| 6 Medium | | 3 Medium-term (5 to 15 years) | | | 3 Regional | | 3 Medium probability | | | |
| 4 Low | | 2 Short-term (0 to 5 years) | | | 2 Local | | 2 Low probability | | | |
| 2 Minor | | 1 Transient | | | 1 Site only | | 1 Improbable | | | |
| 1 None/Negligible | | | | | | | 0 No chance of occurrence | | | |
| Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: + | | | | | | | | | | |

6.1.6 Housing, Land and Resource Impacts

6.1.6.1 Methodology

In a typical project development sequence, the ESIA and ESMP precede the Resettlement Action Plan (RAP), which may only be finalised at the time of the detailed design when there is greater certainty about the project footprint. In the present case, due to project delays over a number of years, the RAP actually precedes the ESIA. All of the asset inventories for project affected people (PAPs) have been completed and discussions have been held with each PAP about the compensation process and, where necessary, physical resettlement. PAP's have been advised not to plant crops in anticipation of compensation for losses being paid. It is noted that disclosures for the feeder pipeline have not been conducted as yet.

The RAP is premised on the commitment to best industry practice, which is widely accepted as being compliance with the IFC's Performance Standard 5, 'Land Acquisition and Involuntary Resettlement'. For this reason, the assessment in this chapter evaluates the significance of physical resettlement and land acquisition impacts in relation to compliance with the guidelines set out in the performance standard.

6.1.6.2 Key Principles of the IFC Performance Standard

Under international standards, IFC PS5 (land acquisition and involuntary resettlement) (amongst other international standards) stipulate principles regarding the loss of land and the associated physical and/or economic displacement as follows:

- Involuntary resettlement should be avoided, wherever possible;
- Where involuntary resettlement is unavoidable, all people affected by it should be compensated fully and fairly for lost assets;
- Involuntary resettlement should be conceived as an opportunity for improving the livelihoods of the affected people and undertaken accordingly;





- All people affected by involuntary resettlement should be consulted and involved in resettlement planning to ensure that the mitigation of adverse effects as well as the benefits of resettlement are appropriate and sustainable; and
- Displacement and involuntary resettlement generally are highly sensitive impacts to communities, and without adequate planning and effective mitigation, such displacement and resettlement may result in severe impoverishment of communities.

6.1.6.3 Impact of Involuntary Resettlement

The proposed 46 km pipeline runs along villages and hamlets from the proposed CPF on the Buhuka Flats to the town of Kabaale. The settlement pattern comprises scattered villages with several larger trading posts. A total of 38 households¹⁸² will be displaced by the pipeline, being within the 30 m wide construction right of way (refer to Table 72). Thirty-three other structures (including kitchens, bath shelters, pit latrines and barns) will be lost. The temporary construction camp will not affect any homesteads or other structures.

Table 72: Homesteads and Other Structures Impacted by the Feeder Pipeline and Temporary Construction Camp

| Facility | Homesteads | Other structures |
|-----------------|------------|------------------|
| Feeder pipeline | 38 | 33 |
| Temporary Camp | 0 | 0 |

Source: Survesis/Nomad Consulting (2017) Phase 2 KFDA Resettlement Action Plans

The project planning has complied with the IFC requirement to minimise resettlement to the greatest extent possible. Three route location studies have been undertaken, with steadily reducing impacts on resettlement in each case. The latest study (GIE, 2017) was intended to optimise the route in relation to impacts on housing and infrastructure (see Section 16 of the ESIA Volume 3, Chapter 7 for a full discussion of alternative routes).

While the present route has reduced the number of affected households six-fold, the impact remains of high significance in the absence of a structured and fair process of resettlement, compensation and livelihood restoration. Particular issues that arise in the context of the present resettlement process, in relation to physical resettlement are as follows:

- Cash compensation: A particular issue applicable to Uganda is the payment of cash compensation for lost housing and infrastructure. Although international best practice recommends replacement of structures due to the fact that cash compensation can be misused, impoverishing the affected households, Ugandan law requires that CNOOC provide each PAP with the option of cash compensation instead of replacement of assets. This may have an especially adverse effect on women and children where they are excluded from the benefits of cash settlements.

To mitigate irresponsible squandering of cash payments by the male head of household, Ugandan law requires that men are not able to negotiate cash settlements without their spouses being present in the negotiation and being in voluntary agreement. This is a progressive law but it may have unintended negative consequences. From discussion with households at village level in the project area, including PAPs and other stakeholders such as the Ugandan Human Rights Commission, it is clear that the requirement for both partners to agree to cash compensation is resulting in increased household violence against the women partner. This has been confirmed by the Hoima Community Development and Child and Family Divisions of the Hoima District Police Department.

¹⁸² Although 38 households will be directly impacted through displacement, there will be a significantly larger number of persons impacted by the development in one way or another.





- **Uncertainty about payment:** Many PAPs have raised the issue that they have been consulted about asset inventories, but no final offer has been made to them, nor have they been informed about how and where they would be resettled. This is causing anxiety among the affected PAPs.

In the absence of compliance with an appropriate resettlement standard such as IFC PS5 and particular attention to the issues surrounding cash payments in lieu of housing replacement, the pipeline resettlement could result in poverty in the area causing long term impacts of high magnitude and high significance. On the other hand, based on the quality of replacement housing, PAPs who accept the option that sees their housing replaced are likely to experience positive long term impacts of a high magnitude and high significance.

6.1.6.4 Impacts of Land Acquisition

The land that will be cleared for pipeline construction will be within a 30m-wide construction right of way. Within this area, all buildings, other structures, trees and standing crops will be removed for the period of construction. Most of the pipeline route affects cultivated land, which is occupied by smallholders (subsistence farmers) and commercial users. As a rule, smallholders have access to small land parcels (1 acre) which they use for shelter, food and the sale of surplus crops to meet additional basic needs such as school fees, clothing and a variety of non-crop foodstuffs such as sugar. The most common subsistence crops that will be lost are bananas (for food), bananas (for beer), cassava, sweet potatoes, Irish potatoes, cotton, soybeans, groundnuts, pigeon peas, beans, sorghum and maize, whilst perennial crops including coffee, and sugar cane plantations and tree plantations (pine wood, eucalyptus), which are typically commercial crops. Beekeeping for honey production is practised in a number of villages along the pipeline route and these hives will be displaced.

Loss of land and produce as a result of project development has been raised as one of the most significant concerns by communities along the pipeline. Recent displacement caused by other developments near the project area such as the building of roads, the erection of structures for powerlines as well as expansion of subsistence, small and larger scale agricultural initiatives and encroaching practices of land use for cattle grazing, have made local people very aware of displacement-related impacts. The general sense of threat to livelihoods amongst villagers is heightened by the fact that President Museveni, at the opening of the Nile National Agricultural Show, has said that ongoing subsistence agricultural activities, as practiced by villagers, serves as a major constraint to achieving its full agricultural potential (Museveni, 2017). It is clear from discussions with villagers that there is a significant degree of mistrust about land and lack of awareness regarding land rights, displacement and the associated compensation procedures¹⁸³

Land utilisation by the project along the pipeline route will be both temporary and permanent. The construction phase will require a temporary 30 m - wide corridor (called the construction right of way) over which crops and infrastructure will be lost. This will amount to around 106 ha of ploughed agricultural land, in a total land take of 138.6 ha (based on pipeline length of 46 km x 30 m construction right of way), although not all of it will be cultivated at the time of construction, since significant areas of subsistence land lie fallow at any one time. Approximately 510 landowners and 170 land users' landowners will be temporarily affected by clearing for construction (Nomad Consulting, 2018). In addition, approximately 3.6 ha of land will be needed for the construction personnel camp near Hohwa. This land is a part of a 49 ha property owned by a single individual who rents land parcels to tenants.

Two thirds of the agricultural land affected by pipeline construction and all of the land affected by the construction personnel camp will be returned to the owners, for continued cultivation once construction is complete. In the areas that are temporarily affected by construction, owners will be compensated for crop losses, fruit trees and any other lost resources and infrastructure. In the permanent right of way (10 m wide), owners will be compensated for the value of the loss of the land, calculated at market prices as determined by

¹⁸³ Golder (2018) Stakeholder Engagement report (Minutes of Meetings with Local Communities undertaken in November and December 2017)





an independent survey. The permanent servitude will be maintained as a grassed corridor where the natural return of forest species will be prevented, and agricultural use will be prohibited.

Considering the number of refugees residing in Uganda as well as the history of conflict in the region, land rights are a sensitive issue that will need to be managed carefully when land and assets are affected. Furthermore, customary law opens the opportunity for widows to be dispossessed of her husband's land. Ugandan law also makes provision for PAPs to be offered cash compensation, which creates considerable additional risks for affected stakeholders, particularly in the present case, where land is heavily utilised and there is limited usable land readily available and in close proximity with which to compensate in kind. Without effective compensation and livelihood restoration, these impacts will be long term, of high magnitude and **high** significance.

However, if compensation is paid in full compliance with IFC PS5 and be combined with mechanisms to ensure effective livelihood restoration, it could improve the personal situations of affected landowners, providing income for landowners temporarily and permanently affected by the project. The mitigated impact could become positive, irreversible and long term, and of **low medium** significance.

6.1.6.5 Damages to Property outside of the Construction RoW

There is a potential for damage to land, property and infrastructure outside of the ROW, involving amongst other things:

- clearing of land beyond the project working areas for which compensation has not been paid;
- vehicles or people straying outside working areas and causing damage to land and crops;
- damage to farming land near the right of way;
- damage to fencing, irrigation and drainage ditches or channels, water sources (communal water points, wells or springs);
- secondary damage to crops where access to irrigation has been blocked by construction;
- vibration damage to houses or other buildings located close to the construction corridor and/or to access roads due to the use of heavy vehicles, etc.; and
- adverse effects of construction-generated dust on crops.

Without mitigation, these impacts have the potential to sour relationships between CNOOC and local communities and can be long term (in terms of damage to relationships), of high magnitude and **high medium** significance. Careful management, open communications and the transparent implementation of a fair grievance procedure should reduce the impacts to short duration and **low** significance.

6.1.6.6 In-Migration

During the construction phase of the project, there is likely to be a surge in migrants into the area above the escarpment, in response to perceived work and business opportunities associated with the oil industry. Numbers are uncertain, but in an environment where joblessness is rife and there is political instability in surrounding countries, the risks of migration into areas where opportunities exist is high. There may also be migration from the Buhuka Flats due to the rapidly increasing pressures there, with pastoralists seeking additional grazing land for stock, due to poor and overgrazed conditions on the Flats. This problem has already been noted by villagers living at the top of the escarpment. In a number of instances, the in-migrants are reported to have allowed their livestock to graze unsupervised, affecting and damaging cultivated crops. This has significant negative impacts on the ability of agriculturalists to generate crops for sale. In the absence of effective mechanisms to resolve disputes, agriculturalists tend to sell land to the pastoralists as a survival strategy.



The risk of increasing tensions between migrants and existing landowners will be high. The project is likely to be blamed for escalating disputes in this regard. Impact magnitude in the absence of management will be high, impacts will be long term (most settlers will not leave when construction ends causing permanent impacts on existing inhabitants and potentially increasing unhappiness in the relationship between CNOOC and local communities), local and of **high** significance.

6.1.6.7 Impact Mitigation and Monitoring

In the context of the above, the following impact mitigation and monitoring is proposed:

- Ensure that there is a process to identify all stakeholders (rights holders) of any land take process. While this will mean engaging the individual who indicates that he/she is the rightful land owner, the identification process should consider information from as broad a consultation group as possible. Secondary PAPs, who may not have been immediately identified, but who have utilised the land in some way for a period of up to two decades and longer. This includes the loss of dwellings of secondary PAPs, loss of crops and assets such as mango trees and resultant loss of income;
- Undertake a full investigation of the allegations that PAPs have been forced to sign documentation and if any allegations are valid, address them comprehensively; and
- Ensure that the RAP comprehensively addresses all aspects of physical and economic displacement experienced by impacted communities, in accordance with the IFC performance standard 5 which addresses the involuntary resettlement and compensation impacts in the project-affected communities (refer to Box 6).

Box 6: Standard Measures to ensure that Resettlement and Economic Displacement are Effectively Managed

Quality of life of resettled people and host communities should not be compromised;

The resettlement program has to be adequately financed by the relevant party through the Local Government, to ensure that local commitment and newly occupied resettlement land will have the same production characteristics of the expropriated ones;

Support should be provided to avoid that resettled persons will negatively impact on the life standards of host communities;

Both resettled persons and host communities should actively participate in the resettlement planning process;

The transition period should be as short as possible, and project construction activities should not proceed until the affected persons have been resettled;

The host areas must be as close as possible to the current site;

Resettlement planning must ensure that families, communities and social/cultural groups are kept together to maintain social networks;

Resettled people should be adequately and equitably compensated for the value of their land. In land-based livelihoods, land should ideally be replaced with land of equal or greater value; and

Appropriate livelihood restoration strategies developed to restore livelihoods of affected persons.

- Provide compensation for lost agricultural productivity during the construction period. Adequate notice of the pipeline construction schedule must be provided to PAPs so that they don't unnecessarily lose crops. Cash compensation must be provided based on the cost of planting, labour and fertiliser inputs required to bring the tree or vine to maturity, plus the cost of the lost production for the period it will take a sapling to reach the production level of the tree/vine at the time it is lost to the project;
- Ensure that the Livelihoods Restoration Plan, as well as the Community Development Plan, provide practical mechanisms and mitigation strategies for the loss of grazing land on the Buhuka Flats as a buffer against out-migration into areas contiguous with the pipeline development area as well as in respect of cultivated land. The extent of household reliance on subsistence food sources should be taken into consideration in this process;



- Set up an accessible and local “one-stop shop” in the community for all issues concerning the pipeline process to handle aspects such as the provision of basic information, a contact point for emergencies and grievances (whether the concern is related to CNOOC, its contractors or sub-contractors) about work on the project. As part of this process, provide a resource person (potentially a community liaison officer) who is able to provide on-site information to communities on the RAP and associated processes, property and land issues during construction, to monitor and assist the construction contractor’s pre-entry agreement procedure and final re-instatement sign-off with owners and users and for resolving outstanding issues;
- Provide comprehensive dispute resolution mechanism linked into a coherent two-way communication system (either as part of the ‘one-stop shop’ or aligned with it, with associated feedback mechanisms that will be readily accessible and available to all villagers and PAPs). This could be community liaison officers who could be the main point of contact for queries, questions and concerns on property and land issues, as well as directly related to the CNOOC process and programme;
- Provide either directly, or in collaboration with an appropriate organisation such as the Uganda Human Rights Commission;
- Ensure that land temporarily used during the construction phase is reinstated to at least the condition it was in prior to construction. This would include all agricultural land, except that needed permanently for the ROW. Agricultural land must be left graded and tilled ready for re-planting. Where land must be re-planted in order to prevent erosion, the regime must be agreed with the landowner; and
- Implement a precautionary approach to offering cash compensation as an alternative to payment in kind for housing, infrastructure and land losses. CNOOC is aware of the vulnerabilities that could be caused by cash compensation and has instituted a number preconditions prior to moving forward with the payment of compensation. These have included (i) the requirement that men are not able to negotiate cash settlements without their spouses being present during the negotiation and being in voluntary agreement (ii) payment of the compensation into a bank account (where the amount is sufficiently large to warrant this) and where the account has been opened in the name of the husband as well as the wife, with withdrawals requiring the permission and signature of both spouses, and (iii) the requirement that PAPs receive training in financial literacy and business entrepreneurship.

While mechanism is a responsive approach to the problems of cash payments, a side effect has been an increase in household violence. In particular, this has led to incidents of assault by husbands where their wives have been reluctant to give approval for intended spending. Based on case reports, the main reason for CNOOC-related incidents of spousal abuse have stemmed from this cause.

CNOOC cannot take sole responsibility for this phenomenon. Additional measures, such as ensuring collaboration between LC1s, the Uganda Human Rights Commission, the Hoima Police Department Family and Child Services Division and traditional leaders must be considered to address general social as well as intra-household violence and disruption, and this is a Government function.



6.1.6.8 Impact Significance Rating

Table 73: Construction phase impact on Housing and Land

| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|---|----------------|----------|-------------------|-------------|----------------|-----------------|----------|-------------------|-------------|----------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Impact of Involuntary Resettlement (Housing loss) | 10 | 4 | 2 | 5 | High 80 | 10 | 4 | 2 | 5 | High +80 |
| Impact of land acquisition | 10 | 4 | 2 | 5 | High 80 | 4 | 4 | 2 | 4 | Low Medium +40 |
| Impact of damages outside of the right of way | 9 | 3 | 2 | 4 | High Medium 56 | 2 | 2 | 2 | 4 | Low 24 |
| Impact of In-Migration | 10 | 4 | 2 | 5 | High 80 | 4 | 3 | 2 | 5 | Low Medium 45 |

KEY

| Magnitude | Duration | Scale | Probability |
|--------------------------|---|-----------------|---------------------------|
| 10 Very high/ don't know | 5 Permanent | 5 International | 5 Definite/don't know |
| 8 High | 4 Long-term (impact ceases after closure of activity) | 4 National | 4 Highly probable |
| 6 Medium | 3 Medium-term (5 to 15 years) | 3 Regional | 3 Medium probability |
| 4 Low | 2 Short-term (0 to 5 years) | 2 Local | 2 Low probability |
| 2 Minor | 1 Transient | 1 Site only | 1 Improbable |
| 1 None/Negligible | | | 0 No chance of occurrence |

Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: +

6.1.7 Infrastructure and Community Services

6.1.7.1 Impact of Project Use of Community Infrastructure and Services

The construction of the pipeline will employ in the order of 200 people, who will be resident in the temporary camps or, apart from cases where employees are from the direct local accommodation camp area (Hohwa), in which case they will be living at home. During this phase of the project, although there may be additional call for social services as a result of in-migration (discussed in greater detail under section 7.3.6 of the ESIA Volume 3, Chapter 7), CNOOC is unlikely to directly impact on health and welfare, education or emergency services in the local area and district, for the following reasons:

- Construction workers will be served by a fully provisioned clinic, with trained medical staff, to cater for any injuries, emergencies or general health issues experienced by personnel working on the project;
- Families and children will not accompany construction workers and no additional services in respect of education will be needed; and





- The EPC will provide their own emergency services for smaller incidents. Rescue equipment will be available for general rescue and emergency management.

The magnitude of the direct construction - related impacts on existing infrastructure and services will be very low and impact significance will be **low**.

6.1.7.2 Impact of Project Use of Local Roads

The construction teams will make use of the construction right of way (RoW) to provide access to the working areas as much as possible. Nevertheless, it is likely that there will be use of local roads to gain access to the pipeline RoW. Heavy articulated pipe carriers and other multiple axle vehicles will quickly damage the small murrum roads that crisscross the local area, causing rutting and erosion. Without mitigation, the impact is likely to be of high magnitude, local, and in the absence or repair long term, resulting in impacts of **high medium** significance.

6.1.7.3 Impact of Access Provided by Regional Road Upgrades

The improved road infrastructure to villages will allow villagers to capitalise and build on the opportunities created by the recent upgrade of a section of the Hoima-Buhuka road (the P1), as well as upgrades of the R7 and the R4. Poor road infrastructure has been cited as a key impediment to small-scale farmers in getting their produce to market. It can therefore be expected that increased accessibility to markets will stimulate economic growth in the area as follows:

- Strengthen the local economy by providing good access to offset opportunities;
- Identify and support programmes (including related to micro-financing) in support of vulnerable groups as required (elderly, female headed, and child headed households) in settlements most directly impacted by the development as part of the Alternative Sustainable Development Plan;
- Act as buffer against the current rural push factors that create increasing non-sustainable demands on urban infrastructure and services, through the direct and indirect provision of employment opportunities; and
- Act as a catalyst for the development of local business enterprises and strengthen the District's potential appeal to larger retail chains.

In addition to the above, improvements in road conditions could strengthen social capital by allowing opportunities for increased participation in community service and sporting events, as well as offering more ready access to health care facilities and schools.

It is expected that the improvements in district and regional road infrastructure will result in positive long-term impacts of high magnitude and **high** significance



SIA: KINGFISHER FIELD DEVELOPMENT AREA, UGANDA



Figure 39: Regional road upgrades proposed above the escarpment

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6.1.7.4 Impact of In-Migration

Based on information obtained during the consultation process, the Hoima Land Office as well as local councillors (LC1s) and villagers have indicated that there has been a significant influx of migrants into the sub-counties across which the proposed pipeline will run. According to the Hoima District Land Board, applications for purchase of land have primarily been for the purpose of large-scale agriculture, although there have also been applications for the establishment of villages ('towns'). The major increase in land speculation in the area is said by PACs to be largely driven by politicians and high-level officials directly attributed to knowledge about the suite of developments that have been proposed for the area which includes the oil pipeline construction, a proposed oil refinery, an international airport, petro-chemical industries, waste management facilities an ammonia fertilizer plant as well as housing for refinery workers. (World Bank, 2015:43).

There has been a further influx of people seeking employment and business opportunities that has been facilitated by the improved access to the area brought about by the road network being developed. Experience shows that it is highly likely that additional people will be attracted to the area once pipeline construction activities commence, seeking to sell goods and services ranging from food to prostitution, predominantly around Hohwa where the construction accommodation camp will be situated. This could cause tension with local communities, limit opportunities for local businesses, increase competition for public services and resources, and increase the potential for the spread of diseases and illegal activities including drugs use.

The construction workers and influx of people seeking opportunities might increase demand for infrastructure, goods and services. Infrastructure and facilities that might be impacted include local roads, healthcare and educational facilities and water sources.

- **Road Network:** There is currently limited traffic on the smaller secondary and tertiary road networks and road conditions, particularly during the rainy season can become quite slippery and treacherous even when relatively well maintained. Additional traffic loads could increase traffic related risks and accidents;
- **Schooling:** The government schools in the District are currently facing significant challenges, with increasing demand being placed on existing limited services. Private schools have exploited the gap that demand has created, but are of varying quality. The private schools here, and elsewhere, are currently under scrutiny by the Department of Education which has indicated increased vigilance in respect of quality control and standards. At the same time, in the absence of adequate government-supplied educational infrastructure, demand will continue to exceed supply. Recruitment and retention of teachers is challenging due to lack of decent accommodation in the area, as well as relatively low salaries being offered;
- **Health and welfare services:** From the baseline socio-economic description, it is clear that there is limited health infrastructure in place that can provide adequate services to all villages from Buhuka to Kabaale. Self-reported disease and illness levels are high and have a significant influence on a households' ability to engage in their livelihoods. Unconfirmed reports from villagers state that despite presenting with symptoms of malaria, testing is not carried out as no medicine is available even if a diagnosis is confirmed. Further in-migration will place additional calls on the already overloaded system (specifically related to children and maternity health), emergency housing support; and family support services;
- **Emergency services:** These services are not readily extended from the Buhuka Parish area to the villages contiguous to the feeder pipeline, despite the improved access. Increased populations will increase pressure on those services that exist; and
- **Water supply:** Communities have indicated that one of their main development needs is water supply. Population influx has already served to exacerbate this situation and it is expected to worsen with increasing populations.

Overall, in the absence of Government and CNOOC interventions, the impact of in-migration is likely to overwhelm the capability of the infrastructure and community services available to the communities along the pipeline, in particular Hohwa. Negative impacts are also likely to be experienced by the poorest members of



the communities, who will be unable to take advantage of economic opportunities but will experience the negative effects of burgeoning growth. With regard to community infrastructure and services, the following points can be made:

- A dilution of local Government influence, as newcomers into the area are typically unfamiliar (or indifferent about) local Government rules and leadership structure. This has already started causing tension within and between communities and this trend will be aggravated by further migrants; and
- The price of rented accommodation is likely to rise sharply. During the project's construction phase, migrants in search of work may look for rental accommodation rather than purchase new housing. As additional demand for housing emerges, there will be a sustained increase in rental prices. While this will benefit the owners of accommodation, it will make rental costs for existing tenants (particularly poor tenants) unaffordable.

In the absence of mitigation, impacts are likely to be of sub-regional geographic extent, long term and potentially high magnitude and **high** significance.

6.1.7.5 *Impact Mitigation and Monitoring*

It is recognized that, the increases in the population arising from influx and the presence of the construction and operations workforce will place further demands on a range of community services and facilities across the Kyangwali, Kabwoya and Buseruka sub-counties and within each of the five parishes of Buhuka, Kyangwali, Butoole, Kaseeta and Kabaale. However, these impacts are largely cumulative social impacts, and as such, an Influx Management Plan is being developed to manage influx-related impacts. CNOOC is committed to ensuring that the contractor meets the contractual obligation of using local labour wherever feasible, and specifically in terms of local unskilled labour, to avoid infrastructure and community service impacts that would arise from an increase in local population due to non-local workers. This would also improve income opportunities and economic development of the local populations along the line.

CNOOC anticipates continued influx to the area and is committed to investing in sustainable social infrastructure and capacity building at the local and regional level throughout the project's life time.

The following is proposed to further assist support alleviation of cumulative pressures on social infrastructure:

- Provide timely information about the size and demographic make-up of the project construction workforce to service providers including any potential additional requirements to adequately respond to potential emergencies;
- Provide, at all times, paramedical services on site during construction as well as general rescue and emergency management services to minimise pressure on local resources;
- Communicate effectively with stakeholders including information regarding available employment opportunities and the manner in which appointments will be made, to help limit the extent of in-migration;
- Maintain ongoing community communication strategies to keep affected communities informed about changes in the project;
- Finalise the Influx Management Strategy and Framework Plan to identify appropriate measures to mitigate the expected in-migration from the presence of the project; and
- Use the Grievance Redress Mechanism for aggrieved community members affected by project related activities.



6.1.7.6 Impact Significance Rating

Table 74: Construction phase impact on community infrastructure and services

| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|--|----------------|----------|-------------------|-------------|----------------|-----------------|----------|-------------------|-------------|---------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Impact of Project Use of Community Infrastructure and Services | 1 | 2 | 2 | 4 | Low 20 | 1 | 2 | 2 | 4 | Low 20 |
| Impact of Project Use of Local Roads | 8 | 4 | 2 | 5 | High Medium 70 | 2 | 2 | 2 | 5 | Low 30 |
| Impact of Access Provided by the Regional Road Upgrades | 8 | 5 | 3 | 5 | High +80 | 8 | 5 | 3 | 5 | High +80 |
| Impact of In-Migration | 8 | 4 | 4 | 5 | High 80 | 4 | 3 | 3 | 5 | Low Medium 50 |

KEY

| Magnitude | Duration | Scale | Probability |
|--------------------------|---|-----------------|---------------------------|
| 10 Very high/ don't know | 5 Permanent | 5 International | 5 Definite/don't know |
| 8 High | 4 Long-term (impact ceases after closure of activity) | 4 National | 4 Highly probable |
| 6 Medium | 3 Medium-term (5 to 15 years) | 3 Regional | 3 Medium probability |
| 4 Low | 2 Short-term (0 to 5 years) | 2 Local | 2 Low probability |
| 2 Minor | 1 Transient | 1 Site only | 1 Improbable |
| 1 None/Negligible | | | 0 No chance of occurrence |

Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: +

6.1.8 Individual, Family and Community Life

A number of individual, family and community level impacts have already started manifesting as part of the pre-construction phase of the pipeline development. Of particular importance are those impacts that relate to aspects of Social Licence to Operate and individual and social disruption emanating from increased incidents of intra-household conflict and abuse, as well as high levels of fear and uncertainty amongst the general population of villagers along the pipeline.

6.1.8.1 Unmet Expectations

The low levels of formal employment in Kikuube and Hoima Districts, particularly in the directly affected rural settlements makes employment highly desirable. Work seekers who are not successful in their applications for employment opportunities may become frustrated, with resultant resentment and even hostility towards CNOOC as well as those villagers who have succeeded in gaining appointments. Due to the fact that the LC1 of each village is





required to verify that work seekers do reside within the village as stated, a perception that LC1's are involved in "gate-keeping" could easily gain currency.

This issue is likely to be a key concern, affecting CNOOC's social license to operate in the long term, and is considered to be of high magnitude and **high medium** significance. Although experience of large scale construction projects indicates that it will be difficult to eliminate all bias from the recruitment process, there are key measures that can be put in place that could assist in managing this impact, reducing the impact significance to **low medium**.

6.1.8.2 *Mistrust and Social Licence to Operate*

At the time of the consultation process in 2018 that served to update the SIA, there appeared to be limited knowledge about the project among households. Village level discussions were dominated by questions about the project. Although there has been a process of engagement of villages along the proposed pipeline route as a part of the ESIA, there appears not to have been any further productive discourse about their concerns and fears during the RAP negotiations, which have concentrated on resettlement issues.

PAPs appear to have a reasonable sense of certainty about the resettlement and compensation process, due to a thorough RAP process, but there is still wide-spread uncertainty about some aspects, such as the relocation process, as well as fears related to future safety and security. Assurances by CNOOC that "nothing will go wrong" or that "if something goes wrong we will be the first to know"; are comments which community members have viewed as dismissive of their concerns. There is also suspicion amongst landowners directly adjacent to the proposed pipeline about the need to sign documentation. The relevant documents, required by NEMA and the Government of Uganda¹⁸⁴, will not infringe on their rights, but they do require that landowners provide a signed statement that they understand that the permanent pipeline RoW may not be appropriated or used in any way. Coupled with mistrust emanating from the reported experience of being witness to or victim of previous questionable transactions, this has created a sense of uncertainty and disquiet amongst landowners.

In the absence of mechanisms that will encourage ongoing (as opposed to intermittent) communication with stakeholders, these impacts will be long term (entrenched negative opinions about the project extending beyond the construction phase). Taking into account the vulnerability of the rural people directly and indirectly affected by the pipeline, the impact magnitude will be high, resulting in a **high** significance both for the people concerned, and in respect of CNOOC's social license to operate. With appropriate communication and a strict adherence to promises made to stakeholders, it is expected that these perceptions can be reversed, and impacts can be reduced to **low** significance.

6.1.8.3 *Disruption of Social Networks*

Based on the routing of the pipeline, a significant number of households across the various villages will require relocation. Even where cash compensation has been accepted, all PAPs consulted have indicated that they intend continuing with their agricultural activities, but at a different location either within the vicinity of the village in which they live or outside of it. Where people relocate from their original villages to new ones, they could suffer the following permanent or long-term disruption:

- troubled, discontinuous or fragmented social ties;
- dismantled production systems;
- individual/household impoverishment resulting from the loss of productive assets or income sources;
- relocation of individuals/households to alternative environments where their productive skills may be less applicable and the competition for resources greater;

¹⁸⁴ In accordance with the Petroleum Exploration, Development and production Act 2013, Section 135 that requires consent of landowners and users





- dispersion of kin groups; and
- loss or diminishment of supportive networks, mutual assistance and cultural identity.

These impacts will especially manifest among PAP's that involuntarily move to new or distant locations from their original area of abode. At the same time, PAPs who voluntarily take up a cash compensation option may, inadvertently, place themselves in the same position. Without sensitive handling, the impact will be long term, persisting beyond the construction phase, of high magnitude and **high medium** significance. Even with careful mitigation and monitoring it is likely that these impacts will persist and will not be eliminated or reduced to negligible levels.

6.1.8.4 *Impact Mitigation and Monitoring*

The mechanisms to redress community concerns include a change from the approach that PACs and PAPs as passive recipients of information to an approach that ensures information exchange and serves to engage PAPs and PACs in discussions and dialogue. This will be particularly important in instances where there will be the need to ensure the cooperation and support from affected settlements. This is not only a critical element for promoting the company's Social Licence to Operate but is fundamental in addressing the future safety of the pipeline.

The following impact mitigation and monitoring is proposed:

- Establish a sound Community Relations Strategy (CRS) which meets international best practice standards and conventions, all relevant aspects of the Ugandan Constitution and applicable regulations and demonstrates sensitivity and respect for the culture, values and traditions of the affected settlements. The CRS should incorporate real measures that will allow for:
 - timely, open and transparent communication and information sharing, including related to preparatory construction activities) in ways and formats that are fully understandable and accessible to villagers regarding the procedures, schedules as well as potential impacts of construction and operational activities in accordance with international best practice for consultation and disclosure.
 - provide training and ensure the allocation of sufficient and appropriate resources to ensure that all CNOOC employees, contractors and sub-contractors, including dedicated community liaison officers, are aware of and comply with the CRS as well as with CNOOCs commitments to the communities.
 - community liaison officers (or other appropriate resource personnel) to work alongside the construction activities (at the construction camp as well as alongside the pipeline) to assist and advise stakeholders as required.
 - active and timely consideration of community views to allow a clear understanding of concerns, expectations and issues and to design and implement appropriate measures for mitigation or remedy.
 - develop appropriate objectives and targets that will ensure a process of continuing improvement in respect of community relations management and performance.
 - maintain social and community monitoring programmes and provide accurate, clear and transparent project information to community members as well as other stakeholders as required, including CSOs and the UHRC.
- Set up a formal complaints procedure to record and address any complaints received. This is in addition to the grievance mechanism described in Box 12-1, which is intended to accommodate issues where compensation for damages is possible). The complaints procedure should include the provision of nominated individuals (potentially community liaison officers) for community members from settlements along the pipeline to address complaints to directly; as well as commitments in respect of response times





required to address complaints. Details of the (toll free) telephone number as well as the procedure to be followed for lodging complaints should be distributed to LC1s, as well as at community meetings and via posters to all communities in the vicinity of the working area, the construction camp and close to roads that will experience significant increases of traffic. The procedure must make provision for all calls to be answered in person whenever possible during working hours and recorded at all other times. Comprehensive details of the complaint, source, the location as well as date and time of the offending event or issue must be recorded. All complaints will need to be investigated, with feedback provided regarding the outcome of the investigation, as well as the steps taken to address the issue. The location of the community liaison team must be widely publicised so that, where possible, complaints can be made in person; and

- Ensure that provision is made for communities to be provided with the contact number of an appropriate person or persons within CNOOC in the event that the initial complaint is not satisfactorily handled. The resolution of any complaint should, in any case, be dealt with as speedily as possible.

6.1.8.5 Impact Significance Rating

Table 75: Construction phase impact on individual, family and community life

| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|--|----------------|----------|-------------------|-------------|----------------|-----------------|----------|-------------------|-------------|----------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Impact of Unmet Expectations | 8 | 4 | 2 | 5 | High Medium 70 | 3 | 2 | 2 | 5 | Low Medium 35 |
| Impacts in respect of Mistrust and SLO | 8 | 4 | 2 | 5 | High Medium 70 | 2 | 2 | 2 | 5 | Low 30 |
| Disruption of Social Networks | 8 | 4 | 2 | 5 | High Medium 70 | 4 | 3 | 2 | 5 | Low Medium +45 |

| KEY | | | |
|--------------------------|---|-----------------|---------------------------|
| Magnitude | Duration | Scale | Probability |
| 10 Very high/ don't know | 5 Permanent | 5 International | 5 Definite/don't know |
| 8 High | 4 Long-term (impact ceases after closure of activity) | 4 National | 4 Highly probable |
| 6 Medium | 3 Medium-term (5 to 15 years) | 3 Regional | 3 Medium probability |
| 4 Low | 2 Short-term (0 to 5 years) | 2 Local | 2 Low probability |
| 2 Minor | 1 Transient | 1 Site only | 1 Improbable |
| 1 None/Negligible | | | 0 No chance of occurrence |

Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: +





6.2 Pipeline - Operational Phase

6.2.1 Overview of Operational Phase Impact Areas

The pipeline route was specifically selected to minimise environmental and social impacts, and the pipeline system designed to require minimal operational and maintenance intervention. The operational phase for the pipeline is estimated to last approximately 25 years. The following social impacts are expected during the operational phase of the pipeline, based on the broad human and socio-economic environment that is valued by people and that forms part of valued environmental components (VECs). These impacts are discussed in the following sub-sections:

- Operational Workforce - Related Impacts;
- Economic Impacts;
- Community Health, Safety and Security Impacts;
- Housing and Land Impacts; and
- Infrastructure and Community Service Impacts.

6.2.2 Operational Workforce Related Impacts

6.2.2.1 Employment Opportunities

Compared to the construction phase, activities during the operational phase of the pipeline will be of a low magnitude and will involve planned preventive and predictive maintenance (off-site) of the pipeline as well as incident or breakdown maintenance, usually on-site at the point of occurrence, which may be at any specific location along the length of the pipeline. Employment during this phase, specifically in respect of the operation and maintenance of the pipeline itself, will require specialist skills that will be acquired by CNOOC in accordance with its Labour Force Management Plan. It is uncertain what number of skilled personnel will be required to operate and maintain the pipeline, but is probably not more than 10 permanent staff. The maintenance of the right of way will require unskilled labour for cutting of grass and removal of woody vegetation – this task will probably be contracted out to a local firm. Specialist maintenance tasks, such as pigging or dig ups may also be done by contractors.

Where unskilled labour is needed for on-site for maintenance, individuals will be sourced directly by CNOOC or its contractor, in accordance with the CNOOC Casual Contractor Opportunities Standard Operating Procedures.

There will, therefore, be limited employment opportunities during the operational phase. Based on this, the impact magnitude (based on numbers of people employed) is considered to be minor, but long term and regional scale (benefits will extend beyond the local area), resulting in positive impacts of **low medium** significance.

6.2.2.2 Impact on Skills Development and Training Opportunities

As described above, the proposed pipeline development process will be characterised by a short term, high demand construction phase followed by a long term low demand operational phase.

CNOOC has a fully developed employment and recruitment policy, and mechanisms for internal succession, apprentice, trainee and graduate programmes and contract labour have been designed as part of the project. CNOOC's aims to implement a development strategy for its employees by investing in technical, managerial and administrative skills of the workforce.

Training and skills development will be a positive impact, helping to develop the capability and qualifications of the local operational workforce and expanding the human capital available within the local economy. A relatively small number of employees will benefit, and the magnitude of impact will be low, but permanent and regional in extent and of **low medium** significance. The magnitude of this impact can be increased if training is prioritised by CNOOC, and the benefits are spread to as many employees as possible, especially if there are efforts to upskill local people to take semi-skilled and skilled positions.



6.2.2.3 *Impact on Employee Health and Safety*

Transport of crude oil by pipeline offers the safest means of transporting crude oil in relation to workplace health and safety. In an assessment of the intermodal safety of oil, Fraser Institute (2013) states that accidents and resultant hospitalisation amongst oil pipeline workers “was 30 times lower compared to rail workers involved in transporting oil, and 37 times lower than for road transport”.

There are currently no occupational health and safety statistics available for Uganda in respect of the risks of an operating pipeline. However, an extensive international search of risk incidents demonstrates that the vast majority of pipeline - related accidents or incidents during the operational phase result from the specific causes discussed below. A more detailed analysis of risk situations and appropriate response is described in detail in the Environmental Impact Assessment section dealing with Unplanned Events.

General Safety

Principle causes of accidents working at elevated heights without harnesses, exposure to the elements and dehydration, the use of hand-held powered tools and the operation of moving plant and equipment without safeguards, failure to wear PPE specified for particular tasks (gloves, goggles, ear muffs, safety shoes), working under the influence of alcohol or drugs (see below), lack of training on HS&E, distractions (use of cell phones while doing other work), general ignorance of, or failure to follow, recognised and documented safety procedures and working on potentially hazardous tasks while alone. Due to the limited number of interventions required to operate an oil pipeline, and the small number of employees necessary for the tasks, these risks are considerably less significant than those that apply to the production facility as a whole.

In the absence of a highly regulated OH&S environment, with a zero-tolerance management approach towards unsafe practices, the risk of disabling or fatal injuries on the production sites will be high, with potentially permanent consequences and a **high medium** significance rating. Subject to CNOOC’s compliance with the Occupational Health and Safety standards established by Ugandan Government and its own Health and Safety policies and procedures, which are in place to meet the Ugandan legal requirements, as well as guidelines and protocols for sensitisation of employees and monitoring systems to verify compliance, this impact can be reduced to **low** significance.

Driver Safety

Vehicle accidents are the leading cause of worker injuries and fatalities, with the USDoL Census of Fatal Occupational Injuries related to the Oil and Gas sector (BLS, 2016) reporting that 40% of all worker fatalities are directly linked to vehicle incidents. The main causes of work place accidents involving vehicles and movable equipment on industrial sites are typically:

- Failure to drive cautiously and defensively;
- Disregard of speed limits;
- Failure to wear seat belts;
- Use of cell phones while driving;
- Careless driving and/or driving / equipment operation by insufficiently trained personnel;
- Failure to maintain the lights and audible reversing signals on construction vehicles and equipment;
- Night driving;
- Use of alcohol or recreational drugs; and
- Driver/operator fatigue.

Without appropriate driver training and a zero-tolerance management approach towards unsafe practices, the risk of disabling or fatal injuries to personnel caused by vehicles and moving equipment will be high, and potentially long term to permanent (disabling or fatal), with a **high medium** significance rating.





6.2.2.4 *Impact Mitigation and Monitoring*

The following mitigation measures are recommended (which may overlap in some instances with the recommendations of the LFMP):

Employment Opportunities

- Mitigation measures for any potential negative impacts during the operational phase are consistent with those drawn up for the construction phase.

Skills Development

- Collaborate with the Petroleum Authority of Uganda (PAU), which is tasked with establishing, maintaining and operating a national human capacity register for the petroleum sector to ensure that CNOOC contributions in the form of bursaries and scholarships support the development of an appropriately skilled labour force;
- .Align the CNOOC Education and Training related support initiatives as well as in-house training and competency development of Ugandan nationals with the critical and scarce skills requirements of the Oil and Gas sector;
- Consider promoting a process of Recognition of Prior Experience (RPE) and Recognition of Prior Learning (RPL) in collaboration with tertiary technical training institutions that will allow the accrual of credit for informal and non-formal skills development into the formal skills development sector;
- Promote STEM at school level by incorporating support to the development of science laboratories at schools, strengthening education in maths and science at schools and the development of well-stocked school libraries as a specific focus of CNOOC Corporate Social Responsibility (CSR); and
- Support initiatives that will promote and strengthen the levels of competence of master artisans and crafts persons within the Technical Education and Training (TVET) system, and design mechanisms that will support the entrance of female scholars into TVET institutions.

Employee Health and Safety

- Continue to implement CNOOC's drug and alcohol policy, which prohibits the use of these substances at all of its camps and those of its contractors. In accordance with this policy, vehicles and bags are routinely searched to ensure that unauthorised substances are not taken into the camps facilities. Employees who transgress these rules are disciplined and face possible dismissal;
- Ensure that the CNOOC Driver Safety Programme is implemented consistently;
- Ensure that the EPC and drilling contractors make sufficient provision for active recreation at the camps. Ugandan Nationals have a great football tradition and a football field could be considered, among other recreational facilities. Sufficient recreation directly combats the lure of substance abuse and should be seen as a necessary component of the camps to maintain a stable and productive workforce;
- Conduct health education programmes for employees designed to disseminate information about social pathologies and the spread of disease; and
- Ensure that the CNOOC Emergency Response and Exposure Control Plans are understood by all workers, including labourers undertaking routine maintenance functions along the length of the pipeline, and not only by first responders, and that adherence is strictly enforced under all circumstances and conditions.





6.2.2.5 Impact Significance Rating

Table 76: Operational phase workforce-related impacts

| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|--|----------------|---|-------------------|-----------------|----------------|---------------------------|----------|-------------------|-------------|-----------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Impact on Employment Opportunities | 2 | 4 | 3 | 5 | Low Medium +45 | 2 | 4 | 3 | 5 | Low Medium +45 |
| Impact on Skills Development | 2 | 5 | 3 | 5 | Low Medium +50 | 6 | 5 | 3 | 5 | High Medium +70 |
| Impact on Employee Health and Safety | | | | | | | | | | |
| -General Safety | 8 | 5 | 2 | 4 | High Medium 60 | 2 | 2 | 2 | 4 | Low 24 |
| -Driver Safety | 10 | 5 | 2 | 4 | High Medium 68 | 2 | 2 | 2 | 4 | Low 24 |
| KEY | | | | | | | | | | |
| Magnitude | | Duration | | Scale | | Probability | | | | |
| 10 Very high/ don't know | | 5 Permanent | | 5 International | | 5 Definite/don't know | | | | |
| 8 High | | 4 Long-term (impact ceases after closure of activity) | | 4 National | | 4 Highly probable | | | | |
| 6 Medium | | 3 Medium-term (5 to 15 years) | | 3 Regional | | 3 Medium probability | | | | |
| 4 Low | | 2 Short-term (0 to 5 years) | | 2 Local | | 2 Low probability | | | | |
| 2 Minor | | 1 Transient | | 1 Site only | | 1 Improbable | | | | |
| 1 None/Negligible | | | | | | 0 No chance of occurrence | | | | |
| Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: + | | | | | | | | | | |

6.2.2.6 Economic Impacts

The project will have impacts in the local, regional and national economy through direct and indirect economic benefits. While it is beyond the scope of this study to conduct a comprehensive macro-economic assessment, general economic impacts are discussed below.

6.2.2.6.1 National, Regional and Local Economic Development

Increase in Government Revenue

Direct oil and gas related government revenue is derived from (i) royalties (resource exploitation related levies based on the value of extracted resources); (ii) surface rentals (annual fees in respect of acreage held by oil companies); (iii) taxation (personal and business taxes as well as specific introduced taxes related to 'windfall gains', resource rent and the environment); (iv) bonuses (paid by the oil companies at defined stages during the exploration and production phases, as per their Profit Share Agreement); (v) what is termed 'Profit Oil' (income from excess oil production over that required to meet all cost recovery and payment requirements); and (vi) 'other fees' (contributions to training of government personnel and/or payments in cash in lieu this). As the sector develops, value chain related operations such as refineries and the sale of petroleum products





will provide additional opportunities for income from taxation (see ESIA Volume 3, Chapter 17 on Cumulative Impacts).

The specific terms of agreement between CNOOC and the government have not been made public. Informed projections indicate that government revenues will remain low for a considerable period of time at current crude prices. Henstridge and Page (2012:28) estimate that it will take at least a decade from the start of production for cumulative oil revenues to climb to 5% of GDP, translating to approximately \$9 billion. They see this climbing to \$7.3 billion (41% of GDP) within the second decade, \$14.9 billion (83% of GDP), and \$19.8 billion (111% of GDP) by the end of the fourth decade of production (all based on 2012 \$ oil prices).

Despite the slow start in income generation, Henstridge and Page (2012:28) state that the deal implied by the terms is assumed to a good one for Uganda: "Between 86 percent and 99 percent of the net present value of the combined investments - depending on assumptions about oil price and the time horizon for production - goes to the government through the various sources of tax revenue and dividends on a 15 percent equity share."

The impact in terms of this indicator is expected to be positive, long term, National in coverage (benefitting all levels of Government) and of **high** significance.

National and Regional Economic Growth

The expansion of the resource industry in Buhuka Flats will have a beneficial cumulative impact in the region, including along the escarpment where the proposed pipeline will be situated. This will include revenue for the government, employment opportunities at local, regional and national level and a direct and indirect effect on business development. Increased household income and expenditure will result. Both on its own and combined with the effect of the other oil industry developments, CNOOC's KFDA project is likely to generate significant economic multipliers¹⁸⁵. Research for other oil development projects has shown that economic multipliers of about 2.33 (Economy League of Southwestern Pennsylvania, 2008) for value added and between about 2.88 (Loren C Scott and Associates, Inc., 2014) and 3.03 for labour income (Macroeconomic Subgroup, 2011) apply. While these studies were undertaken for oil and gas developments in the USA, and the ratios do not necessarily hold true for developing economies, the general effect is clear.

The increase in work opportunities provided by the project will result in growth in the proportion of Ugandan citizens with higher incomes. Given the number of oil and gas projects under consideration in the sector, there is likely to be a continued and expanding demand for skilled labour. Wages for skills needed in the oil industry are likely to increase. Employment in the oil industry will generate government revenue, deducted from salaries through Pay As You Earn (PAYE).

At a regional scale, the magnitude of beneficial impacts will only be medium, but they will be long term. The significance rating is **high medium**. With the implementation of the recommended measures to enhance good governance and investment in local infrastructure and services, the overall significance rating can be increased to that of a **high** positive impact.

Local Economic Development

The KFDA project will stimulate demand for goods and services in the area, which in turn will have a direct and indirect impact on employment in the local and regional economy. CNOOC has developed a local procurement policy to support further development of the business supply chain locally and regionally through appropriate purchasing and business development strategies. This will also support the district and central government initiatives intended to improve the social capital within Kikuube and Hoima Districts.

The Buhuka area in general is experiencing rapid economic development. Since the opening of the escarpment road into the Flats, two large markets have developed, selling various goods and services, which attract an

¹⁸⁵ An economic multiplier is the increase in final income that can be derived arising from any new injection of spending, for example \$2.33 for every \$1 invested or spent. Also termed a 'trickle down' effect of economic growth as those who receive additional income, use and spend that income in shops and businesses. This, in turn, drives further economic growth.





extensive daily clientele. This has resulted in induced and indirect employment opportunities being created. While most of the current trade is not directly linked to the Kingfisher development, being a consequence of the access provided by the escarpment road, it is an indirect benefit since the primary purpose of the road is to serve the KFDA project. Several villagers residing in settlements along the proposed pipeline route report now being able to offer goods to the Buhuka Flats markets. Others, particularly from villages close to the Flats such as Nyasenge B, Hanga II B and Ngoma indicate that they obtain fish from Lake Albert for resale to villagers on the escarpment.

The further development of the local economy will be a benefit derived from the presence of the project in the area. It is possible that local economic growth will increase the ability of households to earn a cash-based income. In this regard, CNOOC has indicated that it purchases in the order of 65% of its goods and services from suppliers and contractors in Uganda, which number more than 100 providers to date. The Company also trains local suppliers to meet oil and gas quality, safety and other standards and learn the tendering and bidding process.

In the absence of specific interventions from CNOOC to increase local purchasing and assist local businesses to improve their ability to compete in the market, the benefits will probably be of low magnitude. Nevertheless, they will be long term and are considered to be positive and of **medium** significance. This can be increased to **high** significance if CNOOC implements a full range of interventions to encourage local business development capability, and steadily increases project spend in the local economy (refer to the mitigation measures below).

Human Capital Development

There is a strong relationship between available human capital and the ability to attain social and economic growth and development and that the development and promotion of human capacity will be achieved most effectively through a coherent process of investment in the people of Uganda.

Human Capital represents the knowledge, skills and abilities that enable people to do their jobs, to be innovative and able to learn and adjust to changing economic and social environments. As such, it refers to the adaptive capacity of people to access opportunities. The process of human capital development concerns the creation of an enabling environment in which people can develop their full potential and lead productive, creative, lives in accordance with their needs and interests.

The definition of human capital stresses the concept as primarily, although not exclusively, centred around human capability and productivity engendered through knowledge and skills acquired from education, training and experience, and facilitated by an enabling environment. It development of human capital implies building an appropriate balance and critical mass of human resources and providing an enabling environment for all individuals to be fully engaged and to contribute to national development efforts.

Uganda has a low comparative world ranking on the Human Capital Index. It is currently ranked 106th out of 122 countries on the overall Human Capital Index (WEF, 2013:13), and 118th out of 122 countries in respect of the Educational Pillar of the Human Capital Index Ibid, p14).

The Business, Technical and Vocational Education and Training (BTVET) Strategic Plan 2011 – 2020 (MoGLSD, 2011) for Uganda, identifies the absence of and the urgent need for a comprehensive process to develop occupationally relevant skills and competencies, including skills for the oil and gas sector. The Oil and Gas Policy (MEMD, 2008:27) emphasises the provision of support for the development and maintenance of national expertise, including planning for the development of formal and industrial training and broadening the national education curricula in preparation for putting the necessary oil and gas workforce in place in the country.

The Industrial Baseline Survey, undertaken by CNOOC in collaboration with Total and Tullow (Hamman, 2014:29) states that it is evident that Uganda is currently unable to meet the manpower demands of the oil and gas sector and recommends, among other things, that oil and gas operators such as CNOOC (i) in partnership with government work towards strengthening the educational system; (ii) offer direct support to existing training institutions of repute; and (iii) the establishment of a technical and vocational education and training (TVET)





centre, aimed at providing competence development for, inter alia, craftsmen (civil) and mechanical and electrical technicians required by the oil and gas industry. CNOOC is directly involved in this process.

Apart from this, CNOOC invests in Human Capital Development directly through the introduction of training programmes intended to increase the productivity and effectiveness of personnel (as described earlier). It is, as well, investing in the development of essential knowledge and skills required by the modern economy, including the oil and gas industry. This includes the provision of bursaries, engaging in partnerships with local vocational institutions in Kikuube and Hoima Districts for the expansion of existing skills and vocational training programmes as well as direct support to schools in its area of operation.

Beneficial impacts will be permanent, providing skills that can be used by the beneficiaries throughout their working lives. Job applicants will be sourced regionally, within Uganda, so the benefit will extend beyond the local area. Magnitude (at this geographic scale) will only be low to medium and impact significance will be **medium**. With the implementation of the recommended measures to enhance key aspects such as TVET and STEM education and training, the overall significance rating can be increased to that of a **high** positive impact.

6.2.2.7 Impacts Retarding Economic Development

6.2.2.7.1 Government Revenue Losses due to Corruption

While tax contributions are generally considered to be positive (see above), their impact can have mixed results. Non-transparent payment of taxes, particularly in the extractive industries, has led to corruption and lost benefits when revenues are not paid transparently and monitored. For this reason, since 2007, the IFC has required all of its extractive industry projects to publicly disclose their material payments to host governments (IFC 2006). It is expected that CNOOC will adhere to this requirement.

Raw material exploitation typically generates high “economic rents¹⁸⁶” which provides numerous incentives for public and private agents to engage (at times excessively) in “rent-seeking” behaviour. There has already been evidence of a conflict of interest being demonstrated by some politicians and officials who have acquired interests and rights because of privileged knowledge about, for example, the siting of the proposed development and the acquisition of land pre-emptively. Fortunately, the Ugandan governance system, including that related to local and traditional management, has been robust and willing to promote equity. This includes the successful conclusion of legal challenges lodged by community stakeholder groups related to corrupt land acquisitions by government officials (e.g. on the Buhuka Flats).

Uganda has enacted several pieces of new legislation aimed at promoting extractive sector governance. Nevertheless, there are still opportunities for conflicts of interest in the public sector through – for example – politicians and even government officials holding interests in the construction sector at a time when the scale of public contracts is set to accelerate substantially. Although initially mooted as desirable and legislators under the Parliamentary Forum on Oil and Gas have continued to push, Uganda has not yet signed up for the Extractive Industry Transparency Initiative (EITI). This means that Uganda still stands outside a forum that would expect specific actions to be taken to enhance transparency and mitigate the misuse of natural resource revenues.

Proceeds from the extractive sector pose specific challenges to host governments. Kekembo (2017) states that “the sheer magnitude of revenues, the complexities of the fiscal arrangements as well as the high volatility of revenue flows can be a substantial burden for public financial management”. He further states that Ugandan membership of the EITI would, as well, provide an essential “feedback loop between the government and citizens. This increased sector transparency through the EITI disclosure, can discourage corruption and bad governance that has ravaged many resource rich countries.”

It will be important that CNOOC ensures that it avoids potential situations where it may be accused of complicity in graft or of embroilment in patronage links. The fact that CNOOC is not a supporter company of

¹⁸⁶ The oil and gas industry generates substantial economic rents, in that the commodity value most often exceeds the cost of production by a significant margin. Total economic rents available for sharing among stakeholders is defined as the amount by which the total value of the resource exceeds the total economic cost of producing the natural resource.





the EITI and is on record (as partner in Tullow) of declining to publish all its payments to the Ugandan Government has created a sense of unease amongst human rights campaigners. Irrespective of the accuracy of this perception, CNOOC has the opportunity, including through association with initiatives such as the EITI, to exert significant moral persuasion as well as real assistance (to government as well as civil society) in fighting corruption in the oil and gas sector. Its participation in the UN Global Compact and associated commitment to the 10 Principles of the UN Global Compact, in particular Principle 10, which states that “Businesses should work against corruption in all its forms, including extortion and bribery”, would reinforce this potential. Without these measures, this impact has the potential to be negative, with long term, regional consequences of **high** significance.

6.2.2.7.2 Lack of Funding to District Government

Kikuube and Hoima District Councils will benefit from the CNOOC development through a number of revenue streams. These include levying local taxes, greater property taxes as well as enhanced economic development and prosperity at district, parish and sub-parish level.

However, Hoima and Kikuube are currently underfunded, and it is unlikely that it will derive enough additional income to service the burgeoning development expected on the Buhuka Flats, particularly if there is a marked increase in population due to in-migration. Currently, for example, Hoima is allocated a mere 10% of its budget requirements for road maintenance¹⁸⁷ which makes it impossible to adequately manage and maintain existing roads.

The need to establish enabling infrastructure and a service-related environment in communities around the KFDA project will exacerbate Kikuube and Hoima districts local governments' capacity problems in this regard. Hoima will need to fund infrastructure, service delivery and maintenance (including road maintenance) to create a stable environment around the Kingfisher development. This includes the need to provide adequate water and sanitation services, electricity, policing, regulatory enforcement and other essential services. In the absence of this, CNOOC faces the likelihood of community demands to take responsibility for these services itself, becoming, in effect, the government by default. This could create an extremely volatile situation, with service delivery protests on the Flats and above the escarpment and a significant increase in the risk of violence affecting CNOOC personnel.

The impact will be long term and of potentially very high magnitude. The sensitivities are particularly high, given the high probability (perhaps definite) risk of civil unrest if material development benefits do not materialise to offset the cultural and social change that the inhabitants along the pipeline will have to accommodate. Without mitigation, impact significance will be negative and of **high** significance. Alternatively, if Government plans to provide local services are timeously introduced, this impact can be reversed with positive social outcomes in local communities.

6.2.2.8 Impact Mitigation and Monitoring

The following mitigation measures are proposed:

6.2.2.8.1 National and Regional and Local Economic Development

National and Regional Economic Development:

- Promote economic development and infrastructure improvement in the project area and the Hoima District in a partnership with central, regional and local government to develop a comprehensive infrastructure, services and local economic development plan;
- Ensure that the Livelihoods Restoration Plan actively takes on board practical mechanisms and mitigation strategies for the loss of agricultural land; and
- Put in place a Community Development Plan (CDP), including relevant aspects of livelihoods restoration and resource management planning.

¹⁸⁷ Hoima District Council Officials (2017) Personal Communication





Local Business Development:

- Develop comprehensive strategies to build the capacity of local service providers to compete within the local and regional business environment, ideally on a diversified basis that does not only serve the oil industry;
- Develop a local procurement policy and steadily increase project spend in support of local capacity and the further development of the business supply chain through appropriate purchasing and business development strategies; and
- Identify and support programmes (including related to micro-financing) in support of vulnerable groups as required (elderly, single women or child headed households).

Human Capital Development:

- Collaborate with the Petroleum Authority of Uganda (PAU), which is tasked with establishing, maintaining and operating a national human capacity register for the petroleum sector to ensure that CNOOC contributions in the form of bursaries and scholarships support the development of an appropriately skilled labour force;
- Align the CNOOC Education and Training related support initiatives as well as in-house training and competency development of Ugandan nationals with the critical and scarce skills requirements of the Oil and Gas sector;
- Consider promoting a process of Recognition of Prior Experience (RPE) and Recognition of Prior Learning (RPL) in collaboration with tertiary technical training institutions that will allow the accrual of credit for informal and non-formal skills development into the formal skills development sector;
- Promote STEM at school level by incorporating support to the development of science laboratories at schools, strengthening education in maths and science at schools and the development of well-stocked school libraries as a specific focus of CNOOC Corporate Social Responsibility (CSR); and
- Support initiatives that will promote and strengthen the levels of competence of master artisans and crafts persons within the Technical Education and Training (TVET) system, and design mechanisms that will support the entrance of female scholars into TVET institutions.

6.2.2.8.2 Impacts Retarding Economic Development

Government Revenue Losses due to Corruption:

- Ensure that CNOOC meticulously implements all anti-corruption, business ethics related and internal compliance Policies and Programmes already in place, including the CNOOC Limited Code of Commercial Behaviour and Conduct of Employees, the Procedures for Handling Violation of Rules of CNOOC Limited Employees as well as its Guidelines for Overseas Operation with Compliance of CNOOC;
- Promote transparency in reporting of all revenue payments to the GoU and, especially, consider becoming a member company of the EITI; and
- Voluntarily collaborate with and support multi-stakeholder forums that engage questions of ethics and corruption in the oil and gas industry, including Civil Society Organisations, NGO coalitions as well as the Uganda Human Rights Commission (UHRC).

Lack of Funding to District Government:

- Contribute to economic development and infrastructure improvement in the project area, in partnership with central, district and local government; and
- Develop a transparent community development and contribution policy.



6.2.2.9 Impact Significance Rating

Table 77: Operational phase economic impacts

| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|--|----------------|---|-------------------|-----------------|-----------------|---------------------------|----------|-------------------|-------------|--------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Regional and Local Economic Development | | | | | | | | | | |
| -Increase in Govt. Revenue | 9 | 4 | 4 | 5 | High +85 | 9 | 4 | 4 | 5 | High +85 |
| -Impact on national and regional economic growth | 6 | 5 | 3 | 5 | High Medium +70 | 8 | 5 | 3 | 5 | High +80 |
| -Impact on Local economic development | 7 | 5 | 2 | 5 | High Medium +70 | 9 | 5 | 2 | 5 | High +80 |
| -Human Capital Development | 6 | 4 | 3 | 5 | High Medium +65 | 9 | 4 | 3 | 5 | High +80 |
| Factors Retarding Economic Development | | | | | | | | | | |
| - Govt revenue losses due to corruption | 8 | 4 | 3 | 4 | High Medium 60 | 4 | 4 | 3 | 2 | Low 22 |
| -Lack of funding to District Govt | 9 | 4 | 2 | 5 | High 75 | 9 | 4 | 2 | 5 | High +75 |
| KEY | | | | | | | | | | |
| Magnitude | | Duration | | Scale | | Probability | | | | |
| 10 Very high/ don't know | | 5 Permanent | | 5 International | | 5 Definite/don't know | | | | |
| 8 High | | 4 Long-term (impact ceases after closure of activity) | | 4 National | | 4 Highly probable | | | | |
| 6 Medium | | 3 Medium-term (5 to 15 years) | | 3 Regional | | 3 Medium probability | | | | |
| 4 Low | | 2 Short-term (0 to 5 years) | | 2 Local | | 2 Low probability | | | | |
| 2 Minor | | 1 Transient | | 1 Site only | | 1 Improbable | | | | |
| 1 None/Negligible | | | | | | 0 No chance of occurrence | | | | |
| Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: + | | | | | | | | | | |

6.2.3 Community Health, Safety and Security Impacts

6.2.3.1 Community Nuisance and Disruption

Once construction is completed and the pipeline is commissioned, there will be a decrease in potential risks and associated community health, safety and security related impacts emanating from traffic on the primary, secondary and tertiary road system. It is possible that a small maintenance track will be maintained along the pipeline (although this is not presently planned). Traffic along the pipeline will be very occasional. The pipeline





right of way will not be fenced and there will be no restrictions affecting pedestrian movement across the pipeline corridor.

Notwithstanding the limited activity along the pipeline corridor, necessary for maintenance purposes, there is still the potential for impact on surrounding landowners and users that could result in nuisance or grievances. Typical grievances (events that could result in a need for compensation) could include erosion caused by the project affecting a landowner's fields or mortality of poultry or stock due a collision with maintenance vehicles. In cases where dig ups are necessary, there could be more significant disruption of surrounding landowners within the local area.

There will be a decrease in the potential spread of infectious diseases, including STDs and HIV/AIDS during the operational phase due to the significant decrease in number of workers as compared to that required during the construction phase.

Without mitigation, impacts will have low to medium magnitude, will be short term and local in geographic extent, causing impacts of **low medium** significance.

Potential operational related accidents and disasters, e.g. fire, explosion, spills could have a profoundly negative impact on a long-term basis. "Economically disadvantaged populations are disproportionately affected by disasters. The poor are less likely to have the income or assets needed to prepare for a possible disaster or to recover after a disaster".¹⁸⁸ These impacts are assessed under 'Unplanned Events'

6.2.3.2 Impact Mitigation and Monitoring

The following specific mitigation measures are proposed (impact mitigation for emergencies is included in a separate report):

- Communicate regularly with stakeholders about the pipeline as a means of reducing local unease of risks associated with the transport of oil and, in particular, in relation to the avoidance of cultivation or other activities (other than grazing of stock) on the 10 m wide right of way. It is a critical requirement that CNOOC builds trust with its stakeholders in respect of the continuing safe operation of the pipeline;
- Ensure that communities and adjacent landowners are informed in advance of any major maintenance activities that are required along the pipeline route;
- Ensure that maintenance staff wear CNOOC-branded safety vests and use CNOOC branded vehicles to provide land owners with an immediate means of distinguishing them from intruders;
- Ensure that community forums are created in which landowners can raise issues and discuss with CNOOC staff any ongoing concerns about safety associated with the pipeline in general or about crime related to the use of the pipeline corridor for access;
- Provide all stakeholders with contact details of maintenance and emergency staff at the production facility and ensure that this information remains updated. Local inhabitants will be CNOOCs eyes and ears in this regard and can be of assistance in day to day monitoring of any events that should be noted or acted upon in relation to pipeline safety and maintenance. Exposure of the pipeline due to erosion or illegal excavation along the pipeline route would be two such events;
- Maintain the grass in the pipeline servitude by slashing or mowing and not by burning to minimise risks to surrounding land owners;
- Ensure ongoing circulation of contact details of community liaison officers or, if separate, of 'grievance officers' or other key contacts; and

¹⁸⁸ Flanagan, B.E. et al. (2011). A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*. Volume 8, Issue 1 2011 Article 3.





- Maintain the grievance procedure developed during the exploration phase in accordance with IFC requirements and including the following:
 - Circulation of details of the Witness NGO as well as the mechanisms to access the NGO.
 - Maintaining awareness amongst the local community regarding the grievance procedure and how it works.
 - Maintenance of a grievance register that is continuously updated by CNOOC.
 - Provision of a mechanism to provide feedback to individuals and groups.

Existing problems with respect to the grievance procedure (refer to Box 13-1 below) need to be resolved.

Box 7: Existing Problems with respect to Grievances

According to IFC’s Performance Standard 1, if ongoing risks to or adverse impacts on project-affected communities are anticipated, the Project Sponsor is required to “establish a grievance mechanism to receive and facilitate resolution of the affected communities’ concerns and grievances about the client’s environmental and social performance” (IFC, 2006, p. 5). To respond to this requirement, CNOOC need to appoint a Witness NGO to provide oversight, to receive grievances and to oversee the process to address these concerns.

The CNOOC Grievance Mechanism, which is already in use, is not thought to be effective by many villagers. The general perception is that CNOOC has not taken grievances sufficiently seriously and that villagers are powerless to have issues that they believe are important addressed, if CNOOC does not regard them to be important. There is also no evidence that a critical Witness NGO had been appointed to provide oversight of resettlement and compensation discussions between CNOOC and villagers. The expectation that subsistence stakeholders should either wait for a CLO to visit the village or should present themselves to the CNOOC Hoima office if they have failed to obtain satisfaction related to issues of concern, is neither realistic nor fair given the costs of transport. This is a critical issue and will need to be addressed by CNOOC. Failure to ensure that villagers believe that they are actually being ‘heard’ will negatively impact on the company’s Social License to Operate.

6.2.3.3 Impact Significance Rating

Table 78: Operation Phase Impact on Community Health, Safety and Security

| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|---|----------------|---|-------------------|-----------------|---------------|-----------------------|----------|-------------------|-------------|--------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Nuisance and disruption caused by ongoing maintenance | 5 | 2 | 2 | 4 | Low Medium 36 | 2 | 2 | 2 | 4 | Low 24 |
| KEY | | | | | | | | | | |
| Magnitude | | Duration | | Scale | | Probability | | | | |
| 10 Very high/ don't know | | 5 Permanent | | 5 International | | 5 Definite/don't know | | | | |
| 8 High | | 4 Long-term (impact ceases after closure of activity) | | 4 National | | 4 Highly probable | | | | |





| | | | | | | | |
|---|-----------------|---|-----------------------------|---|-----------|---|-------------------------|
| 6 | Medium | 3 | Medium-term (5 to 15 years) | 3 | Regional | 3 | Medium probability |
| 4 | Low | 2 | Short-term (0 to 5 years) | 2 | Local | 2 | Low probability |
| 2 | Minor | 1 | Transient | 1 | Site only | 1 | Improbable |
| 1 | None/Negligible | | | | | 0 | No chance of occurrence |

Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: +

6.2.4 Housing and Land Impacts

6.2.4.1 Impacts due to in-migration

Due to the absence of visible activity along the pipeline route, the operation of the pipeline is expected to have minor impacts in respect of in-migration. While migrants settling above the escarpment is still expected to be a significant long-term issue, this is seen in relation to perceptions about opportunities surrounding the production facility as a whole, and its associated economic development, rather than the pipeline. Impact significance of in-migration in relation to the operation of the pipeline alone is expected to have minor magnitude and **low** significance.

6.2.4.2 Land Use Restrictions

Following the construction period, some restrictions will apply to land use, specifically related to the RoW which will be 10 m wide. There will be no permanent access maintained along the RoW (except perhaps for a small maintenance track, although this is not presently planned). No planting of trees, building, excavation for sand or soil, ploughing or any other intrusive activity is permitted in the 10 m servitude and adjacent residents have been required to sign a statement acknowledging their understanding of this. This loss of land use has been assessed under the construction phase impacts dealing with compensation and livelihood restoration. In the temporary servitude, normal agricultural activities after construction of the pipeline can be resumed. Only building infrastructure will be prohibited on this land. Apart from this, the right of way will not be fenced and will have no impact on the continued daily movement of communities. People will be able to cross the pipeline freely without constraint. Impact magnitude will be negligible and impact significance is expected to be **low**.

Further details regarding restrictions in respect of land use along the 10 m-wide servitude, as well as the mechanisms for minimizing the impacts of land users on the pipeline are set out in the Resettlement Action Plan.

6.2.4.3 Loss of Agricultural Productivity

The construction of the pipeline, with the continual movement of heavy vehicles and equipment along the RoW, will compact subsoils. Notwithstanding rehabilitation, reduced agricultural capability on the land affected in the temporary right of way may result as well as infestation by alien plants, affecting the use of the land. Landowners will have only been compensated for the temporary disruption caused by the loss of crops and any losses of fruit trees or other natural resources. Depending on the loss of productivity, the magnitude of this impact could be high, and long term, resulting in local impacts to landowners of **high medium** significance.

6.2.4.4 Impact Mitigation and Monitoring

The following impact mitigation and monitoring is proposed:

- Ensure that there is clarity amongst land users regarding the restricted nature of the RoW, the way it will be maintained as well as the details of the mechanism that will be used to mark the land corridor (e.g. marker posts);
- Remove alien invasive species along the servitude regularly, as a part of normal pipeline servitude maintenance;





- In the event that any major maintenance is required, inform surrounding landowners and communities in good time and notify them of any temporary restrictions affecting access in the area where maintenance is taking place;
- Promote and support good environmental governance from central, district and local level including in respect of the protection of environmentally sensitive and protected areas;
- Engage the Bunyoro Kitara Kingdom traditional leadership in active and ongoing initiatives and efforts to promote environmental conservation and protection;
- Collaborate with central and district government in planning for as well as in the sustainable implementation of infrastructure and services that will ease land and natural resource impacts; and
- Monitor crop production in the temporary right of way to establish whether there is any measurable difference between agricultural productivity on the right of way compared with immediately adjacent areas. If demonstrated to be necessary, re-evaluate compensation payments to affected landowners.

6.2.4.5 Impact Significance Rating

Table 79: Construction phase impact on Housing and Land Use

| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|-----------------------------------|----------------|----------|-------------------|-------------|-----------------------|-----------------|----------|-------------------|-------------|---------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Impact due to in-migration | 1 | 4 | 2 | 4 | Low 28 | 1 | 4 | 2 | 4 | Low 28 |
| Impact of land use restrictions | 2 | 2 | 2 | 4 | Low 24 | 2 | 2 | 2 | 4 | Low 24 |
| Loss of agricultural productivity | 8 | 4 | 2 | 4 | High Medium 56 | 4 | 2 | 2 | 3 | Low 24 |

KEY

| Magnitude | Duration | Scale | Probability |
|--------------------------|---|-----------------|---------------------------|
| 10 Very high/ don't know | 5 Permanent | 5 International | 5 Definite/don't know |
| 8 High | 4 Long-term (impact ceases after closure of activity) | 4 National | 4 Highly probable |
| 6 Medium | 3 Medium-term (5 to 15 years) | 3 Regional | 3 Medium probability |
| 4 Low | 2 Short-term (0 to 5 years) | 2 Local | 2 Low probability |
| 2 Minor | 1 Transient | 1 Site only | 1 Improbable |
| 1 None/Negligible | | | 0 No chance of occurrence |

Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: +

6.2.5 Infrastructure and Community Services

It is expected that the operations phase impacts will show a decline in the opportunistic influx of individuals who are pursuing CNOOC related employment opportunities. Over the longer duration of the operations phase, however, the population demographics may change as the child population enters adulthood and enters the





labour market. In this regard, it is projected that there will be a 168% growth in population in the districts of Kikuube and Hoima in the period that started in 2014 to 2050¹⁸⁹.

However, as infrastructure and social services such as health and education improve, there will be increasing in-ward migration to the various villages by individuals wanting to take advantage of both the improved services as well as the additional economic opportunities that may be created. As discussed in the previous subsection, it is difficult to distinguish pipeline-related impacts in this regard from the impacts of the project as a whole but given the fact that there is no ongoing presence of staff along the pipeline it is not considered to be a major attractant of migrants on its own, and the significant in-migration issues are discussed under the operational phase of the production facility. For the purposes of this assessment, pipeline-related in-migration is considered to be of minor significance.

6.2.5.1 Impact Mitigation and Monitoring

Refer to Section 6.1.6.6 for mitigation measures for in-migration of the project as a whole.

6.2.5.2 Impact Significance Rating

Table 80: Construction phase impact on infrastructure and community services

| Indicator of potential impact | Pre-mitigation | | | | | Post-mitigation | | | | |
|--|----------------|---|-------------------|-----------------|---------------|---------------------------|----------|-------------------|-------------|---------------|
| | Magnitude | Duration | Geographic Extent | Probability | Significance | Magnitude | Duration | Geographic Extent | Probability | Significance |
| Impact due to in-migration | 1 | 4 | 2 | 4 | Low 28 | 1 | 4 | 2 | 4 | Low 28 |
| KEY | | | | | | | | | | |
| Magnitude | | Duration | | Scale | | Probability | | | | |
| 10 Very high/ don't know | | 5 Permanent | | 5 International | | 5 Definite/don't know | | | | |
| 8 High | | 4 Long-term (impact ceases after closure of activity) | | 4 National | | 4 Highly probable | | | | |
| 6 Medium | | 3 Medium-term (5 to 15 years) | | 3 Regional | | 3 Medium probability | | | | |
| 4 Low | | 2 Short-term (0 to 5 years) | | 2 Local | | 2 Low probability | | | | |
| 2 Minor | | 1 Transient | | 1 Site only | | 1 Improbable | | | | |
| 1 None/Negligible | | | | | | 0 No chance of occurrence | | | | |
| Significance: Low ≤30; Low Medium 31– 52; High Medium 53 – 74; High ≥75. Positive: + | | | | | | | | | | |

¹⁸⁹ UBOS (2014) Projected Population Growth rate per District





7.0 CUMULATIVE IMPACTS

7.1 Background

There is an existing complex system, comprised of interconnected social and environmental influences, that could potentiate different direct impacts, as discussed, as well as cumulative impacts that may manifest in varied ways and/or directions. It is virtually impossible to accurately predict the full nature and impact of the combined effects of multiple interacting stresses of this complex system. Also, within the pre-existing system, to gain sufficient insight into, and an associated grasp of, the (continuously changing) dynamics of interactions between the different social and environmental variables. At the same time, it has become absolutely clear that CNOOC will need to actively engage these cumulative impacts pro-actively in order to avoid serious and long-term consequences.

The IFC states: “One of the biggest risk management challenges currently facing project developers in emerging markets is the appropriate assessment and management of cumulative impacts and risks related to their business activities. Factors such as climate change and unpredictability of climate patterns, increasing and competing water use demands, decline of species biodiversity, degradation of ecosystem services, and changing socio-economic circumstances all add complexity to risk assessment and management. Potential system-wide consequences resulting from the combination of individual effects of multiple actions overtime are particularly important to understand better.”¹⁹⁰

At the same time, the IFC also stresses that: “**Scope creep should be prevented; expansion of the Cumulative Impact Assessment (CIA) scope beyond the impacts and risks related to a project is not good practice;** Focus on a small number of key Valued Ecosystem Components (VECs).” Given this, it is not feasible to introduce the management of impacts not directly related to the actual Kingfisher developments under assessment through this study. However, given the extremely significant and serious indirect impacts emanating from the building of the escarpment road, coupled with the uncontrolled in-migration of (largely) Congolese who are settling on the shores of Lake Albert, CNOOC will need to understand the urgent need to take responsibility for cumulative impacts that may, otherwise, receive less attention than usual. In particular, given the fact that a significant proportion of management interventions would normally be expected to remain the oversight responsibility of the Government of Uganda.

Within the Lake Albertine region, oil and gas developments are likely to cumulatively influence the socio-economic environment substantially. The current population growth and influx is expected to increase as opportunity seekers move into the area in hope to capitalise on various types of development opportunities, including that related to the development. This is likely to place additional strain on services and land, and land tenure aspects are expected to become more pronounced as increased competition for land (including grazing land) appears.

Economically, a change from an agricultural/fishing industry to services and maintenance industry is expected and without this being formalised, the government is unlikely to be able to extract revenue from these businesses.

Displacement and loss of land is likely to be a significant cumulative impact throughout the broader region and it is therefore strongly recommended that the development partners, government and communities align the resettlement and compensation approach and procedures.

Although indirectly related to the current impact assessment process, the construction, in (2015/2016) of the road linking Ikamiro Village at the top of the escarpment with the Bungoma Village in Buhuka Parish has substantially changed the environmental and social structures of the study area and will have far-reaching consequences for the way in which this development sees its impacts accumulate over the course of the project lifespan.

Huge impacts have resulted from the fact that the area (which was virtually inaccessible until 2015) now has a road network that allows open and unfettered access to whomsoever would like to get there for whatever reason, including the perceived direct CNOOC related employment opportunities. Ironically however, is that

¹⁹⁰ International Finance Corporation (2013) Good Practice Handbook Cumulative Impact Assessment and Management: Guidance for the Private Sector in Emerging Markets





there is an exponentially greater influx of people drawn by indirect factors. These include the fact that Lake Albert serves as an unmonitored open water body which had a substantial fish supply, easy access in and out of the DRC (including for black market items) as well as the fact that the increasing growth in settlements provide direct and indirect development opportunities.

Despite this, the October 2016 Environmental and Social Impact Assessment for the Sectional Re-alignment of the Escarpment Road¹⁹¹ showed a distressing degree of 'blindness' to the massive environmental, cultural, socio-economic and human rights related changes and impacts that would result from the development of the road. Because of this, extraordinary limited mechanisms were put in place to manage and mitigate the very serious foreseeable impacts that have realised subsequent to road construction. As well, no attempt was made to identify potential cumulative impacts and put associated management mechanisms in place.

Built to facilitate the development of the CNOOC project, the road has allowed access into the hitherto isolated area by a wide range of Ugandans and foreigners alike. This has resulted in massive bush-clearing and overfishing of Lake Albert, but more importantly, it has resulted in a change in the socio-political structure of the communities around the proposed project site which will significantly affect the way in which the project is able to engage with local communities. Until the construction of the road, the villages in the project area had stable local governments dating back generations. With the subsequent influx of, especially Congolese, immigrants, most, if not all communities are now dominated by new and possibly temporary residents which may result in CNOOC having to interact with leadership that have little or no social contract or connection to the local environment. This will make the public participation and community engagement aspects of this project substantially more complicated.

The Lake Albert area has become a 'place of refuge and hope' for huge numbers of people from within Uganda itself, Sudan, Rwanda and - in particular - the DRC. In addition to the influx of people via the escarpment road, there has been a massive influx of Congolese migrants and refugees who have settled alongside the lake shores over the past decade. In this regard, the LC1s of each village along the Lake Albert shores have all indicated that approximately 70% to 75% of the population in each village is comprised of Congolese, with the local (original) Bunyoro Kitara peoples comprising a maximum of 10% to 15% of households per village.

The Congolese migrants and refugees are said to have a different approach¹⁹² to Ugandan natural and cultural-heritage resources that appears to be more intensively driven by consumption as opposed to wise utilisation needs, although this is a difficult aspect to attempt to crystallise out in respect of a contribution to cumulative impacts. It is certain that the water and sanitation related hygiene practices of the migrant villagers on the edge of Lake Albert tends to be different from the more conservative and long-settled Ugandans. Of note is the dearth of sanitation facilities such as latrines found amongst the vast majority of migrants, irrespective of the time period that they have stayed there.

In addition, the local Ugandan government appears under-resourced and incapable or unwilling to enforce local environmental laws. CNOOC needs to be prepared to operate in an environment where they are engaging with short term communities dedicated to unsustainable resource utilisation, against a backdrop of little or no national oversight. Apart from the obvious security risks that this represents, there is a real risk of CNOOC becoming a de facto state services provider which may expose the project to significant unforeseen community issues.

7.2 External Cumulative Impacts on VCs

7.2.1 Security

In other African oil fields, specifically the Niger Delta, the deliberate sabotage of oil pipelines has reached epidemic proportions¹⁹³. This sabotage tends to take three forms as discussed hereunder.

¹⁹¹ Eco and Partners (2016) Environmental and Social Impact Assessment for the Sectional Re-alignment of Escarpment Road (KM 5+360 – Km 6 + 105)

¹⁹² Personal communication, 2 December 2017, Community elder, Nsongo Village, Albertine Graben, Uganda

¹⁹³ Vidal, idal, J. 2015. Big bucks drive oil pipe sabotage in Niger Delta, Guardian News & Media (<https://mg.co.za/article/2015-11-12-big-bucks-drive-oil-pipe-sabotage-in-niger-delta>). Accessed January 2018





7.2.1.1 Politically motivated destruction

As in the case of rebel or terrorist groups in opposition to either the oil company's presence (as in the case of the Niger Delta Greenland Justice Mandate (NDGJM) and the Niger Delta Avengers in their battles with the Nigerian government to attract a greater share of oil revenues for the communities of the Niger delta¹⁹⁴). Internationally, pipelines have historically been a favourite target of rebel groups, including India's United Liberation Front of Asom (ULFA), Turkey's Kurdistan Workers Party (PKK) and Colombia's Revolutionary Armed Forces of Colombia (FARC) and the National Liberation Army (ELN)¹⁹⁵. While this is not currently seen as a significant risk for the study area, the uncontrolled cross border movement in the area, combined with the instability present in some of Uganda's neighbours, poses a future risk for the project.

7.2.1.2 Economic vandalism

In the Niger delta, there is an economic incentive to crack pipelines to create local employment opportunities for clean-up crews¹⁹⁶. Nigeria's National Oil Spill Detection and Response Agency recorded more than 900 such events over 12 700km of pipeline in 2014. Such petty vandalism has been successfully combated in places by providing communities with ownership stakes in the oil industry, something which may be hampered by the social instability currently being experienced by the communities surrounding the project site.

7.2.1.3 Organised theft

Apart from the opportunistic small scale theft (and often horrific consequences due to fire) frequently reported from the Niger delta, pipelines are uniquely vulnerable to organised criminal syndicates because of the difficulty inherent in policing linear infrastructure¹⁹⁷. Pipeline oil theft is rampant in almost all developing oil producing nations. In his report into the matter, Ralby (2017) identifies pipeline oil theft as being "highest in states where oil is refined, but the most common determinant of oil theft is a significant price discrepancy between one state and its neighbour. Other factors in neighbouring states—instability, currency imbalances and lack of border controls—also impact the extent to which a state experiences downstream illicit activity. Areas where there are few fuel distribution centres are particularly ripe for organized criminal groups to fill the void."

All of these factors perfectly describe the situation in and surrounding the study area and the likelihood of criminal impacts on the project (and in turn, the likelihood that the project acts as a long term attractor of criminal activity into the area) should be addressed as a priority in long term planning. Such theft has been combated with some success in markets such as Mozambique through the provision of oil royalties to local communities but the weakening of the social fabric of the Albertine Graben associated with the massive influx of foreigners in the last five years will make this harder to achieve.

7.2.2 Climate Change

Both Uganda and China are signatories to the Paris Agreement within the United Nations Framework Convention on Climate Change (UNFCCC). This is a recognition of the long term and cumulative impacts that the emission of greenhouse gases will have on the planet's climate. Such impacts are inherently cumulative and dispersed in nature. As a result, the climate change impacts from this proposed project will not necessarily be noticeable within the immediate surrounds of the project area, or indeed, globally, but the fact that both countries involved are signatories places a responsibility and a monitoring and administrative burden on the project staff. It is highly likely that local Ugandan officials will have a reporting requirement for greenhouse gas emissions for their local area to feed up into the nation's national climate report which is required to be submitted to the United Nations under the responsibilities of all signatories. This administrative burden is frequently passed on to the staff of the area's largest emitters which, in this case, will likely be CNOOC. It is vital that CNOOC be aware of this obligation and staff accordingly.

194 AFP 2016. Nigerian rebels claim attack on state-owned pipeline, eNCA (<http://www.enca.com/africa/nigerian-rebels-claim-attack-on-state-owned-pipeline>). Accessed January 2018

195 Institute for the Analysis of Global Security (IAGS), 2005. Pipeline sabotage is terrorist's weapon of choice, IAGS. (<http://www.iags.org/n0328051.htm>). Accessed January 2018

196 Vidal, J. 2015. Big bucks drive oil pipe sabotage in Niger Delta, Guardian News & Media (<https://mg.co.za/article/2015-11-12-big-bucks-drive-oil-pipe-sabotage-in-niger-delta>). Accessed January 2018

197 Ralby, I.M., 2017. *Downstream Oil Theft: Global Modalities, Trends, and Remedies*, Atlantic Council, Global Energy Centre.





From a positive point of view, the fact that both parties are signatories to the Paris Agreement provides an opportunity to access climate change funding to help redress the biodiversity impacts that have already occurred in the area as a result of the increased access occasioned by the road construction. At the moment, it appears that the primary biodiversity funding into Uganda related to the Agreement is provided by the European Union to bolster the protection of the Rwenzori National Park to the south of Lake Albert. With the development of the CNOOC project and the subsequent oil and gas projects still in the pipeline for the Lake Albert east coast, there is a good case for international climate change funding to be applied into the project region to offset the biodiversity impacts that have already and are still expected to occur.

7.2.3 Community impacts

The impacts on the local Ugandan people that have already resulted from the road construction have been outlined above and it is to be expected that these impacts will continue well beyond the life of the project.

CNOOC has already undertaken to provide fresh water into affected settlements which will have the effect or enhancing the attractiveness of these villages for settlement from outside. There is a very real danger that CNOOC becomes a de facto supplier of state services in the area, without any of the power of the state to enforce and control the supply of those services. The risks associated with this are two-fold. It exposes CNOOC to the threat of disruption of activities should something happen to cause disaffection in the surrounding communities. In addition, on ultimate closure of the project, CNOOC will have created an expectation and reliance on their presence which could then be disastrous for these communities on ultimate withdrawal of CNOOC from the area.

It is therefore recommended that CNOOC engages aspects such as service delivery, development initiatives and Corporate Social responsibility in a structured manner and in partnership with key stakeholder groups, including representatives of Civil Society Organisations, district and local government role-players, Community-Based Organisations and representatives of various interest groups. CNOOC will expose themselves to substantial operational and administrative risk if they attempt to supply services in a vacuum. It is recommended that CNOOC supply support to the establishment and facilitation of such a coordinating development platform in a targeted and strategic way which best meet the needs of local communities while lessening the risk that CNOOC become the target of disaffection down the line. This aspect is addressed in detail in the Community Health, Safety and Livelihood Security Plan.

7.2.4 Accumulation of Oil Industry

Apart from the current project, two further oil and gas projects are proposed further north along the Lake Albert coastline. While impacts related to these projects are beyond the scope of this report, it should be recognised that all three of these facilities have a collective responsibility to manage their impacts. Many of these impacts will accumulate with, and possibly magnify each other, especially those associated with air and water quality and biodiversity impact.

In this regard it is pointed out that cumulative impacts do not necessarily show significant difference from the impacts of a single project, in fact, they may be the same. At the same time, construction of more than one project at a time may raise the severity of the impacts. Where construction phases for each of the proposed projects occur simultaneously, there could be cumulative impacts linked to unidentified effects on communities and habitats. While conditions related to a single project may have stabilised or returned to normal, an increase in the number of activities undertaken sequentially or with temporal and spatial coincidence may result in cumulative adverse effects. It is essential that this reality is understood and that appropriate mitigation measures are put in place to prevent this from happening. Even if each of the potential impacts is of relatively short duration and limited spatial extent in the immediate vicinity of the proposed project site, cumulative impacts may have serious sequelae.

It is recommended that as soon as these projects reach the advanced planning phase, that a regional environmental forum be funded and set up by the industries in question and populated by local NGOs and local government. As well, that such a Forum is capacitated to understand the true nature of the risks (environmental, social and human rights related). This will enable the Lake Albert oil and gas industry to combine and streamline efforts to mitigate their impacts on the surrounding communities and natural environment.



8.0 CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

CNOOC's KFDA project will transform the lives of people on the Buhuka Flats. Some of this will be the result of the direct impact of the construction and operation of the production facility itself, but much will be due to other factors, related to the perceived and real opportunities that good access and the presence of a large industrial facility will bring about.

Changes are already evident, wrought by speculation about future opportunities and by the access that the new escarpment road provides. Populations on the Flats have escalated at a rate far above the predicted average for the District. Commerce associated with the new road access to the fishery on Lake Albert has boomed, being driven mostly by commercial enterprises in Kampala and foreign interests, exporting to the DRC. Controls are ineffective, and the local fishery is at risk, with fisherman on the Flats finding it more and more difficult to secure catches of harvestable size.

The KFDA project will contribute both positively and negatively to this milieu. The construction phase of the project will provide between 1,000 and 2,000 jobs at different times in the 3-year construction period, many of which will be unskilled and sourced from the Flats and the District. While it is unlikely that much of the money spent on equipment, goods and services will be to the benefit of people in the immediate area, the informal economy that will develop around the facility, feeding off the cash injection provided by the employment of local people on the construction project, could benefit many local families. The escarpment road too, which has been financed and built by the Government to support Kingfisher, has created benefits for local people who previously had an onerous four hour climb just to access a road to District health and other services.

The Ugandan Government plans to drive national development through oil industry growth and, over the long term, the principle benefit of the project will be to generate Government revenue in support of national development goals. CNOOC will also contribute to employment, with a significant number of personnel required to operate the production facility once all drilling is completed. While this is not a large figure in relation to national needs, it will be accompanied by training to increase the capability of Ugandan citizens. Ongoing operating expenditure will also be significant, and although much of the value of this is likely to leak to international suppliers, there will be benefits to Ugandan firms and subsidiaries that will provide many downstream opportunities.

At local level, the benefits are less certain. Much will depend on CNOOC's willingness to encourage and nurture local suppliers for support services and products that could be provided locally. However, most of the local benefit of the project is likely to be driven by CNOOC's Corporate Social Investment programme and by Government initiatives to create a functional municipality around the production facility on the Buhuka Flats. Draft proposals in this regard have already been tabled and, while these will need thorough stakeholder review, they demonstrate Government intent to implement a structured process of development on the Flats. At present, the plan shows controlled settlement and the provision of a wide range of municipal services.

This process will be the key to the management of local social impacts associated with the project. While there are many direct impacts described in the ESIA that CNOOC will need to mitigate, from land loss to nuisance issues, STDs, community safety and loss of heritage sites, among others, the greatest concern will be the uncontrolled influx of people, and the potential for a free-for-all around the production facility. While to the benefit of some, this is likely to impact severely on the current inhabitants; causing a breakdown of the fabric of the communities, increasing violence and vandalism, an escalation of drug use and spread of STDs and many other social pathologies. There is already evidence of factionalism developing on the Flats, with demands being made of CNOOC accompanied by the implied underlying threat. To minimise these risks, and to offset the negative changes that the transformation of the area will bring to local communities, there must direct and visible accompanying benefits through the provision of services.





8.2 Key Recommendations

8.2.1 Direct Impact Management

- Develop a zero-tolerance management approach to non-compliance in all phases of project development. The KFDA Project will require the highest standards of social impact management.
- Retain skilled social personnel on staff throughout the project's lifetime, specifically tasked with the management of CNOOC's relationship with local communities and local Government. Develop community forums for open discussions with local people and regularly use these forums to maintain good relationships with the project's neighbours.
- Strictly control the behaviour of project personnel in their day to day interactions with local communities. The production facility will be integrated among inhabitants on the Flats and daily interactions will be inevitable. Permanent and contract staff must be trained to comply with a code of conduct that protects communities and CNOOC's reputation. The attitudes which CNOOC site management and their staff display in their relationships with local people will strongly influence perceptions about the project. CNOOC must become a trusted and influential member of the Buhuka community as a basis for a social license to operate.
- Place particular emphasis on STD's and the management of HIV Aids, which is a scourge around large industrial projects in developing countries, since project personnel disproportionately have money and power, attracting sex workers into the area, and often enticing underage local girls to sell sex in exchange for cash income.
- Ensure that all CNOOC service requirements for water, waste and health are independently supplied by the project and do not impact on the limited capacity of the community services. Minimise project impact on communities (such as STD's and pregnancies through sexual relationships with local people) to prevent additional burdens on these services.
- Aim CSR projects at supporting the local community who are potentially most affected by the negative changes brought about by the Kingfisher development. Assisting in the development of cage fishing projects and teaching local people about hygiene and health risks, such as malaria, would be typical projects, among others. CSR methodology should follow a structured process and outcomes should be independently monitored and annually reviewed.
- Maintain strict control over the project footprint to stay within the designated areas and minimise grazing loss
- Take all reasonable, practical, measures to minimise noise during all phases of the project, with particular reference to night noise and the control of noise from drilling operations. Where residual impacts as a result of drilling are still above the defined limits, temporarily accommodate affected people elsewhere on the Flats until the drilling in their area is completed.
- Minimise light pollution through the use of tree screens, strategically located to intercept the line of site to the main areas of the plant, and by the use of downlighting that minimises light spillage into surrounding areas.
- Ensure that hazardous materials and wastes are never left outside of controlled areas where public access is possible.
- Provide walkways for pedestrians between villages on the Buhuka Flats so as to minimise the risks of pedestrian injuries on the project roads. An ongoing driver and community safety campaign will be needed to minimise the risk to both people and domestic animals.
- Maintain a buffer around the production facility where settlement is not permitted, both as a means of managing safety and nuisance. Normal community use of the land for grazing should be unhindered.





- Implement the recommendations under Biodiversity for assisting in the management of the fishery – this will have both social and environmental benefits.
- Ensure that all direct and indirect actions and activities undertaken by CNOOC, its contractors and sub-contractors meet the most stringent Human Rights requirements, that there is a zero tolerance to such occurrences and that any reports of such transgressions are immediately scrutinised, diligently investigated and followed by decisive action.
- Preferentially hire local people, in accordance with CNOOC policies and agreements with Government. Advertise employment opportunities within the local fishing villages (local labour market) so that as many people as possible are employed who can continue to live with their families as they offer their services to the project. Directly project-affected people should be given priority to win construction and operational phase jobs, subject to their meeting the necessary employment requirements;
- Ensure extensive sensitisation of communities regarding CNOOCs policies, programmes and procedures in a manner that will ensure that they are alert to situations where they may become the victims of crime or targets for corrupt practices.
- Ensure that worker rights to freedom of movement or of association are balanced with the need to prevent detrimental workforce related impacts on the general well-being and health, safety and security of settlements in proximity to the workforce accommodation services. Adopt a zero-tolerance approach to employees who transgress health and safety rules.
- Develop and implement training and skills development programmes, where feasible, to expand the human capital available within the local, district and national economy.
- Align the CNOOC Education and Training related support initiatives as well as in-house training and competency development of Ugandan nationals with the critical and scarce skills requirements of the Oil and Gas sector;
- Consider promoting a process of Recognition of Prior Experience (RPE) and Recognition of Prior Learning (RPL) in collaboration with tertiary technical training institutions that will allow the accrual of credit for informal and non-formal skills development into the formal skills development sector for unskilled but experienced workforce;
- Ensure comprehensive implementation of the Community Health Safety and Security as well as the Community Development plans, with a particular focus on promoting measures to assist groups that are particularly at risk (the aged, female and child-headed households);
- Continue to implement the Community Relations Strategy (CRS) and strengthen the work of the Oil and Gas Activities Monitoring Committees at parish level. In this process, consider the need to support a more regular and formalised communication process at village level. This could include a process for formalised representation for representatives from villages (including but beyond the formalised governance system provided by LC1s), CSOs, NGOs, FBOs as well as traditional clan chiefs (or representatives) and other stakeholders as identified. Ensure regular meetings at local level, hosted by CNOOC, aimed at:
 - communicating with stakeholders to build understanding and demonstrate transparency and accountability.
 - strengthening channels for the provision of further information that may be needed.
 - promoting mechanisms for understanding real issues and concerns related to the project and impacts being experienced from direct (unmitigated), indirect and cumulative impacts.
 - publicly and transparently debating options for sharing out benefits at local level that will take account of the negative impacts experienced locally, including the costs and benefits of different options, their management implications and their role in supporting wider economic development.





- Ensure the ongoing functionality and accessibility of the grievance procedure that is being implemented for the local community. Monitor and ensure that complaints related to CNOOC contractor or employee behaviour that infringes on the health, safety or security of community members that are lodged or brought to the attention of CNOOC are responded to in a satisfactory manner. The grievance procedure must include ongoing efforts in respect of:
 - Circulation of contact details of community liaison officers or, if separate, of 'grievance officers' or other key contacts.
 - Circulation of details of the Witness NGO as well as the mechanisms to access the NGO.
 - Raising of awareness amongst the local community regarding the grievance procedure and how it will work.
 - Establishment of a grievance register that is continuously updated and maintained by CNOOC.
 - Provision of a mechanism to provide feedback to individuals, groups and village councillors regarding actions that have been taken in response to complaints lodged.

8.2.2 Indirect and Induced Impacts Management

- Contribute to Government's efforts to foster structured development around the production facility on the Buhuka Flats, assisting wherever possible with resources and expertise and actively participating in all community development planning and implementation.
- Work with Government to implement the plans to discourage migration into the area.
- Engage aspects such as service, development initiatives and Corporate Social Responsibility in a structured manner and in partnership with key stakeholder groups, including representatives of Civil Society Organisations, district and local government role-players, Community-Based Organisations and representatives of various interest groups.
- Develop clear statements regarding the specific activities that will form part of the process for mitigation and what activities will form part of the CNOOC Corporate Social Responsibility programme.
- Supply support to the establishment and facilitation of a coordinating development platform in a targeted and strategic way which best meets the needs of local communities while lessening the risk that CNOOC become the de facto service provider.
- Implement the recommendations of the Influx Management Strategy and Framework Plan to minimise the social risks of in-migration.





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APPENDIX A

Focus Group Meeting Minutes

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS
CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA
PROCESS COMMENTS REGISTER
NOVEMBER 2017

Interview date: Monday, 20 November 2017
Venue: Tri sek Hotel, Hoima, Uganda
Organisation/ Institution: Production Department Hoima District Local Government

| | Name of Person |
|--|------------------------------|
| <p>1. The Production Department of the Hoima District Local Government indicated that the following changes have been noted in the Hoima District since 2013:</p> <ul style="list-style-type: none"> • Adverse climate change is affecting the production of crops and animals. • Strange crop and animal diseases have threatened production. In particular, the notorious armyworm pest in maize which has reduced production by 40%. • There is increased land take, particularly by the Refinery project, comprising of 29 km². • There is increased cutting of trees/forests, even within protected areas to look for land suitable for farming as well as for wood for fuel. • Tourism sites are being encroached upon. • Increased number of land conflicts caused by speculators. • Due to increased population size, food prices have become favourable to farmers as the demand for food has increased. • Markets for various types of food have widened. • There is a noticeable increase in farming investments as the demand for food increases. • There is an increase in the production of specific crops such as maize, green vegetables and fruits. | <p>Production Department</p> |

| | Name of Person |
|---|-----------------------|
| <p>2. The Production Department of Hoima District Local Government indicated the following perceived fears surrounding the upcoming pipeline development:</p> <ul style="list-style-type: none"> • Population influx will result in increased pressure on natural resources. • People will encroach on protected areas. • The loss of land for production. • Depletion of natural sources of food and medicine for example, mushrooms, honey, herbal medicines etc. • Increased investment in non-food crops such as sugar and tobacco will subsequently reduce land available for food crop production thus, resulting in famine and food insecurity. • The escalation of land related conflicts. | Production Department |
| <p>3. The Production Department of the Hoima District Local Government made the following recommendations:</p> <ul style="list-style-type: none"> • Land Acquisition and Resettlement Framework (LARF) of the development processes should aim at empowering the population as well. • Oil and gas operators should always review the resettlement and relocation process in order to manage impacts that arise from each project. • The Local Government and its partners should invest in local community capacity building to ensure that communities are well informed of possible impacts that may arise from oil and gas projects. Local communities should also be provided with an opportunity to participate in identifying mitigation measures. • The Local Government should introduce a robust compensation policy that addresses impacts brought about by projects that require resettlement. • A local content programme should be implemented in order to increase the participation of local communities. • An effective Livelihood Restoration Programme should be implemented to ensure that projects which require resettlement are well managed. | Production Department |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Meeting date: Tuesday, 21 November 2017
Time of meeting: 14:00pm-17:15pm
Venue: Hoima, Uganda
Organisation / Institution: District Planning and Production Department Officials, Hoima District Municipality, Hoima

| Comment | Name of Person |
|--|----------------|
| Meeting: District Planning and Production | |
| 1. Pipeline related changes and issues: Things have changed significantly. | |
| 2. Changes in respect of livelihoods: Decrease in agriculture including selling their land and buying motor cycles, etc. (SMMEs). | |
| 3. Economic changes: Include stress for farmers and production. At the same time, the price of food has increased exponentially. This however has resulted in the opportunistic sale of crops and resultant lack of food within the household. Regional integration (for example from Kenya, DRC etc.) means huge increases in demand and the export of maize has escalated. For example, in 2013 the maize price was approximately US\$100 per kg but in 2016 it increased to approximately US\$500-550 per kg (actually has been as high as US\$1200). | |
| 4. People are unsophisticated in handling money and are not aware of the need to save and spend over time (financial literacy). Therefore, people end up without cash and there is literally systemic hunger. | |
| 5. Production improvement initiatives are in place, but a dramatic change has not yet been experienced. | |
| 6. Pressure on land has increased massively with associated conflicts and problems between 2013 and 2016. | |
| 7. 29sq miles of land has been allocated to the refinery. In the past, only a village chief or Local Councilor (LC) could allocate (sell) land. This system is now changing, with other communities also becoming directly involved so one person will sell land to another person. Before this, there was a significant influx of people who "land grabbed" and misappropriated land. When someone sells land it is not clear whether they obtained the land legally or not. | |
| 8. In spite of the fact that people accepted the money (for compensation) instead of accepting replacement, they did not return to agriculture but rather spent the money on other things. At times, money was also the reason for the breakdown of relationships either through spouses fighting about how the money should be spent, or through husbands leaving their wives and children and moving away. | |
| 9. Agricultural activities have been dramatically impacted because of non-sustainable practices such as farming within wetlands, decreased rotation, and afforestation. | |
| 10. There is no baseline data available in respect of water quality as well as flow data. There is also no understanding of what is wrong and how it is wrong. It is important that, should Golder have any results, they make sure that Government can take it on board if at all possible. | |
| 11. Need to address the fact that the oil and gas industry is not well understood by all. To date, for example the exact alignment of the pipeline is not known. Information on routing of pipeline (plus full details of how, what, why, when) and Kingfisher is really not understood. They do not have the skill, competency and knowledge to take on board the full ramification of the resultant changes. | |
| 12. Local content: local government and local community believe that the requirement to take on board local content must be seen as an opportunity to build local capacity. This should be both in respect of knowledge and skills as well as equipment. Staff of district and local government do not have a fundamental understanding of, for example, market chain analysis, local processing and manufacturing and opening as well as accessing markets. This means that they are not equipped to assist in maximising opportunities for exploitation of markets or to ensure that all | |

| Comment | Name of Person |
|---|----------------|
| <p>local government related processes and procedures are in place that can be of benefit to local business people or to ensure that local economic growth translates into increased income at local government level (e.g. through taxes). For institutions (such as CNOOC) to provide support at local level becomes a challenge because of the absence of decentralisation (effective) of governance and government budget and functions that can be applied to maximise the benefits of such a process. However, agriculture offers “best hope” for focusing local support. Unfortunately, unless such support is “packaged” properly, central government may integrate projects that are successful into national portfolios, diverting potential income from local to central level. The alternative is to work with local government and make recommendations for change which are incorporated into local development plans. That will allow an integrated approach.</p> | |
| <p>13. Climate change has a negative impact on livestock (including feed for chickens and pigs) as well as the absence of sufficient water and food for people and animals.</p> | |
| <p>14. Increasing incidents of pests, as well as episodic floods - not necessarily less rain, but in shorter more intense bursts causing flooding and damage).</p> | |
| <p>15. Fears related to the pipeline:</p> <ul style="list-style-type: none"> a. Damage to crops b. Deforestation c. Poor compensation d. Land “grabbing” – the opportunistic “buying-out” at bottom dollar prices (including very strongly by central government officials who have continued to get access to compensation money as a result of their graft). | |
| <p>16. Fears related to the pipeline: Leaks and the subsequent impacts on surface and ground water, as well as people and animals.</p> | |
| <p>17. Positives related to the pipeline: From an agricultural perspective, developments related to and associated with the development will create an increased demand for food. Piggery enterprise offer a solid opportunity for a value-chain based intervention. Also vegetables, beans, maize and rice (local markets). Regional markets: Tea, coffee, cocoa and other perennials. Beans, cassava, rice, bananas, sweet potatoes, plantain, wild mushrooms, fruit (lychees, mangoes).</p> | |
| <p>18. Cost of wood has increased by more than 20% over the past few years. Survival strategy is based on access to natural resources (white ants, grasshoppers, medicinal plants etc.).</p> | |
| <p>19. Additional factors impacting on land availability include sugarcane, commercial farming, etc. Also tobacco companies.</p> | |
| <p>20. Recommendation: Periodic review and evaluation is required to determine what is happening and to attempt to address issues that manifest. It is hoped that there will be continuous support for the communities. A well-planned livelihood restoration action plan is an essential component that must be put in place. There is a need for a “slow” empowerment process for the sake of acquiring land.</p> | |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS
CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA
PROCESS COMMENTS REGISTER
NOVEMBER 2017

Meeting date: Tuesday, 21 November 2017
Time of meeting: 13:00-14:30
Venue: Buseruka Sub-county Headquarters, Hoima, Uganda
Organisation / Institution: Buseruka Sub-county Meeting

| Comment | Name of Person |
|--|----------------|
| 1. CNOOC provided background information, including information regarding the delays. Technical Sub-county staff indicated that they are responsible for health, agriculture and community development extension. | ZAC |
| 2. The Sub-county has had a lot of activities related to oil and gas. These activities are accompanied by a significant influx, with an expectation by migrants to derive benefits. There is also an out flux from the area. | |
| 3. Huge influx can be connected to an expectation of road-construction related employment opportunities to capitalize on the remaining road-construction projects. A similar huge influx is expected with the pipeline, refinery and airport projects with migrant workers flocking to the area to explore opportunities and settle. | |
| 4. Associated job opportunities have been identified, for example gravel for the airport. People are flocking into the area from all over, including from other areas in Uganda such as Jinja etc. People are clearing and upscaling for farming initiatives. | |
| 5. The influx is partially organised by property owners who bring people in with the following arrangement in place:- "Come clear my land and you take the first crop for yourself and then leave to allow me to raise my cattle on a cleaned farm". | |
| 6. People come in with many cattle usually but not always on a paid and agreed basis), and displace, existing households. Others settle opportunistically. | |
| 7. There are also incidents where there is conflict between pastoralists and farmers, where pastoralists allow their cattle to roam into fields and destroy crops. This results in significant crop and associated financial losses and the eventual surrender by farmers who agree to leave their land in exchange for money. | |
| 8. Traditional villages have historically had access to grazing land or grazing zones. Conflict between farmers and pastoralists appears to be the biggest issue with the growing demand for cattle. The stretch from the escarpment to the water will be used for cattle grazing. However, the carrying capacity is being eroded due to no "resisting of soil" (depletion of top soil and/or organic matter in the soil reduces soil nutrition levels as well as the ability of the soil to hold water.). | |
| 9. Land acquisition is facilitated through the local councilors and anyone who wants to can approach the chief by merely verbalizing "I want to buy some land". Common/community land is being sold off by traditional leaders. The matter of ownership and acquisition of land needs to be addressed as a matter of urgency. | |
| 10. Local councils can authorize the sale of land for common use. Land can be acquired by purchasing it from existing landowners. There is limited involvement from the youth in the sale and acquisition of land. | |
| 11. Increased impacts and strain on essential services such as health and medicines due to an influx of Congolese migrants in particular is a concern. Most migrants originate from the Democratic Republic of Congo (DRC) but also Senegal. This influx of migrants has placed strain on existing sanitation infrastructure. Other associated health impacts relate to habits of migrants. | |
| 12. The migrant influx has led to long lines and long waiting times for water at boreholes. The DRC relocation process has resulted in a situation where some Congolese have homes in both the DRC and Uganda. Planning, budget allocation and procurement processes are based on population figures as derived from census counts. It is impossible to plan ahead for migrants. Also, Uganda provides better infrastructure and services so Congolese come in for services. | |
| 13. Criminals hide-out from the DRC in the villages and settlements along the Lake Albert shore. | |
| 14. Other impacts include severe overtaxing of already limited and strained healthcare staff and | |

| Comment | Name of Person |
|---|----------------|
| medical resources, schools, clinics, etc. | |
| 15. A clearer picture of the refugee profile, settler profile, ex-refugee profile and Ugandan profile is needed in order to facilitate proper planning. | |
| 16. Councilors can be elected from the rank and file of “card carrying” DRC persons and cause problems in respect of being “out of service” because of visits to the DRC. This means that the Ugandans who are entitled to receive services and support from their councilors are denied this, and the Congolese who have elected them receive preferential treatment, including in respect of the allocation of resources. | |
| 17. Although the number of people has increased, a similar increase in revenue is not evident. Some revenues are generated for the sub-county through tax on fishing. However, some institutions do not have sufficient income to pay tax and others evade paying tax. Although the resource base of the sub-county has been increasing since 2013, the income base has changed somewhat because of the ability to monitor fishermen. However, this monitoring does not necessarily include “Day Trippers”. | |
| 18. Enterprise development has changed. In the first instance, watermelon and cassava farming has seen some improvements in farming techniques. These enterprises are supported directly by government. In general, all categories of farming in the area are benefitting in some way from enterprise development initiatives. | |
| 19. Women are being empowered at Local Government level. This is evidenced by the appointment of five or six women councilors. The focus has been on female empowerment but there is a sense that more ought to be done in this regard. However, women play the strongest role. | |
| 20. During times of “plenty” in respect of development, household abuse appears to increase but there is a programme in place that helps address family violence and the usual family power disjunction. | |
| <p>21. Department of Community-Based Services Positives: Growth and prosperity. Negative: Communities are being displaced (11 Local Councilors) 46 families were moved; 2 schools were closed; Impacting on ability of children to access school; and Increased incidences of diseases, boreholes that cannot be replaced or have not been repaired, etc.</p> | |
| 22. There is a need for CNOOC to be flexible in respect of the provision of support, given that there may be unintended financial costs to impacted households/people that cannot readily be met by them. An example of this is the fact that CNOOC may have agreed on a price to buy land from someone, but delays in payment of compensation may mean that the landowner would be required to pay much more for an equivalent piece of land due to increases in land value in the interim. | SCR |
| 23. There appears not to be any functional mechanism in place to ensure that control is exercised over where people settle or to remove them from ecologically sensitive areas once they have settled. This means that there is indiscriminate settling in areas such as wetlands and forests as well as in conservation areas that are difficult to access and protect. The negative environmental impacts that emanate from this seeming inability to control where people settle has been exacerbated over the past number of years due to increasing in-migration, coupled with people who have been displaced by developments such as the road and electricity infrastructure. This is also occurring with persons who have been relocated as a result of the CNOOC development, and have elected to take financial compensation instead of replacement of land. | |
| <p>24. The five-year development plan is currently being updated and therefore is not readily accessible in respect of the near and distant future. Community needs and issues are fed into the development planning process. Need to look at community level:</p> <ol style="list-style-type: none"> I. Water availability; II. Roads; III. Health infrastructure; and IV. Schools. | |
| 25. The central government supported airport is causing problems due to uncertainties related to issues such as placement of the runway. Communities are struggling with the uncertainties attached to this process. | |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Meeting date: Tuesday, 21 November 2018
Time of meeting: 09:00 - 12:30
Venue: Hoima CDO Office, Hoima Police Department, Hoima, Uganda
Organisation / Institution: Hoima Community Development Officer (CDO) Meeting

| Comment | Name of Person |
|---|----------------|
| 1. A monitoring and evaluation process is required to avoid exploitation and dishonesty (examples from the roads programme provided). | |
| 2. Communities are extremely poor but awareness programmes from government are met with criticism, both from the communities as well as from role-players within government itself. | |
| 3. Cash compensation is not sustainable. Community members who were given cash compensation have indicated that they had not wanted cash compensation in the first place. It is crucial that communities are made aware of the real problems and issues related to, for example cash compensation. Unfortunately, it is usually a “quick and dirty” engagement of communities. | |
| 4. Currently, World Bank projects serve as extremely solid examples of good practice in respect of their-“improvement of infrastructure programme. | |
| 5. If communities are involved and sufficiently mobilized, they will then have a greater understanding and will be able to assist with the development of suitable solutions. Also, there is a lack of coordination between central and local government and a disconnect between actions at ground level and “parachuting” of initiatives from central to local level without a real understanding of the issues on the one hand or the participation of local communities in the development of appropriate solutions on the other hand. This type of intervention leaves local government with the problems, misunderstanding and negative issues that inevitably ensue. | |
| 6. Local government also has inadequate resources with the budget having remained the same for many years. This prevents the ability of Community-based Organisation (CBO’s) to undertake proactive engagement of “at risk” communities. It is important to ensure a better resourced local government but again central government will want control of any successful local project if there appears to be an opportunity attached to appropriating finances to central level. | |
| 7. Support for the process, e.g. through work with CNOOC on specific development programmes (according to a proposal, workplan and an associated budget). This could potentially result in a formal local development planning process with support from council. | |
| 8. CNOOC has had a sponsorship programme through BRAC to train and sponsor vulnerable children in order to improve their access to schooling. In addition to CNOOC trying to put support systems in place, the opening of the Buhuka Road has helped open up the area and to provide especially secondary pupils more ready access to schools | |
| 9. From a community based organization perspective, we are not aware of any direct problems or issues. We are members of the District Grievance Management Committee and are not aware of any specific complaints related to the road. | |
| 10. The issues that we are required to deal with really focus on land-related issues. A key example of good practice is probably the World Bank and their development projects and how they have dealt with land related issues. | |
| 11. Regarding the proposed Construction and Accommodation amp, please indicate where it will be located. Note that it may result in displacement of people. If people are displaced, how will you ensure that there is adequate engagement with and capacitating of communities, particularly those who will be directly impacted? | |
| 12. With an influx of migrants into the area, there is a fear for the safety and welfare especially of | |

| Comment | Name of Person |
|---|----------------|
| young girls. Issues of concern range from defilement, rape and prostitution, early and/or unwanted pregnancies, early arranged marriages as well as early school drop-out. | |
| 13. There is a need for altered parenting, with locally based solutions, supported by the Community Development Office as well as the traditional role-players. | |
| 14. Will need to ensure that CNOOC engages with Civil Society Organisation (CSO's) directly (e.g. by providing transport and practical assistance) to develop action plans at community level, as well as creating awareness and a local sense of responsibility and empowerment. | |
| 15. There has been a significant influx of other Ugandans, as well as "refugees" (migrants from other countries, particularly the DRC who are either true refugees, or settle in Uganda because of better opportunities, services and systems). Due to the multiplicity of other cultures, a cultural decay is being experienced and a lot of problems are being created. The traditional mechanisms of solving social problems are diminishing, with social culture, social fabric and cultural consolidation falling apart. | |
| 16. The DRC is lawless, with a "live for the day" attitude without regard for the future. This is "infectious" because the discipline of traditional life is being replaced by this hedonistic approach. | |
| 17. We are trying to coordinate with the Kingdom to get a stronger focus on increasing cultural activities by reintroducing, for example, "Empako" which allows a traditional sense of belonging, pride and social cohesion. | |
| 18. There is a focus on historical cultural areas that require preservation and protection. Not each village has its own sacred sites but specifically traditionally trained people encourage traditional practices such as utilization of sites (for example, rain makers). However, these traditionally trained people are diminishing and there are insufficient advocacy programmes in place, despite attempts being made by the National Association of Professional Environmentalists (NAPE). Although the kingdom is supported by central government, there source base is still insufficient. | |
| 19. It is very important to note, particularly in respect of the proposed pipeline, that not only graves and physical sites exist. The kingdom has a list of all sacred sites and this will be a big issue in respect of the pipeline. | |
| 20. Pipeline: It must be remembered during the development of the project and the pipeline that the increase in road deaths-being experienced are directly ascribed to the fact that the necessary cultural rituals were not put in place. This results in "human sacrifices" in the form of road deaths, due to an absence of proactive rituals (e.g. goat or chicken) that should have been put in place but wasn't. | |
| 21. Question asked to Golder and Eco & Partner: "How does CNOOC find Uganda as opposed to other governments?" | |
| 22. The various role-players dealing with health and nutrition usually mobilise to protect and support the availability of plants and trees for nutrition as well as for traditional medicinal use. Trees and plants are very important in this respect. We are, therefore, concerned about the manner in which the pipeline and camp impact on this. | |
| 23. Question asked to Golder and Eco & Partner: "What has happened in other countries that shows us what to worry about?" | |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Meeting date: Monday, 21 November 2017
Time of meeting: 09:00am-13:15
Venue: District Police Offices, Hoima, Uganda
Organisation / Institution: Police Commissioner, Chiefs of the Community Liaison, Statistics and Family Protection Divisions

| Comment | Name of Person |
|--|--|
| 1. Requested information regarding crime statistics, human rights incidents and any information of value in respect of changes related to opening of the various roads as well as the proposed pipeline. | Comdt AK Barugahare Captain Asiimwe Detective Isiko Ezra |
| 2. The District Chief of Division Statistics was brought in to provide details regarding current statistics and data. Unfortunately, no electronic data is available. | |
| 3. Preparation of statistics regarding crime (general and specific) to be prepared by the crime records officer. | Sergant J Atushabire |
| 4. Community Liaison Officer deals with land disputes: Harmonisation regarding land matters. The transfer of land to the private sector (for example, land relocation related initiatives) but none have resulted in disputes. All smooth transitions with compensation and no issues. Incident statistics include: <ul style="list-style-type: none"> • 2013-7 incidents (all familial land disputes/incidents) • 2014-4 incidents • 2015-6 incidents • 2016-4 incidents • 2017-7 incidents to date | Constable Sylvia Babihe |
| 5. The police Community Liaison Officer cannot resolve certain issues due to a lack of access to records concerning mine land (land set aside for Oil and Gas development as well as sand mining). | |
| 6. The former Deputy Prime Minister had taken possession of the land title for large portions of land in the Kyangwali Sub-county area, as he knew it was going to need to be acquired for the escarpment road as well as for CNOOC. This went to court as a result of community protest, led by Mr. Kadada from Ikamiru in 2014 for the cancellation of the land title. The challenge from the community was successful. CNOOC did not make things difficult in this regard. | |
| 7. Family Protection (Child and Family Protection Unit-Hoima) Crime has certainly increased over the past few years and we believe that the roads have something to do with it. The refugee situation causes an extra burden on extremely limited resources. They are also creating problems in respect of child headed households as well as increased incidents of crime against women and children. Refugees are also forming alliances with Ugandan citizens, and children born from such alliances become victims of ethnic "tug of war" situations. | Sergant Kapire |
| 8. The moral fibre of the community, based on their traditional values, has been eroding over time. This is not necessarily only an ethnic (immigrant and refugee-based) issue but is a result of a "battle" between modern and traditional values. The opening of roads has facilitated access by the 'modern world' into the 'traditional world'. This clash leads to a disregard for traditional values that have a particularly deleterious impact on women and children. The traditional mechanisms for addressing problems is increasingly becoming attenuated and leaves women and children without the resolution of issues such as maintenance and without the protection of the traditional systems and processes. | |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Interview date: Tuesday, 21 November 2017
Time of interview: 09:00-11:00
Venue: District Headquarters, Hoima, Uganda
Organisation / Institution: Education Department

| | Name of Person |
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| <p>1. The Education Department of the Hoima District Local Government indicated that the following changes were observed in the Hoima District since 2013:</p> <ul style="list-style-type: none"> • In 2012, the total number of students enrolled in Government aided schools was 62 000 compared to 93 000 who were enrolled in Government schools in 2017. • The National Identity Registration Authority for primary school children had anticipated to register 140 000 primary school children but have currently registered 190 000 pupils. • Out of 93 000 pupils, the retention rate is 70 000 pupils. • The reasons for these high drop-out levels include disease, early marriages and child labour. | Education Department |
| <p>2. The Education Department of the Hoima District Local Government indicated the following impacts that migrants have on the education trends in the Hoima District:</p> <ul style="list-style-type: none"> • Migrants are mainly refugees from the Democratic Republic of Congo (DRC), Rwanda, Burundi and neighbouring districts. • Migrants who come to oil and gas operation areas put pressure on the limited school facilities. • Rwanyawawa Primary School in Kabwoya has 587 pupils but only 4 teachers on the payroll. • Nkondo Primary School in Kabwoya has only 2 permanent classrooms but has an enrolment of over 600 pupils. Hence, the primary schools in the District do not have the resources and facilities to accommodate the population influx. • Teacher pupil ratio is at 1:58, well above the recommended government of Uganda ratio of 1:5. • Performance in schools (to pick updated data for last 4 years). | Education Department |

| | Name of Person |
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| <p>3. The Education Department of the Hoima District Local Government indicated the following coping strategies used to manage education related challenges in the District:</p> <ul style="list-style-type: none"> • Action Africa Help (AAH), a refugee based organisation has constructed classroom blocks in Kyangwali. • The Heritage Oil Company has built a school block at Buhuka Flats. • CNOOC Uganda Ltd supports teachers at Buhuka Primary School and implements social projects that enhance completion among school pupils. • The Education Department inspects schools in the whole of Hoima District with only one means of transport received from the United Nation High Commissioner for Refugees (UNHCR). | Education Department |
| <p>4. The Education Department of the Hoima District Local Government identified the following gaps in education:</p> <ul style="list-style-type: none"> • There are no vocational schools in sub-counties with projects. • Not much effort is made to resolve primary school dropouts. | Education Department |
| <p>5. The Education Department of the Hoima District Local Government indicated that oil and gas developments support education in the following ways:</p> <ul style="list-style-type: none"> • The opening of new roads have encouraged private investors to construct schools within Sub-county project areas. • As a form of addressing impacts caused by project operations, oil and gas companies have invested in the improvement of education standards through their social investment projects. | Education Department |
| <p>6. The Education Department of the Hoima District Local Government indicated the following fears associated with upcoming developments :</p> <ul style="list-style-type: none"> • Increased drop outs of pupils who would rather seek employment opportunities as opposed to studying. • The displacement of more schools. For example, in the refinery area, 2 schools were closed and have never been replaced. • Pupils are at risk of exposure to negative lifestyle choices/ habits which may disrupt their schooling. • The interactions of various people from different regions may cause HIV/AIDS percentages to increase. • Oil and gas activities may result in environmental degradation. • Increased cases of child labour if projects are not closely monitored. • Local schools in the District, which already face a challenge of limited facilities and resources, will also become over crowded. • Students will have early marriages with oil workers. • The arrival of immigrants may result in the mixture of different cultures causing the loss of culture. • The number of immigrants will increase in the Hoima region as these individuals are seeking employment opportunities from the development projects. | |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Interview date: Wednesday, 22 November 2017
Time of interview: 15:00-17:30
Venue: CNOOC offices in Hoima District
Organization / Institution: Civil Society Organization Coalition in Hoima District

| | Name of Person |
|---|----------------------------|
| <p>1. The representatives from the various Civil Society Organisations indicated the general and specific social and economic changes that have happened in Hoima District since 2012/2013, particularly those specific to the areas affected by oil and gas activities:</p> <ul style="list-style-type: none"> • The population in Hoima town has increased. People have moved into Hoima town seeking employment and business opportunities which are related to oil and gas. • Since the construction and opening of the road from Ikamiro to Kyabasambu through Buhuka escarpment, transport has eased. It is now easier and faster to access the Kingfisher development area, which used to take long hours before the construction and opening. • Fish products have increased at Buhuka due to the construction and influx of people. Increased numbers of traders from Kampala are now heading to Buhuka for various trade and marketing activities. Some traders move into Buhuka with goods and services and to trade in return for fish. • The population in Buhuka has increased and has in turn resulted in increased traffic. The increase in population is mainly due to jobs as well as opportunities in the oil and gas industry. The cost of living in Buhuka has increased as compared to its neighbouring towns (Hoima town) because of job opportunities and the tremendous increase in the demand of goods and services. • The development has also brought about negative social impacts, due to the fact that there have been conflicts that have started between Congolese and Ugandan fisherman, mostly with Congolese killing Ugandans on the waters of Lake Albert. | Civil Society Organisation |
| <p>2. The Civil Society Organisation indicated the following impacts of oil and gas activities in Hoima District:</p> <ul style="list-style-type: none"> • The production of Oil and gas has created uncertainties amongst the people of Bunyoro, an evolving city. It has been noted that residents do not have access to information about oil and gas activities. Risk to business and levels of uncertainty are high. Activities just stop abruptly affecting business people who have taken out loans and invested in hotels, bars and other businesses in the hopes of tapping into the market from the growing population. However, some consultants sleep in the operation camps whilst others drive out of the rift valley to sleep in the biggest hotels approved by the Petroleum Authority of Uganda. This practice has left the local | Civil Society Organization |

| | Name of Person |
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| <p>persons' business dormant.</p> <ul style="list-style-type: none"> The production of oil and gas has furthermore increased the value of land, fuelled by land speculation. Land grabbing in areas affected by oil and gas activities is also practiced. | |
| <p>3. The Civil Society Organisation indicated how it works hand in hand with companies involved in oil and gas to reduce the negative impacts:</p> <ul style="list-style-type: none"> Joint venture partners need to arrange quarterly engagements with locals and the Civil Society Organisation. This engagement should result in action. To reduce negative impacts, the oil exploration and extraction companies should always present findings from their studies to identified stakeholders, especially those that were consulted during the data collection process. To establish a good working environment, joint venture partners should develop a mechanism to integrate the efforts of Local Government and citizens since they have faced challenges of lack of Government support in the past. | Civil Society Organisation |
| <p>4. The Civil Society Organisation indicated the following as the negative impacts of oil and gas activities on human rights:</p> <ul style="list-style-type: none"> The development of infrastructure related to oil and gas has brought about human rights awareness to residents. This is also because of non-governmental organizations serving to defend human rights in Uganda, staged in the Albertine region to ensure total compliance with laws. Contractors and sub-contractors need to be aware of the human rights of employees. Contractors should issue a contract to employees for signing upon appointment of employment. In some cases, employees have been denied formal employment letters and have at times received lower salaries compared to what they are expected to receive. There should be a labour force management plan by the oil and gas extraction companies/joint venture partners to enforce and monitor the bad practice of their subcontractors in respect of hired workers. There is no clear way of getting jobs in the oil and gas industry and therefore, most youth are not aware of these job opportunities. | Civil Society Organisation |
| <p>5. Civil Society Organisations indicated how crime has increased as a result of oil and gas activities</p> <ul style="list-style-type: none"> Crime has increased to some extent due to the production of oil and gas. Identified cases of crime include those where conmen have pretended to offer jobs to locals in exchange for money. | Civil Society Organisation |
| <p>6. The Civil Society Organisations recommended the following recommendation</p> <ul style="list-style-type: none"> CNOOC should compile/develop a team of stakeholders that will partner with the local and Civil Society Organisations to increase the frequency of monthly engagement meetings. CNOOC should invest in sustainable education programs such as the provision of new or upgrading of existing school science laboratories and libraries so that young people in Hoima District can be equipped with a better academic foundation to qualify for oil and gas engineering courses at universities, colleges and institutions. This would be preferential to handing out awards to best performers when many others have failed. CNOOC should acknowledge and embrace strategic local partners. | Civil Society Organisation |

| | Name of Person |
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| <ul style="list-style-type: none"> • There should be information centres in Hoima town to provide clear information on the CNOOC recruitment process, as well as available job opportunities. • During recruitment of workers, as well as compensation and awarding of scholarships, CNOOC should try to be as gender sensitive as possible. Women are the mothers of the nation and the inclusion of women in oil and gas activities would be of paramount importance to the community. CNOOC should embrace the girl child education campaign by adding higher numbers of girls to the scholarship programme, or to initiate a specific scholarship program to enhance girl child education. | |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Meeting date: Wednesday, 22 November 2017
Time of meeting: 09:00 – 11:00
Venue: Hoima District Offices Hoima, Uganda
Organisation / Institution: Hoima District Land Board Meeting

| Comment | Name of Person |
|--|----------------|
| 1. The following changes have taken place regarding a land acquisition or land tenure perspective since 2013: Acquisitions: No changes in central tenure systems but freehold, lease and customary mechanisms are being seen to have changed from single (individual) to groups. Group acquisition appears to be driven by the fact that tenure by a group allows benefits of a communal nature, for example schools, water, infrastructure. Does not become a “commons” situation but a settlement or “suburbs” formation. | Edward |
| 2. Traditionally, the Kingdom owned the land but there was a misalignment between planning responsibility and authority. The Board believes that the planning function is readily aligned with land tenure systems, although it is not imposed. | |
| 3. It is critical that a process of awareness creation is put in place so that everyone will understand that – amongst other rules and requirements – the Physical Planning Act Policy requires that all tenure acquisition processes must be formally approved by the Physical Planning Department. | |
| 4. Over the past number of decades the traditional kingdom system has been broken down. Although it has now been reinstated, only traditional leaders (heads of clans) are officially being recognized, and not the kings themselves. | |
| 5. In the meantime, land acquisition became a tenure system. This has now been focused on attempts to ensure that tenure purpose is aligned with land planning purpose. | |
| 6. People are maximally using their land. Outsiders were able to settle on land and acquire land without fear of problems (“If you argue about land which is given by God, you will be cursed”). | |
| 7. The value of land has only recently been seen as an issue. | |
| 8. Interestingly, compensation has been paid to households without citizenship. Uganda has not had a formalised process of registering citizens which makes it extremely easy for people to acquire citizenship. | |
| 9. The availability of land is steadily declining, as well as land being divided and broken up into smaller sections. This increased fragmentation has resulted in a decrease in productivity, as well as an increase in conflict due to selling off much needed land. | |
| 10. CNOOC has conducted a market study and determined a land rate across parishes. However, land values in urban or semi-urban centers have a higher value than rural, agricultural land. | |
| 11. The department has requested that they are provided with feedback in respect of their inputs as well as in respect of the project itself. | |
| 12. Copies of Draft Reports were submitted for comments in accordance with NEMA requirements. | ZAC |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS
CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA
PROCESS COMMENTS REGISTER
NOVEMBER 2017

Interview date: Wednesday, 22 November 2017
Venue: Bwikya - Hoima, Uganda
Organisation / Institution: Bunyoro-District Muslim Supreme Council

| | Name of Person |
|---|----------------------------------|
| <p>1. The religious leaders in the Hoima District indicated the following emerging issues in the last four to five years in respect of oil and gas development:</p> <ul style="list-style-type: none"> • There has been considerable population increase in Hoima as compared to other regions around Bunyoro. The migrants mainly come from outside Bunyoro and Uganda, namely, Congo, Rwanda, Burundi etc. • Some migrants settle around urban areas, which contribute to increased urbanization. Immigrants buy land in the rural areas and farm. The cost of land also has increased during the past five years. • The cost of living has increased, particularly the cost of food. Hoima town is more competitive and people without skills will find it more difficult to be employed in future. • Community ambitions and expectations are very high with regards to oil and gas projects. • There is increased social conflicts around the Hoima region, e.g. petty crimes, domestic violence and land conflicts. • The need for commercial social services in the area is increasing particularly in the urban areas. Further, the public sector is not growing as expected. The education and health services are supplemented by facilities that are run by the religious organizations. • In some areas, there have been improved production of crops. Some households have moved from subsistence to commercial production due to an increased demand for food. • Some local people have been employed by the oil companies and road contractors. This has contributed to improved household incomes in the area. | Muslim Supreme Council Officials |
| <p>2. The Bunyoro-District Muslim Supreme Council Officials indicated the following potential concerns, impacts, projections and interventions in relation to the oil and gas project:</p> <ul style="list-style-type: none"> • There are many speculations and expectations within the community. The speculations are a result of the Government and JV partners not sharing relevant and important information with the local communities. The provision of information needs to be improved and local leaders should be empowered to provide project related information. | Muslim Supreme Council Officials |

| | Name of Person |
|--|----------------|
| <ul style="list-style-type: none"> • Local content within the upcoming and available jobs is still very low because communities are not well educated and skilled. Policies need to be put in place, protecting and promoting local content and enabling local people to benefit from the oil development projects. • Land tenure and livelihood security are becoming weak in some areas. People are being displaced without adequate compensation; a solution is required. There are many complaints about land displacement and compensation. There are also increased incidents of a breakdown of families, particularly after resettlement and compensation. Women and children need to be protected through special provisions or policies when it comes to compensation for family land. The timely involvement of religious leaders is important as they are able to communicate with the men before the compensation process, to promote equity and fairness. • The increased commercialization of household production also has contributed to food insecurity in some areas in the Hoima region. An increased number of households are changing to commercial crops, e.g., sugar cane and rice. These households ignore food/famine secure crops such as millet. • The level of skills among the local people is very low. There should be specific training programs for members in the region to enable local community members to compete for future opportunities. • Civil Society Organisations (CSOs) are not given an opportunity to be involved in the implementation of mitigation measures such as, for example, the development and implementation of livelihood restoration programmes. Furthermore, CSOs provide the bulk of education and health services in the Hoima District and beyond. Moreover, there are increased cases of impacts such as moral decline. Thus, it is important for religious leaders to be involved in community programmes in order to improve the morals of society. Religious leaders also need to work in partnership with the JV partners and the Local Government to design programmes that will sensitise parents and the general community. • The benefits generated by the oil industry should be shared equally among Ugandans. In cases where there are no direct benefits, Government should improve the infrastructure and levels of service provision. • The public should be made aware of, and educated about the negative impacts of the project. Currently, communities have various speculations about the potential impacts resulting from the oil and gas project. • The religious leaders and CSOs should be involved in monitoring compensation processes and livelihood restoration programmes. The Government and JV partners should support the faith-based schools in the area to improve the capacity for enrolment and service provision because of the increasing numbers of people in the region. • Areas around the lake are more vulnerable to crime and HIV/AIDS. These areas also attract several people, requiring special interventions. • Government should establish a research centre regarding the oil project and information about the environmental impacts and how these will be managed or reduced should be made available. | |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Interview date: Wednesday, 22 November 2017
Venue: Hoima, Uganda
Organisation / Institution: District Criminal Investigations Department (CID) Officer

| | Name of Person |
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| <p>1. The Hoima District Criminal Investigations Department (CID) Officer indicated the following trends of road safety and accidents:</p> <ul style="list-style-type: none"> • Increased accidents: The CID officer noted that there have been increased road accidents despite an improvement in the nature and condition of roads in the region. • Traffic increase: The CID officer noted that the volume of vehicles has been increasing over the last 5 years in the region. Passenger traffic has also increased considerably with big and small Omni-buses plying new or more routes due to the improved condition of roads. There is considerable growth in vehicle traffic on the Kaiso Tonya, Kabwoya-Buhuka, Hoima-Butiaba, and Hoima-Fort portal Roads. | Criminal Investigations Department Officer |
| <p>2. The Hoima District Criminal Investigations Department (CID) Officer indicated the following key drivers of accidents in the region:</p> <ul style="list-style-type: none"> • Road Safety is not taken seriously by most of the drivers. The majority of accidents are caused by reckless driving and drivers exceeding the speed limit. Police officers have established various mechanisms to control excessive-speeding. However, the department faces challenges such as lack of staff and equipment. The control points along the roads require more staff than is currently available within the department. • Drivers do not respect the Highway Code. A few of the new roads have road safety signage but very few people pay attention to them or follow the instructions, and this has become a serious problem. Additionally, community members do not respect the Highway Code. Livestock is allowed to graze on the side of the road as well as move across the road without any consideration for vehicles and their occupants. • Drivers and community members are ignorant about the traffic laws and road safety regulations. There are very limited initiatives from the police and stakeholders concerning community road safety campaigns. The traffic police are also constrained by their lack of resources to implement sustainable community campaigns regarding road safety. Road safety campaigns and education is limited in the region due to the lack of collaboration between the police and other road safety mandate holders, for example between the Ministry of Works and Transport (MoWT) and Uganda National Roads Authority (UNRA). The police | Criminal Investigations Department Officer |

| | Name of Person |
|---|----------------|
| <p>usually only react when there is an emergency and a public outcry.</p> <ul style="list-style-type: none"> • A few of the roads are in a poor condition, particularly the community roads. The number of accidents on the community roads are more pronounced during the rainy season, as well as during the festive seasons and when there are good harvests. • Several penalties are given when a driver has committed an offence related to the Highway Code and road safety and in most cases an express penalty is issued. However, drivers do not learn from these penalties and they continue to repeat the traffic offences Taxi drivers especially are under considerable pressure to generate as much income as possible for their employers and this poses a serious challenge to the community. • Many drivers do not have driving permits and have never gone to driving schools, and driving without a permit is considered to be one of the major issues around the Hoima region. The few drivers who do have permits often do not understand the road safety regulations and Highway Code. | |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Meeting date: Wednesday, 22 November 2017
Time of meeting: 14:00-17:35
Venue: CNOOC Offices, Hoima, Uganda
Organisation / Institution: CSO/ NGO Meeting

| Comment | Name of Person |
|---|----------------|
| 1. Over the past three years, the population has increased significantly and has placed additional strain on all resources. | |
| 2. There has however been a significant increase in services. The time taken to get to various places for instance has dramatically decreased. | |
| 3. Previously, positive aspects related to the fact that, for example, you could get very cheap, good fish. But now, there has been a significant decrease of fish availability. | |
| 4. The population has greatly increased but it is not at a stable opportunistic influx. There is high traffic, especially from people who have high expectations and go to investigate opportunities. This influx has an impact on available resources, for example fish stock which is now significantly less. | |
| 5. Local communities had an expectation that large companies would provide. Locals generally follow a subsistence way of living, but there has been a social shift where people who used to have a "good" life are now left without their natural resource base. | |
| 6. Risk and uncertainty has been created due to the fact that the Kingfisher and other oil and gas development processes have stopped and started. | |
| 7. We have been "Duped" with the term "Local Content". They don't talk about local procurement competence and capacity. It is easy to write in a policy statement that CNOOC will ensure that it employs local people, but there are very few local people who have the right sets of skills to be involved in operational aspects of the project | |
| 8. The population increase has created a situation of "land grabbing", with the price of land also escalating. Additionally, land speculation has created conflict. | |
| 9. The means of engagement has been poor. If there had been a sufficient flow of information, then things would have been different. | |
| 10. JV partners gave the promise that there would be a quarterly process of meetings. Unfortunately, this has not taken place. Where meetings take place, it is with selected audiences in respect of issues that CNOOC (in good faith) are "sharing information" with. Instead of a dialogue, it has become an information dissemination process. | |
| 11. There needs to be a collective formulation of a regular conversation agenda. CNOOC should ask for representatives from a Civil Society Organisations/Non-government Organisations (CSO/NGO) coalition to engage with regarding agenda formulation, discussion, identification of action points, as well as action and feedback through a process of Monitoring and Evaluation (M&E) This engagement could be thematic, for example health, land, safety and security. It will then not be an information session but rather, form part of a collaborative problem solving approach. | |
| 12. This time around we want to see that "our voice" has been taken on board. | |
| 13. Mechanisms must be put in place to ensure engagement regarding Government's "immaturity" in respect of oil and gas. | |
| 14. There is an increasing need to create awareness of human rights. Also, citizens have an urgent and increased need to hear and understand their human rights, specifically as it pertains to the potential impacts from the oil and gas industry. | |

| Comment | Name of Person |
|---|----------------|
| 15. Contractors and sub-contractors must be provided with an understanding of their rights, including worker rights. It is essential that gender and child rights be directly addressed. | |
| 16. Development is moving at a faster pace than human development initiatives related to, for example HIV/AIDS advocacy efforts, human rights efforts, etc. CNOOC must definitely address this. | |
| 17. The following were indicated by CNOOC as deliverables: <ul style="list-style-type: none"> • Human Rights Impact Assessment • Community Development Management Plan • Labour Force Management Plan. This plan will have: <ul style="list-style-type: none"> - What to disclose; - Terms and conditions of employment; - Template for appointment of labour force as well as contractors; and - Worker rights | |
| 18. It was suggested that a diversity and livelihoods committee be established by CNOOC to create awareness. | |
| 19. This ties in with recommendations that there be a dialogue. It was requested that CNOOC also consider a core team (Representative of various sectors-public and private) for regular “Think Tanks” which would serve to inform stakeholders, including villagers | |
| 20. Employment and infrastructure capacity: It is important to invest in removing “Bottlenecks”, including improving Science, Technology, Engineering and Maths (STEM) skills. We could make significant gains if we move to a process that addresses the root cause of problems, for example good laboratories, good libraries at schools. Also skills counselling. There is currently a complete misalignment between the skills sets that are needed by the market, and the skills that are available to the market. For example, we are all graduates here, but none of us has a qualification that is needed in the market at the moment. It is also necessary to put in place a process for focusing away from focusing purely on 'new' skills acquisition. We need to focus on recognising the existing skills sets that people have but that may not yet be officially recognised. Look at the case of drivers as an example. Somebody may be the best driver in the world but if he doesn't have a certificate that demonstrates these special areas of competence, he or she is deemed 'unqualified'. We need to move towards skills accreditation through a process of Recognition of Prior Learning ((RPL) and Recognition of Prior (informal) Training (RPT) as well as Recognition of Prior Experience (RPE) such as mechanics, drivers, etc. | |
| 21. It would be useful to start a Local Employment Desk with an associated data base of employment seekers and their qualifications to allow a link-up between employment opportunities and job-seekers. | |
| 22. Some participants believed that CNOOC should identify the available skills in the District that were of potential direct or indirect importance to the oil and gas industry (comprehensive skills audit). However, it was pointed out that this would be a role for the Department of Labour, and not a role that could be fulfilled by CNOOC. CNOOC could embrace a strategic partnership with the Department and make use of the results of such an audit process. However, it would be an unusual exercise, even if government driven, and would not be an efficient process at all. | |
| 23. The CSO representatives mentioned that there is a current central government scholarship programme for exceptional learners. However, although it is a national programme, scholarships seem to be awarded to learners in or close to Kampala. They requested that CNOOC and other oil and gas industry players request central government to allocate additional scholarships to qualifying learners within the Hoima District to allow the development of an appropriate human resource skills base at local district level | |
| 24. There is a gap between the level of competence that can be achieved through completion of degrees and the specific skills that are required by employers in the oil and gas field as well as within other sectors and fields of employment. There are virtually no programmes in place that allow graduates to gain the necessary outcomes-based competence and experience that is needed by the job market. This becomes a vicious cycle because one can't find employment because one has no experience and one can't get experience because one can't get employment. If the oil and gas industry provided bridging courses that would support the development of experiential learning programmes it would be of direct assistance to building the necessary hands-on skills required by the sector. | |

| Comment | Name of Person |
|--|----------------|
| 25. Technical Vocational Education and Training (TVET) and life skills training is required. It is vital that CNOOC ensure that there is a real dovetailing between required skills sets and skills development initiatives that are currently in place. | |
| 26. The recruitment drive for CNOOC is situated in Kampala, and not locally. This creates a problem for local people who want to apply for positions as they have to travel to Kampala to lodge applications. | |
| 27. Also need to ensure an engendered approach, including an understanding of what would be necessary for a female “friendly” approach. For example, the provision of creche facilities in support of mothers working for CNOOC. Need to ensure that we do not escalate cultural conflict. Girl child scholarships could serve a particularly important and empowering role in this process. | |
| 28. CNOOC insists on ensuring that spouses must accompany their husband/wife when dealing with the land acquisition processes. | |
| 29. Crime: Conmen are offering jobs in exchange for a “payment fee”. Due to the fact that people are desperate, they pay money for a job but lose out. CNOOC is able to use radio to address this, but the social worker coordinators have members in each village who are able to provide this information at village level. It would be good if CNOOC launched a specific campaign to promote an understanding amongst all people about the manner in which appointments are made. Unfortunately, through the use of contractors and sub-contractors, the process allows exploitation. | |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Interview date: Wednesday, 22 November 2017
Time of interview: 12:00 – 14:00
Venue: Kabwoya Sub-county Headquarters Uganda
Organisation / Institution: Kabwoya Sub-county Political and Technical Team

| | Name of Person |
|---|----------------------------------|
| <p>1. The Kabwoya Sub-county community indicated that the following changes were noted in the Kabwoya Sub-county since 2013:</p> <ul style="list-style-type: none"> The population has increased significantly. | The Kabwoya Sub-county community |
| <p>2. The Community Development Officer(CDO) indicated that the drivers for this increase in population include:</p> <ul style="list-style-type: none"> Influx of people moving into the area. The migrants are mainly from the DRC, Rwanda, Burundi and other regions of Uganda. Hence, 75% of the population on the lakeshores of Lake Albert are Congolese. | Community Development Officer |
| <p>3. The Kabwoya Sub-county community indicated that the immigrants move into the area to participate in the following activities:</p> <ul style="list-style-type: none"> To search for farming land. Migrants speculate as to how they can acquire land in the region. The oil development projects are going to create investment opportunities; thus migrants want to acquire land in the region. The Hoima sugar industry at Kiziranfumbi attracts job seekers to work in the plantations and also acquire land for the out grower’s scheme. The fishermen from the DRC invade Uganda whenever the Government in the DRC declares a fishing holiday. Hence, the movement of the Congolese to Uganda to do fishing causes the depletion of fish in the lake. Additionally, poor methods of fishing are used to catch fish in Uganda which has also contributed to the depletion of fish in the lake. Thus, the livelihoods of the local community is threatened. The uncontrolled influx of migrants to the Kabwoya Sub-county has placed unnecessary pressure on limited social services which are provided by the sub county and district authorities. These services are delivered based on the number of registered people in the Sub-county. The main affected departments include health, water and education. Land related conflicts remain high as migrants find it difficult to register and legalise land ownership. | The Kabwoya Sub-county community |
| <p>4. The Kabwoya Sub-county community described the relationship between residents and migrants as follows:</p> <ul style="list-style-type: none"> The host communities are being very accommodating. Both parties however have high expectations and these need to be managed. | The Kabwoya Sub-county community |
| <p>5. The Kabwoya Sub-county community indicated the following production changes that were noted in the Kabwoya Sub-county since 2013:</p> <ul style="list-style-type: none"> The commercial production of sugar is exceeding the production of food. This is | The Kabwoya Sub-county community |

| | Name of Person |
|--|----------------------------------|
| <p>causing a threat to food security in the Sub-county as families concentrate on none-food crops therefore reducing the availability of food for household consumption. This also has an impact on schooling as children are taken out of school at planting and harvesting time to help.</p> <ul style="list-style-type: none"> • The increased population has created incentives for the production of food and, as a result, this demand for food has led to a marked increase in food prices. Although this is clearly an advantage when households are in a position to sell products during harvest time, it also has a negative impact when households need to buy food. • Other than an increased demand, the improvement of the rural road network by KAHIP and the Hoima sugar company has also contributed to growth in the agricultural sector. Such developments have enabled farmers to access and penetrate the market more readily. | |
| <p>6. The Kabwoya Sub-county community indicated the following health and sanitation changes that were noted in the Kabwoya Sub-county since 2013:</p> <ul style="list-style-type: none"> • In general, there are poor sanitation facilities, particularly in the lakeshore villages. The reason for this is that collapsing soils have hampered the excavation of proper latrine facilities by individual households. • The communal latrines are overused and poorly maintained. • People settle at the lakeshore on a short term/temporary basis and do not invest in or construct permanent pit latrines. • The top three diseases in the Kabwoya Sub-county include Malaria, Dysentery and HIV/AIDS. All of these diseases are preventable. The key players in the health sector must therefore include the District Health Department and the Infectious Disease Institution. | The Kabwoya Sub-county community |
| <p>7. The Kabwoya Sub-county community indicated the following additional challenges experienced within the region:</p> <ul style="list-style-type: none"> • There is a lack of a government aided secondary schools. • The Sub-county requested that they receive support for development projects taking place in the region, particularly health and education projects. | The Kabwoya Sub-county community |
| <p>8. The Kabwoya Sub-county community indicated the following plans in place for the deteriorating eco systems:</p> <ul style="list-style-type: none"> • There are plans in place for the improvement of deteriorating ecosystems. However, these measures are not clearly outlined with the leadership at the Sub-county blaming laxity from central government level as well as their disinclination to promote adequate regulation, monitoring and control. Many laws and regulations are treated with expediency, particularly close to election time. This also happens at local level where political role-players will make promises about, e.g. allowing unfettered access to natural resources (even extremely fragile ecosystems such as protected forest areas and wetlands) if people vote for them. In addition to this, there are bad politics and bad policies. For example the porous border plays a role in perpetrating the poor implementation of appropriate ecosystem management plans due to the sheer increase in numbers of people involved in such practices. Escalating in-migration and uncontrolled settling and resource exploitation being practiced, coupled with the fact that increasing resources are required to be allocated, but aren't, to help monitor and protect all vulnerable areas. | The Kabwoya Sub-county community |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Meeting date: Thursday 23 November 2017
Time of meeting: 12:00-15:40
Venue: Hohwa Catholic Church, Uganda
Organisation / Institution: Hohwa Village Meeting

| Comment | Name of Person |
|---|----------------|
| Immigrant issues/comments: | |
| <ul style="list-style-type: none"> The orange reflective vests worn by the Environmental Impact Process (EIP) team in the field is literally like a red rag to villagers. In this area, land is an issue and any person seen wearing what appears to be “surveyor” kit is immediately regarded with suspicion. | |
| <ul style="list-style-type: none"> Although CNOOC intends on resettling families from this village for the pipeline as well as the camp, there appears to have been NO engagement with this village to date. | |
| <ul style="list-style-type: none"> Hohwa is a large village with a central “Hub” of shops, some Boda Bodas and a group of young men who are regarded as “Young guns” and who are said to become aggressive with limited provocation . | |
| <ul style="list-style-type: none"> It was initially intended that the meeting would be held in the market square on the main road, but was moved to the church to the church by the Hohwa LC1, to ensure that key persons and people from the community could attend without heckling and interruption from the “Young guns”. | |
| <p>Questions: What do you know about the CNOOC project?</p> <p>Answers: CNOOC is a company drilling oil and making a pipeline (company from China)</p> | |
| <p>Question: How do you feel about it?</p> <p>Answers:</p> <ul style="list-style-type: none"> We do not yet know but we are scared that compensation for land on the pipeline project will not be adequate. They see a development but they do not know how they will end up benefitting. It seems that it has become very hot and it is raining very little since they started drilling. It is not okay that the land department sets compensation because the village does not have a good relationship with the Hoima District. There will be waste from the oil development. How will we be protected from the bad aspects of the development and the dangers from it? What is concerning for us is the fact that the Relocation Action Plan (RAP) will take on board all assets. People were forced to sign off on the RAP asset register even though the inventory was not always accurate. There is concern about the fact that only people who will be impacted directly by the pipeline will be compensated and not the households that form part of the 200m buffering zone on both sides. “If you don’t use my land, why do you make me sign?” There is also uncertainty regarding the implications of signing the RAP asset register, with concerns related to whether or not registers had been completed accurately. Concern has been expressed about uncertainties about and the need to understand what the process will be to bring in the machines (excavators, etc) and what the activity footprint will be in respect of the pipeline construction process. | |

| Comment | Name of Person |
|---|----------------|
| <ul style="list-style-type: none"> • The camp will increase the fact that the women are left behind and not given opportunities. • Concerned that workers from other areas are brought in and the local people are left behind. • Some companies come in and use the facilities and then leave without paying their bills. CNOOC must protect them from this unscrupulous practice. • There is no clean water source; what will they drink? • There is no health centre; where will they go? • Where will they get food from? • We fear diseases such as HIV/AIDS from workers who live in the camp. | |
| <p>Activities included:</p> <ol style="list-style-type: none"> 1. Drawing of community infrastructure and activity maps- women and men independently; 2. Daily activity schedule disaggregated by gender; 3. Historic origin maps/datasheets; and 4. Community question and answer sessions. | |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS
CONTINUATION OF THE CNOOC: KINGFISHER FILED DEVELOPMENT PROJECT ESIA
PROCESS COMMENTS REGISTER
NOVEMBER 2017

Meeting date: Thursday, 23 November 2017
Time of meeting: 14:00 – 18:45
Venue: Rugonjo Village, Uganda
Organisation / Institution: Rugonjo General Community Meeting

| Comment | Name of Person |
|---|----------------|
| <p>Questions: What do you know about CNOOC?</p> <p>Answers: It is the company that drills for oil. It helps in road construction, drilling for water sources and in providing youth with sports equipment. It promotes education by supporting learners by giving awards. It is one of the companies that is creating employment.</p> | |
| <p>Question: How do you feel about the pipeline coming through past the village?</p> <ul style="list-style-type: none"> • One of the impacts during the construction of the pipeline is that people are worried about compensation. • The people do not know what is going to happen. Some houses are close to where the pipeline will run and they do not know what will happen. • It will cause damages during construction, for example no planting can take place. • People are concerned about the pipeline catching fire when they cook. • Due to the damage caused to the environment, people have heard that wherever there is oil a drought will follow and it becomes a desert. • CNOOC brought the community a map showing those in the way of the pipeline that will be compensated. Why then were the neighbours required to sign? • When time for payment comes, how will the payment be made, for example will it be cash, bank account etc.? • Also, there was an instance of a mother who has two gardens. One at the top and one at the bottom of the pipeline. Why was she only required to sign once? • What are you going to do with your waste? Are you going to put it into our gardens and not compensate us? • A mother requested that her son should represent her but CNOOC refused to allow this. • Before this exercise started (CNOOC), a woman had bought land from a man, cleared it, and planted on it. However, her name was not written up as the landowner. The man whom she bought the land from had his name written down as the owner (this issue has been handed to CNOOC-she has proof of ownership). • A garden is owned by two owners and the pipeline goes through it. The land belongs to one and the crops belong to the other person. However, when measurements were taken, the owner of the land was not around and neither were the women whose crops are in the field. In addition, there is someone who has been living on the land, a Kenyan (In a house he built himself). How does compensation work in this instance? • There are fears that the pipeline will burst. • People near the pipeline are afraid of explosions and fire. How will you monitor these dangers? • We do not want to give up our land even if we are compensated. How will you handle a situation like that? • If a house is close to the pipeline and it is cracked or damaged through building of the pipeline, will the owner be compensated? • How will a pipe burst impact our water sources? • Around the pipeline, will there be other activities that can be done, for example can they dig | |

| Comment | Name of Person |
|--|----------------|
| <p>where the pipe has been laid?</p> <ul style="list-style-type: none"> • The pipeline goes through a spring where the community draws water from. What impact will that have (Hand dug wells). Will you replace this spring and will we get something equivalent or better? • During construction, how will we cross from one side of the construction works to the other villages? • I live close to the pipeline and I have children who walk to school. How will the pipeline construction interfere with daily work, crossing to fields that are on the other side, children that are on the other side and children going to school? • On television we see and hear about a lot of things that can go wrong. What are the hazardous situations in other countries? What should we be worried about? You should be telling us. • If I have a garden and the pipe goes through my garden, how will I access my house on the other side? • We have been told to stop planting. We have not been able to plant and we have not been compensated. How will we survive? • Will the pipeline dry up the water in the swamp area? • When you were surveying for the pipeline, nothing was planted. Some residents did not know that they should not plant (was on the radio). Now these residents have a nice crop of cassava on the field. What should they do now? Should they stop growing cassava and other crops or should they continue with the process? How will they be compensated for the crops on their field? • We were told by CNOOC that if they planted post the (very well) advertised cutoff date then we are welcome to eat our crops and make full use of it. • If there were crops in the field when the survey was done and we have eaten them, will we still be paid for them? | |
| <p>Question: The last study was done in 2013. How has Rugonjo changed since then? People coming in and going out (influx)</p> <p>Answers:</p> <ul style="list-style-type: none"> • People who were compensated at Kingfisher have come to settle in the village and have built homes here. • Land value has increased exponentially. • Increased incidence of HIV/AIDS (as evidenced from statistics). • Rainfall patterns have changed. • Price of foodstuffs has increased. • More and more people are coming in and asking for land (especially the rich) and registering land. • Chances are that once your land has been lost you may not be able to afford to get another piece of land or even find anything available. • For some of us, all the land we have will be taken by the pipeline. How will we find other land, given the price and scarcity of land? • As a land user, how will you compensate us in respect of our crops? For some of us, when our ground was measured, they did not take into consideration what was on top (what the crops were). | |
| <p>Question: Income generation?</p> <p>Answers:</p> <ul style="list-style-type: none"> • Animal farming, agriculture. • Fish farming. | |
| <p>Question: Do your children ever go hungry?</p> <p>Answers:</p> <ul style="list-style-type: none"> • No. If you work hard and cultivate crops, your children will not go hungry. If your children go hungry, it is your own fault. | |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Interview date: Thursday, 23 November 2017
Time of interview: 12:00 – 14:10
Venue: Hohwa Catholic Church, Uganda
Organisation / Institution: Hohwa Community Members

| | Name of Person |
|---|--------------------------------|
| <p>1. When asked to draw a map of the Hohwa village and to indicate important features (things that affect their daily life), the women listed the following features and explained how these features are important/affect their daily lives:</p> <ul style="list-style-type: none"> • The clinic as a facility for treatment, immunization, family planning and other services; • The Forest is used as a source of wood for fuel. The wood is also often sold or used for daily household activities; • A borehole is used as a source for clean drinking water; • The market is a place of work for most of the community members; the market is where communities buy and sell goods and services • The homesteads/settlements in which they live and raise healthy children with appropriate morals. • Other features mentioned by the men include the grazing area, waste treatment facility by the oil company, petrol station, church and community playground. <p>2. The youth (males) listed the following main features on their village map:</p> <ul style="list-style-type: none"> • The roads which allow community members to interact with various people. Community members are also able to use the road to travel to work at various projects, for example the White Nile waste treatment facility located at stone quarry, Kaiso and the Kingfisher oil fields; • The waste treatment facility; • The trading centre where the male youth travel to for business and leisure purposes; • Freeland for grazing, rivers and lodges; • The soccer field, church and grazing area for cattle • The male youth also indicated a proposed pipeline route on their map. Unlike the women’s map, boundaries and neighbouring villages are clearly marked on the men’s village map. | <p>Hohwa community members</p> |
| <p>3. The Hohwa community members indicated the following general and specific social and economic changes that have occurred around the village as well as which of the above mentioned features have changed or been added since 2012/2013:</p> <ul style="list-style-type: none"> • More people have moved into the Hohwa village. The migrants mainly come to trade foodstuffs. Others came to work on the road to Hoima and recently, people have arrived to conduct surveys on the proposed pipeline route. • The only source of clean water (the borehole), continuously breaks down due to too many users. In most cases, the Hohwa community is without a clean water supply. • Migrants have moved into the area with their families, and the only school at Kaseeta is not big enough to accommodate the number of pupils enrolled every year. • The number of youth who arrive at the Hohwa village in search of employment opportunities on certain projects become a challenge to the village, particularly if they are unsuccessful in finding employment or once the projects are complete. The majority of the youth migrants do not return to their homes, but rather commit several crimes to earn an income, thus making the | <p>Hohwa community members</p> |

| | Name of Person |
|---|-------------------------|
| <p>village insecure.</p> <ul style="list-style-type: none"> • Gambling (playing cards and slot machines to get money) has become prominent. Young boys (including minors) are now participating in these risky activities. • The number of young boys and girls involved in alcohol and drug consumption has increased. Previously, only men were known to go to bars and consume alcohol. • Sex trade/prostitution has increased in the village. Foreigners offer money to women for sex. Bar owners have escalated this habit by travelling to Kampala and importing sex workers to work for them at their businesses. It is often local young girls from the area that have taken up the habit in order to earn an income. • Due to an increased number of people coming into Hohwa to settle, for business, farming and building, the price of land has equally increased. Land related conflicts at all levels of the community are equally on the rise. • Both male groups indicated that the climate in Hohwa village has drastically changed in the last three years. Rainfall has also not been regular as before. • The food industry has grown in the last few years. Drivers of this growth include, amongst others improved road access to the area and an increased influx of people to Hohwa. | |
| <p>4. The Hohwa community members indicated the following general and specific social and economic impacts associated with the changes that have occurred around the village since 2012/13:</p> <ul style="list-style-type: none"> • The improvement of the road to Hohwa has enabled more people to come into the area to do business. For example, agriculture, purchasing and selling food and/or opening produce stores. • The arrival of migrants from other tribes such as Congolese and Rwandans has resulted in intermarriages with local people from Hohwa. Children are also born from parents who belong to different tribes. Unfortunately, fathers of these children do not take responsibility for looking after their children, and the fathers also often flee and leave the burden of raising the children to the mothers. • The increase in HIV/AIDS in the village has been noticed by both men and women in their submissions. • The only health care centre in the Hohwa village no longer has enough medication to accommodate the increased population. • The youth and minors are participating in activities that are believed to be morally improper for their lives and futures. For example, commercial sex work and gambling at slot machines for money. • Basic services and facilities such as the school, health centre and water source are under immense pressure due to the population influx. Access and availability of these services has become a challenge for local community members due to congestion. • Children born to temporary workers often have no form of identity in terms of who their biological fathers are as well as the clan which they belong to. It is often difficult to trace the biological fathers once they have left the village upon completion of a project. • Bad weather and strange crop diseases have led to poor crop production. | Hohwa community members |
| <p>5. The Hohwa community members indicated the following expectations/anticipations/recommendations regarding the oil and gas developments (camp and pipeline) by CNOOC in the region:</p> <ul style="list-style-type: none"> • The Hohwa community members fear that project-related activities will result in an increased number of people visiting the village, therefore escalating the malicious activities the community currently experiences. • Food and housing prices are likely to escalate as the oil and gas activities will attract inevitably more people into the area. • The local women’s husbands often have affairs with female workers in the camp, thus | Hohwa community members |

| | Name of Person |
|--|----------------|
| <p>contributing to the spread of HIV/AIDS (submission by women).</p> <ul style="list-style-type: none"> • The Hohwa community members have fears regarding the land. When land is taken by the projects, compensation for land often does not occur in a manner that is timely and fair (men give experience of the Kaiso Tonya road compensation scenario). • As oil and gas operations increase, the Hohwa community fears that the area may become filthier as various companies have recently disposed of their waste on the community's plots. • The youth in the Hohwa community are requesting employment opportunities on the pipeline project. The community requests that priority be given to the local people of Hohwa. • The women in Hohwa are also requesting employment opportunities on the pipeline project. The women are dissatisfied due to the fact that each time companies arrive to do projects around Hohwa, women are often left out in terms of employment opportunities. The women are dissatisfied with this unfair scenario. • Both men and women at the Hohwa village fear that oil and gas activities are responsible for adverse climate changes. | |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Interview date: Wednesday, 23 November 2017
Time of interview: 09:00-11:00
Venue: Bunyoro Kitara Kingdom Hall
Organisation / Institution: Bunyoro Kitara Kingdom

| | Name of Person |
|--|---|
| <p>1. The Bunyoro Kitara Kingdom cultural and traditional leaders indicated the following concerns the Kingdom had regarding oil and gas activities:</p> <ul style="list-style-type: none"> • There is great concern over how the oil and gas activities are likely to destroy cultural sites. • To ensure that culture is preserved and strongly considered, cultural leaders must be involved in all the oil and gas activities. Bunyoro culture includes language, traditional medicine, cultural sites, land owner ownership and welfare of the people. | Bunyoro Kitara Kingdom cultural and traditional leaders |
| <p>2. The Bunyoro Kitara Kingdom cultural and traditional leaders indicated the following cultural changes noted since 2013:</p> <ul style="list-style-type: none"> • There is a high influx of people moving into the Bunyoro Kitara Kingdom. Migrants are from different parts of Uganda and some are from other countries. Migrants moving into the Bunyoro community seek employment and business opportunities related to oil and gas activities. Contractors and other migrants that move into the area voluntarily impart and integrate their culture with the local Bunyoro culture. • New words have been added into the Banyoro language and this has caused the traditional language to change. • There has been intermarriage between the Banyoro and the immigrant contractors working on the oil and gas activities, particularly the Chinese and Turkish. The contractors have fathered children with young girls in Bunyoro Kitara Kingdom. These men have then returned to their countries and abandoned their children with young mothers. Furthermore, these migrants cannot be traced and it is against the Bunyoro culture for children to be illegitimate. Due to such incidences, the kingdom consists of people with mixed blood especially between the Banyoro and the Turkish, referred to as "half casts". • It is against Bunyoro culture that the father of the child is unknown to the girl's family. In addition to this, these children will then have no clan in Bunyoro as their fathers are unknown. • In the Banyoro culture, whenever a pair of twins is born, a cultural ritual is performed. However due to the above-mentioned occurrences, many disregard this cultural practice. • English is incorrectly translated to Banyoro particularly in the Land Acquisition and Resettlement Framework (LARF) document. • There has been a change in the dress code of the youth. The attire of many young girls now includes torn jeans, miniskirts and trousers which previously was prohibited in the kingdom. | Bunyoro Kitara Kingdom cultural and traditional leaders |

| | Name of Person |
|---|---|
| <p>3. The Bunyoro Kitara Kingdom cultural and traditional leaders indicated the following changes had been noted within the land tenure system since 2013:</p> <ul style="list-style-type: none"> • Immigrants intrude on the Bunyoro Kitara Kingdom and settle on the land without the cultural and traditional leaders' notice. They have also been known to conspire with politicians and take the land. • Immigrants obtain land titles through bribing local leaders at the District and do not go through proper channels of acquiring a land title. • The land tenure is changing from customary to freehold and this has increased land grabbing in the Bunyoro Kitara Kingdom. • The names of villages in Hoima have been changed from Banyoro words to words in the migrants' language, particularly '<i>Kyarushesha</i>' and '<i>Kabaale</i>'. • The community has heard that the planned airport is to be named '<i>Kabaale</i>' airport. However, the Kingdom would prefer it being named '<i>Kabalega</i>' or '<i>Kamurasi</i>' airport to preserve the Bunyoro heritage and tradition since these were the names of previous great leaders (kings) of the Bunyoro Kingdom. | Bunyoro Kitara Kingdom cultural and traditional leaders |
| <p>4. Cultural and traditional leaders in Bunyoro Kitara Kingdom indicated that the impact of the changes on the culture were mitigated in the following manner:</p> <ul style="list-style-type: none"> • Bunyoro Kitara Kingdom has partnered with some of the oil and gas companies. Support has also come from cultures or kingdoms that have oil under their land and experience similar issues. The partnership was mainly created in order to produce a cultural guideline for oil and gas operations aligned with the local culture. | Bunyoro Kitara Kingdom cultural and traditional leaders |
| <p>5. The Bunyoro Kitara Kingdom cultural and traditional leaders made the following recommendations for the impacts resulting from the oil and gas activities:</p> <ul style="list-style-type: none"> • Oil and gas companies should schedule meetings with the cultural leaders of the Kingdom. • CNOOC should do field visits with officials of the Kingdom. • There should be regular communication between CNOOC and the Kingdom. • CNOOC should give support to the initiatives introduced by the Omukama (King) or Queen Mother for youth development. • CNOOC should give an induction to its work force to respect local tradition and cultural beliefs. | Bunyoro Kitara Kingdom cultural and traditional leaders |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Interview date: 23 November 2017
Time of Interview: 11:30 - 13:00
Venue: Hoima District Office, Hoima, Uganda
Organisation / Institution: District Commercial Officer

| | Name of Person |
|---|--------------------------|
| <p>1. The Hoima District Commercial Officer explained the following perspectives regarding oil and gas development in the region, particularly in relation to trade, commerce and industry:</p> <ul style="list-style-type: none"> • There are several positive outcomes from the oil and gas project and related infrastructure development. A few people were employed, while others have become self-employed in the Hoima town service industry. Hence, the service industry is progressing due to the increased demand for goods and services from workers, migrants and the infrastructure development workforce. • Hoima town is now a major transit centre to all the oil fields and the Kingfisher flats down the escarpment. The central location of the town in the oil region places it at a very strong commercial advantage. For example, businesses are able to provide their services to the Democratic Republic of Congo (DRC). • Unfortunately, there are a few negative outcomes for general households and commercial productivity within the region/district. Land takes (unauthorised land appropriation) associated with infrastructure development reduce the available land for crop and livestock farming in areas such as, for example, Kabaale. Land takes could also have a negative impact on food security and trade in agricultural products in surrounding areas. • Mitigation measures that are put in place should not only improve the lives of the project affected people, but the broader regional and district productivity potential as a whole. The investment in programs which improve agricultural technology is crucial in order to increase production, hence improving food security in the region. • Migrants are placing additional strain on existing factors of production. Land and labour prices have increased. The local people are outcompeted in respect to land, labour, capital and entrepreneurship (factors of production). Migrants are also placing additional strain on the limited public social services which indirectly affects the productivity of local community members. • There is an upcoming District policy to encourage and support the formation of business sector Savings and Cooperative Societies (SACCOs). Through the commercial and production sector, the District is trying to bring everyone on board. The SACCOs will strengthen business enterprises and enable them to access some of the opportunities that will come with oil and gas infrastructure development and production. • These SACCOS will be encouraged to establish forums that will serve as periodic platforms to network, share skills and opportunities presented by the oil and gas sector | <p>Mr John Tumusiime</p> |

| | Name of Person |
|---|-------------------|
| <p>and other related infrastructure developments such as roads and pipelines. The platforms will also enable advocacy and troubleshooting within the business/commercial sector.</p> <ul style="list-style-type: none"> • According to the District Commercial Plan, SACCOS will be formed in alignment with: <ul style="list-style-type: none"> - Transport Cooperatives; - Grain Millers and Produce Dealers Cooperatives; - Farmers Cooperatives' through Hoima District Farmers Association etc.; and • All of the above cooperatives will send a representative to the periodic forums. • The forums will also enable people to overcome some of the challenges (organisational, quantity and quality issues as well as local and regional, markets). • Currently there are two SACCO's in Kyangwali Sub-county (one is for dairy farmers while the other is for financial services. There are three SACCOs in Kabwoya Sub-county (all financial services) and two SACCOs in the Buseruka Sub-county (all financial services). | |
| <p>2. The Hoima District Commercial Officer indicated that the following are promising and vibrant commercial enterprises in the District:</p> <ul style="list-style-type: none"> • The construction and real estate industry; • The service industry (hotels, transport etc). The Micro-Transport (Boda-Boda's) enterprise is employing the majority of the youth around major towns and trading centres in the District; • The processing of crops (Rice, maize and coffee); • The production of coffee, tobacco and tea; • Gambling and sports betting; • The tourism industry (<i>Kibiro</i> Hot Springs, Game Reserves, Kingdom sites); and • Cattle keeping. <p><i>Please note that some farmers have discontinued commercial poultry farming due to the high costs of production. Also, fishing as a commercial enterprise is decreasing</i></p> | Mr John Tumusiime |

| | Name of Person |
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| <p>3. The Hoima District Commercial Officer indicated the following projections with regard to oil and gas and related infrastructure development:</p> <ul style="list-style-type: none"> • The success rates of a few private enterprises is still low. The informal sector dominates the commercial sector. Thus, in order for the informal sector to improve its productivity and take advantage of the regional economy, it needs to be organised and supported. • Social conflict, particularly crime and land conflicts are increasing, posing a threat to the survival and functioning of commercial enterprises. • The demand and speculation for land is causing people to move into wetlands, forest areas and other fragile ecosystems. Commercial and household production is taking place in unsuitable environments such as wetlands and forests. These environments are likely to be affected easily by climate change impacts and other environmental issues. The challenge related to land needs to be addressed because it is unsustainable for the region. • There are high youth unemployment rates around the Hoima towns. The youth do not have employable skills and unfortunately, training and skills building opportunities are limited in the Hoima District. Furthermore, equal opportunities for the continuation into secondary education are limited or absent in various areas, particularly in the Buhuka Flats. • The Hoima District has an increasing number of Civil Society Organisations (CSOs) and Community-Based Organisations (CBOs). Collaborations can be formed with CSOs and CBOs to assist in the improvement of skills building and re-tooling amongst business and farmers' groups. | <p>Mr John Tumusiime</p> |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS
CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA
PROCESS COMMENTS REGISTER
NOVEMBER 2017

Meeting date: Friday, 24 November 2017
Time of meeting: 15:00-16:40
Venue: Bunyoro Kitara Diocese Hoima, Uganda
Organisation / Institution: Anglican Church of Uganda Meeting

| Comment | Name of Person |
|---|----------------|
| <p>1. Question: What has changed since 2015 as a result of CNOOC (or other developments)?</p> <p>Answer:</p> <ul style="list-style-type: none"> i. Displacement of people. ii. It has given a good platform to talk about climate change and concerns about climate change. Eco-conservationists are around as a result of oil and gas and this provides a platform for initiating pro-conservation initiatives. iii. Good schools have been established. iv. The hotel industry is booming. v. It will be important that people benefit from production growth. vi. Road infrastructure has improved, with more to come. vii. The lake is easy to reach now, whereas previously it was difficult to reach. viii. Students have benefitted from scholarships. | |
| <p>2. Question: What are the negative impacts attached to the in-migration of people</p> <p>Answer:</p> <ul style="list-style-type: none"> i. The local culture has been interfered with and a process of acculturation and modernisation has created a rootlessness with no solid foundation. This impacts behavior, including violence and instability. ii. Recently 52 different tribes were counted originating from different areas (within Uganda and from outside) here in Hoima. iii. There are areas where there are completely new cultures that have been created. There are also no indigenous people left next to the lake. | |
| <p>3. Question: Does this cultural mix create conflict?</p> <p>Answer: Yes, it definitely creates conflict, especially when it comes to political issues. Situations arise where people from outside have become political leaders and this has created conflict.</p> | |
| <p>4. Question: What do you think has been the impact of migrants on church run facilities, such as schools and other social services?</p> <p>Answer:</p> <ul style="list-style-type: none"> i. Migrants have boosted the economic sector through activities such as increased agricultural (Basogo) and especially in the Kuku areas. They have brought in good buildings, good schools and have even started villages (collective). ii. Through the country's permissive immigration laws and its porous boundaries, anyone can just come in and settle. iii. There is fighting over land. | |

| Comment | Name of Person |
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| <p>5. Question: What are generally perceived negative impacts?</p> <p>Answer:</p> <ul style="list-style-type: none"> i. Government has not ensured that their planning and budgeting is adjusted in accordance with local needs. ii. Severe deforestation has occurred, as well as a tremendously negative (destructive) impact on the environment. | |
| <p>6. Question: Are there any specific groups that have been advantaged or disadvantaged by the changes that have happened over the past 5 years?</p> <p>Answer: There is a general expectation of benefits and yet there is no attempt (apparently) to identify opportunities and move forward. "People are in a deep sleep". Other than cutting up the forest for charcoal, you do not see stalls on the side of the busy roads selling fruit, vegetables or meat as you would find in other areas. It seems as if there is the expectation by communities that Government shall provide.</p> | |
| <p>7. Question: What can be done to address the "Big Sleep"?</p> <p>Answer: We need to keep on talking and work together to make a difference. We need to ensure collaboration and actively work towards it.</p> | |
| <p>8. Question: What has been the church's experience of CNOOC in the area?</p> <p>Answer: CNOOC has always been responsive and have trained the clergy in various developmental projects. The church wants to work in partnership with CNOOC and needs to work holistically with other stakeholders. CNOOC can help with this.</p> | |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS
CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA
PROCESS COMMENTS REGISTER
NOVEMBER 2017

Meeting date: Friday, 24 November 2017
Time of meeting: 09:30-10:45
Venue: Hoima, Uganda
Organisation / Institution: Engineering Works Department Meeting

| Comment | Name of Person |
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| <p>1. Question: What are the changes you have noted?</p> <p>Answer:</p> <ul style="list-style-type: none"> i. Increased road infrastructure and significant increase in the number of cars. The World Bank did a traffic count in 2016 (Albertine Region Sustainable Development Project). The project was aimed at the development of main as well as gravel roads. ii. Infrastructure: Some town planning has been done, including for shopping and trading centres and other spatial requirements. iii. This department deals with mostly roads and some buildings. Buildings include Kiyngwani, Kisese, Kaboya, Bujehema, Jarosesh (Nootoo). iv. Central roads have been taken over by Central Government as "critical" roads. v. Road schedules and conditions have changed since 2015 as per schedule (Hoima District roads status/conditions). vi. Increased traffic on the roads has key implications for resources that must be allocated for maintenance. There are insufficient resources to maintain, for example, 930km of road network with an allocation of US\$ 540 million (includes opening of new roads). That is an immense short-fall as the actual requirement is US\$ 5 million per km (US\$ 4.6 billion actually needed to do the work properly). Money is allocated directly from the central fiscus. | |
| <p>2. Question: Are there any other issues that you have found that impact on your department?</p> <p>Answer: Not that many.</p> | |
| <p>3. Question: Is there any coordination between the department of roads and the traffic section e.g. related to accidents due to poor road conditions?</p> <p>Answer: There is no contact and no feedback system in place. We do not interact.</p> | |
| GENERAL COMMENTS BY GERALDINE | |
| <p>4. Documents Provided: Hoima District Roads Status/Condition.</p> | |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS
CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA
PROCESS COMMENTS REGISTER
NOVEMBER 2017

Meeting date: Friday, 24 November 2017
Time of meeting: 11:00-12:00
Venue: Hoima, Uganda
Organisation / Institution: Human Rights Commission Meeting

| Comment | Name of Person |
|--|-------------------------|
| <p>1. Question: What are the most pronounced changes you have encountered since the initial SIA was undertaken in 2013, specifically with regards to human rights?</p> <p>Answer: Current activities include monitoring oil and gas in the Albertine Rift. The most pronounced changes have been around compensation but it appears to have been addressed. With payment of compensation, men tended to get the money and the women would be left without resource. In Belissa there was an issue of dumping waste (by Total) and this was sorted out by all accounts. Also, from an education perspective companies have been involved in educating citizens.</p> | Human Rights Commission |
| <p>2. Question: What are the specific human rights concerns related to oil and gas development in general and CNOOC specifically?</p> <p>Answer: The recent Human Rights Commission visit to CNOOC demonstrated that Government has actually done a lot to address issues. However, even the Human Rights Commission did not know this so would not have known if they had not found out themselves.</p> | Human Rights Commission |
| <p>3. Question: What human rights related issues have been brought to the attention of the Uganda Human Rights Commission?</p> <p>Answer: There were complaints related to relocation (Sabuko) but this now appears to be sorted out.</p> | Human Rights Commission |
| <p>4. Question: What needs to be done?</p> <p>Answer: Sensitisation and dialogue. There are many issues that cause confusion.</p> | Human Rights Commission |
| <p>5. Question: Any child related human rights issues?</p> <p>Answer: Definitely yes, but not oil and gas related. Sugar cane and rice related exploitation of children. Also significant neglect of children-in general.</p> | Human Rights Commission |
| <p>6. Question: There has been an increase in money spent: Has this resulted in a decrease or increase of human rights violations, or has little change been seen?</p> <p>Answer: Yes, there has definitely been an increase, especially related to cultural roles where women do the work and the men get the money. This has led to increased incidences of men marrying a second wife and abandoning their families etc.</p> | Human Rights Commission |

| Comment | Name of Person |
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| <p>7. Question: There has been consistent mention that a combination of factors have created a massive influx of people into this area. Any human rights related issues?</p> <p>Answer: In greater Chibali, they have high rates of murder due to land related conflicts as well as due to conflicts within the home. This has definitely increased as the area has opened up.</p> | Human Rights Commission |
| <p>8. Question: If you could pick a key intervention to assist in addressing the needs of vulnerable groups, what would it be?</p> <p>Answers: There is a lack of empowerment of women. If girl children are not educated then this leaves them at a profound disadvantage. More needs to be done to try and promote this. That is a key mechanism we lack.</p> | Human Rights Commission |
| <p>9. Question: Based on our discussions with various stakeholders, we have seen (and discussed) a collaborative “dialogue and planning” model.</p> <p>Answers: This is a critical link that we need to have in place to ensure that everybody can work together towards addressing our problems here. That would really help and make a difference. To have a dialogue with all role players, plan with them and work together in an accountable way to solve the real problems we have would help a lot.</p> | Human Rights Commission |
| GENERAL COMMENTS BY GERALDINE: | |
| <ul style="list-style-type: none"> <i>The Human Rights Commission receives all acts on Human Rights complaints brought to them. The Human Rights Commission has not received direct complaints to oil but at least 80% is related to land issues (particularly speculation related).</i> | Human Rights Commission |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Interview date: Friday, 24 November 2017
Time of interview: 15:00 – 18:20
Venue: Izahura Pentecostal Church, Uganda
Organisation / Institution: Izahura General Community Meeting

| | Name of Person |
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| <p>1. The Izahura community indicated the following views and experience regarding CNOOC Uganda:</p> <ul style="list-style-type: none"> • CNOOC is a company that drills for oil in the Kyangwali Sub-county. • CNOOC is an oil company that awards prizes to the best performers in schools around the Hoima District. • CNOOC is a company that is acquiring land for the oil pipeline from Buhuka to Kabaale. | Izahura community |
| <p>2. The Izahura community indicated the following exact changes noted between 2013 and 2017:</p> <ul style="list-style-type: none"> • More people have moved into the village (Izahura) causing the population to increase. As a result of the population increase, new structures have been built. For example, residential houses, shops and churches. • Migrants are from within and outside Uganda, but mainly from Democratic Republic of Congo (DRC) and Rwanda. • More land has been cleared causing deforestation and the scarcity of firewood. The price of land has also risen. • Due to the population increase, the demand for food has increased, causing the prices of agricultural products to also increase. • New roads have been built, and the upgrading of deteriorating roads is also being planned. Concerned community members who may be affected by the road upgrades have been engaged with. • Power lines have been built and community members are able to receive electricity in their homes. | Izahura community |
| <p>3. The Izahura community indicated the following community's thoughts and feelings regarding the recent developments, particularly the oil pipeline:</p> <ul style="list-style-type: none"> • All projects have a land take component associated to them hence land prices have increased and resultant land related conflicts have increased. Land grabbing has also escalated and ownership of land by local community members is threatened as an increased number of immigrants are moving into the area. • Due to additional studies being undertaken (to determine a market related land price), land and property acquisition processes for the oil pipeline and associated payment have been delayed, resulting in Project Affected People (PAP's) being uncertain about what to do with the affected pieces of land. • Neighbours to the land earmarked for the pipeline are afraid and uncertain because they were asked to sign documents even though they were clearly told that their land would | Izahura community |

| | Name of Person |
|---|-------------------|
| <p>not be affected. Thus, most of them are selling their land and leaving their homesteads. Although the reason for signing the documents had been communicated to those affected, there was still a great deal of uncertainty as to exactly how they would be impacted in the longer term. This, coupled with a deep suspicion of the motives of central government and politicians, made them fear that signing the documentation would put them at a disadvantage further down the line.</p> <ul style="list-style-type: none"> Community members at the meeting allege that the pipeline development project will escalate adverse weather changes. The community's fears are based on allegations that since oil and gas projects have begun in the area, rainfall has been unpredictable which has negatively affected production. This observation is, at least in part, based on information provided by Civil Society Organisations (CSOs), based on changes believed to have occurred in other countries. Izahura community members expect to get jobs directly and indirectly during the construction of the pipeline. However, the local men in the village fear that workers at the pipeline project will have affairs with their wives and also increase the spread of HIV/AIDS in their village. The nearest health centre to Izahura is approximately over 10km away located in Kaseeta. The government aided school in the area has only two permanent classrooms, but there are over 400 pupils at the school. Hence, the Izahura community believe that operators at the pipeline project will improve education and health services in the area. | |
| <p>4. The Izahura community indicated the following community livelihood:</p> <ul style="list-style-type: none"> The major source of livelihood is crop and animal production. The Izahura community mainly produces maize, beans and cassava for crops. Cattle, pigs and goats are farmed at subsistence levels. | Izahura community |
| <p>5. The Izahura community indicated that the production constraints include:</p> <ul style="list-style-type: none"> Unstable crop prices. Climate change has led to the weather being unpredictable. This has made it difficult for the Izahura community to predict the weather conditions which affects their crop production. Strange pests and diseases are now present. The most recent being the notorious armyworm diseases in maize crops. Increased livestock theft has left cattle enclosures empty. Increased motor cycle theft after the sale of harvests has threatened investments in the area. | Izahura community |
| <p>6. The Izahura community made the following recommendations:</p> <ul style="list-style-type: none"> Izahura community members think that Government and CNOOC should intervene and address the changes that affect their livelihoods. Population influx should be regulated to control the number of migrants in the community. More awareness needs to be created in the community on the impacts that are likely to arise from the pipeline project as well as possible/planned mitigation measures. Provision of tree seedlings to address deforestation issues. Farmers need support in fighting pests and diseases. The local community should be given an opportunity to be involved in the execution of planned projects. For example, by providing jobs to the local people. | Izahura community |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Interview date: Friday, 24 November 2017
Time of interview: 11:00 – 14:30
Venue: Nyamulimirwa Community School, Uganda
Organisation / Institution: Nyamulimirwa, Kasoga A, Kasoga B, Rwera villages in Butole Parish, Kyangwali Sub-County

| | Name of Person |
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| <p>1. The various communities in the Butole Parish indicated the following key changes noted in the region since 2013:</p> <ul style="list-style-type: none"> • The communities have witnessed climate changes. Hence, the amount of rainfall in the region has decreased which adversely affects production. • Forests have been cut down to make space on the land for farming (the community believes that this act is the major cause of prolonged dry spells in the area but also allege that oil and gas activities are responsible for the bad climate). • The community members at the meeting indicated that the population in the Butole Parish and Kyangwali Sub-county has significantly increased in the last 3 years. The causes of the population increase in the area include an influx of migrants moving into the villages from other parts of the District and neighbouring countries. The migrants in Butole come from Rwanda, DRC, and Burundi. Migrants also come from other Ugandan Districts, for example mainly from Nebbi, Arua and Moyi Districts. | Butole Parish Communities |
| <p>2. The various communities in the Butole Parish indicated the following activities that migrants participate in as well as what the migrants are attracted to within the Butole Parish:</p> <ul style="list-style-type: none"> • The majority of the migrants move into the region to purchase land and do farming. • Migrants are seeking a place to settle after refugee life/peace. • Other migrants follow their relatives who moved to Uganda as refugees in the 1970s. • Migrants move into the region to work on Government projects such as roads, power lines and the most recently the oil pipeline. | Butole Parish Communities |
| <p>3. The various communities in the Butole Parish indicated the following exact impacts that the increased population has caused within the Butole Parish:</p> <ul style="list-style-type: none"> • The prices of land, food and other utilities has significantly increased. • Negative behaviours, for example theft, drug abuse and domestic violence have increased within the village. • The various communities have witnessed new developments taking place within the Butole villages. For example, electricity lines, surveys for the upgrading and building of roads as well as the most recent pipeline. | Butole Parish Communities |
| <p>4. The various communities in the Butole Parish indicated the nature of the social services in the villages of Kitole as follows:</p> <ul style="list-style-type: none"> • The Kitole Parish has a Government aided primary school that is significantly far from most villages (approximately 6km from the Nyamulimirwa village where the meeting | Butole Parish Communities |

| | Name of Person |
|--|---------------------------|
| <p>took place).</p> <ul style="list-style-type: none"> • The Nyamulimirwa community depend on unsafe seasonal water sources. The only borehole available is unreliable as it frequently breaks down. During dry seasons, the only source of water is the Hohwa spring which is located approximately 8km away. • The Kaseeta and Kyangwali health centres (the only Government aided health centres available) are each located over 10km away from the Nyamulimirwa village. Given the long distances, residents do not receive treatment on time. | |
| <p>5. The various communities in the Butole Parish indicated the following feelings they had towards the ongoing CNOOC pipeline project:</p> <ul style="list-style-type: none"> • Oil and gas activities are likely to bring about increased climatic changes. • Some community members argue that being close to the pipeline is dangerous. • During the land survey and property assessment, households in the buffer area (not really required for the pipeline construction purpose) were asked to sign certain documents which they were uncomfortable about. The majority of these people decided to sell their homes and have left. • Community members in the meeting requested that CNOOC support them by providing tree seedlings so that they are able to replace the deteriorated forest. • The youth representative at the meeting requested that CNOOC consider the local community members when there are employment opportunities. • The community members at the meeting requested that operators in the oil and gas sector, particularly CNOOC speed up the payment process for their land and property. • The women at the meeting introduced a number of groups/associations to which they belong and requested that CNOOC support them to realize their objectives. | Butole Parish Communities |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Meeting date: Monday, 27 November 2017
Time of meeting: 13:30 - 14:45
Venue: Hoima District Office, Fisheries Division, Hoima, Uganda
Organisation / Institution: District Fisheries Division Production Department

| Comment | Name of Person |
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| <p>1. Question: General description required of the fisheries sub-sector. How have things changed over the past number of years?</p> <p>Answer: General remark: Lake Albert is one of the most important lakes in Uganda. Lake Albert is shared by Democratic Republic of Congo and Uganda, with the sharing of the lake being approximately 60% Uganda and 40% Democratic Republic of Congo. There are five Districts on the lake, including Hoima. Hoima has four Sub-counties on the lake itself. Effectively each of the Sub-counties has access but only one has riparian use.</p> <p>In 2012, there were a number of fishing activities using different fishing gear (hooks, gill nets, kamanan nets and others). The proportion has now changed in terms of what is used. Fisheries has tried to intervene to ensure that fishing is sustainable. Unfortunately, due to a lack of capacity and competence, the means employed served to only make the matter worse instead of better. A significant increase in “commercial” fishing started after the opening of the roads. In 2014, where there used be seven specialised vehicles (with fridges) per day pulling out Nile Perch. Now, far more time is spent catching far fewer fish due to overfishing. However, increasingly (since 2015) Government has banned all fisheries control. Now you go to the lake and you get nothing. This is not related to oil. It is just irresponsible fishing.</p> <p>The population has also increased so significantly that even the little fish that are left are being diminished even more.</p> <p>The Democratic Republic of Congo actually strictly implements fishing control (apart from the fact that they allow immature Nile Perch) and if Congolese are found breaking the law, there is immediate action (on-going hands on monitoring and control). In some areas of the lake, there are some species of fish that are completely gone. All the fish have shifted to Mazera. People are now selling their boats because there is such a limited return on investment to be there on the lake.</p> | District Fisheries |
| <p>2. Question: Influx: Have you seen any increase or decrease in the number of people settling in the District, and to what do you ascribe that?</p> <p>Answer: We have seen an increase, not only in fishing but also the provision of services including food, Boda-Boda’s and “family care”. People are taking advantage of the opportunities, and it is a mixture of people Ugandans and others. There are however far too many Congolese on the lake, with 80% of the fishermen on the lake estimated to be Congolese.</p> | District Fisheries |

| Comment | Name of Person |
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| <p>3. Question: What other impacts have you identified as a result of the influx of people?</p> <p>Answer: The price of land has gone up massively (at least 3 times) but transport costs have gone down.</p> | District Fisheries |
| <p>4. Question: What interventions would you suggest that could address the lack of productivity of the lake?</p> <p>Answer: Potential opportunities to reverse damage (initiated in small measure) must be realistic:</p> <ol style="list-style-type: none"> i. Registration of ALL stakeholders from single boats to vehicles, etc. ii. Sensitisation. iii. Net size selection of, for example 4mm rather than 8mm. iv. Absolute enforcement, including through confiscation on the water and on the shore. v. Permitting process. vi. Prevention of pollution of the lake. <p>There is however a ban on enforcement, resulting in the fact that people are not even trying to keep to the regulations.</p> <p>Nsonga is trying to address own practices for moving into a more sustainable approach. However, this is being frustrated by others who are not and this leads to immense conflict.</p> <p>The Ugandan side of Lake Albert is being taken advantage of by the Congolese. However, if Ugandans try to fish on the DRC side, the Congolese are extremely aggressive and chase the Ugandans away. The open border Ugandan Policy has created many problems.</p> <p>Enforcement <i>per se</i> is a “No Go” area. There was supposed to be a unit for enforcement on Lake Victoria but nothing on Lake Albert. Silver fish goes to the many towns, for example Kampala but other fish goes to Democratic Republic of Congo.</p> | District Fisheries |
| <p>5. Question: Pollution of the Lake: You spoke of severe pollution of the lake, is this from industry or from the people?</p> <p>Answer: Pollution on the lake could result from general users disposing batteries in particular but also plastic and everything else. At night it looks as if there is a sitting town on the lake. There is no pollution from industry.</p> | District Fisheries |
| <p>6. Question: Movement along the lake shore: Would that be the same people moving from one area to another (one village on the shore to another)?</p> <p>Answer: They seem to move towards the area where there is a greater abundance of fish. They also target areas that are less accessible for enforcement teams.</p> | District Fisheries |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Meeting date: Tuesday, 28 November 2017
Time of meeting: 10:00-15:00
Venue: Kyabasambu Catholic Church, Hoima, Uganda
Organisation / Institution: Kyabasambu (Men and youth) Community Meeting

| Comment | Name of Person |
|---|--------------------------|
| <p>1. Question: What has the road brought to you?</p> <p>Answer:</p> <ul style="list-style-type: none"> i. It has brought good and bad things. ii. There is a reduction in the amount of land available. iii. There is an increase in stock theft. iv. The increase in the number of vehicles has created a higher number of accidents. | Kyabasambu Men and Youth |
| <p>2. Question: From the youth group, how many live with parents/other members of their household or on their own?</p> <p>Answer:</p> <ul style="list-style-type: none"> i. The majority of youth live away from their families. They usually rent and often share accommodation with other youth (with there being up to 10 per "household"). ii. Some of the youth live in accommodation rented by their "Bosses" (Fishermen with boats on whose behalf they catch fish). | Kyabasambu Men and Youth |
| <p>3. Question: With regards to the stated activity of "Buying girls", where do the girls come from and are there any in this village?</p> <p>Answer:</p> <ul style="list-style-type: none"> i. The prostitutes come from Kampala, Hoima and other larger centres. There are no girls who sell themselves in this village. ii. We go to Nsonga for prostitutes and pay anything from US\$5000 to US\$20000 (for VIPs). There are specific villages where one will find prostitutes. iii. There are no men in Kyabasambu village who are involved in organising women for sale (according to some, but not according to others). iv. A key driver of prostitution is the road which has opened the area and allows people easy access. The prostitutes also come and "service" CNOOC staff. Many women come into the area to look for work at CNOOC and when they do not find work, they turn to prostitution. | Kyabasambu Men and Youth |
| <p>4. Question: There is movement between the Democratic Republic of Congo and Uganda. How often does that happen and for what reasons?</p> <p>Answer: There are none here (of the youth) who have not been to the DRC. They go there to visit family, to sell fish, to visit friends. The Congolese come to Uganda to visit family in Uganda and come to settle with their children who are already here.</p> | Kyabasambu Men and Youth |
| <p>5. Question: What other impacts have you identified as a result of CNOOC activities?</p> <p>Answer: Light pollution (especially Pad 2) and noise from the generator.</p> | Kyabasambu Men and Youth |

| Comment | Name of Person |
|--|---------------------------------|
| <p>6. Question: What interventions would you suggest that could address perceived impacts?</p> <p>Answer:</p> <ul style="list-style-type: none"> i. We are hoping to get a good lawyer who will help us because we are buying water (US\$4000 per jerry can) because CNOOC damaged our water supply line (8 months ago) while they were making a drainage system. ii. The breaking of the water pipe has caused stagnant water that creates health problems for the children who play in it and also for the livestock. Goats and cattle have gotten ill, and there are chickens that have died after drinking the water. The community is very unhappy about this and it is a source of severe concern and unhappiness to the community | <p>Kyabasambu Men and Youth</p> |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Meeting date: Tuesday, 28 November 2017
Time of meeting: 15:30-18:30
Venue: Kyabasambu Church, Kyabasambu Village, Buhuka, Uganda
Organisation / Institution: Kyabasambu (Women) Community Meeting

| Comment | Name of Person |
|--|----------------|
| <p>1. Question: How has the road made a difference?</p> <p>Answer: We see cars come and Boda Boda's (motorcycle taxi). Some people had never even seen a car before in their life.</p> | |
| <p>2. Question: In general, what changes have taken place since 2013?</p> <p>Answer:</p> <ul style="list-style-type: none"> i. Nothing really has changed. Joblessness remains a problem with youth sitting around doing nothing. The youth occasionally do fishing. CNOOC promotes prostitution and not education. Women have a need to be able to read and write. ii. In June (25/6/2017) someone whom they believed to be from CNOOC (because he said that he represented CNOOC, although he was not wearing a CNOOC uniform) came and told the community that they need to just struggle on and get an education. When they told him that they do not have money for education, he told the community to do whatever they needed to do to make money). iii. They now have a clinic and they are able to attend and give birth there. However, staff at the clinic are tardy and unreliable. iv. Immunisation programmes have been extended to their homes. v. Community roads are still poor and unimproved, and that is a big problem in the area. | |
| <p>3. Question: How are women impacted on from the development?</p> <p>Answer:</p> <ul style="list-style-type: none"> i. The women here are not like women elsewhere. They are at a lower level (because they are poor, have not had the opportunity to get an education, and have very limited financial and other resources). Women need to be able to better themselves, the women want their group to be recognized by the district. If opportunities arise, women do not get selected, mainly men and they would like to see that change. ii. The women have tried to start a savings society but they have not been successful. The women need trainers and assistance in order to help them help themselves. iii. The women want to be taught to read and write due to the fact that this is a key skill required when seeking employment. | |
| GENERAL COMMENTS BY GERALDINE: | |
| <ul style="list-style-type: none"> • <i>Separate meetings were arranged for men and women due to the number of men who arrived for the morning meeting. Village chief/chairman requested that Golder and Eco & Partner allow the women to arrive later in the day.</i> | |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Interview date: Tuesday, 28 November 2017
Time of interview: 11:00-12:37
Venue: Kyangwali Sub-county Headquarters, Kyangwali, Uganda
Organisation / Institution: Kyangwali Sub-county Technical Staff and Political Leadership Consultations

| | Name of Person |
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| <p>1. The Kyangwali Sub-county technical staff and political leadership consultants indicated the general and specific social and economic changes that have occurred around the Sub-county since 2012/13. Some are specific to the Buhuka Flats and Parishes such as Butole along the proposed pipeline route.</p> <ul style="list-style-type: none"> The changes that have been experienced occurred long before 2012. The Sub-county has always witnessed a refugee influx throughout the years. It is recommended that Golder and Eco & Partner consult with the camp commandant about the exact figures of refugees that have been accommodated in refugee camps and that may have settled in Uganda from the refugee camps. Refugees come from across Africa, but mainly from the Democratic Republic of Congo, Sudan, Somalia, Rwanda and Burundi. The majority of refugees are staying in the refugee camps, but there are some who relocate and settle within the local community. The refugee’s continuously invite their relatives who remained behind to settle in the Sub-county. Refugee influx is the greatest challenge that the Sub-county is faced with. In addition to refugees, there are also migrants. There are high levels of in-migration from other regions of the country particularly from Kabbale and Kisoro. Migrants from Kabaale and Kisoro target land for cultivation, and pastoralists arrive with their animals, targeting land for grazing purposes. There is migration from the Democratic Republic of Congo and other parts of Uganda such as Ntoroko and West-Nile in Uganda over the lake. Migrations from the Democratic Republic of Congo are propelled by social conflicts within the country, and the porous Ugandan borders allow easy access into the country. The Congolese migrants have a specific target on fishing and for a long period of time, fishing has been a pull factor. Migrants arrive in the Sub-county with a specific objective of seeking employment in the oil and gas sector. For a long time, the Buhuka Flats were not easily accessible but this changed recently with the building of the road. The Sub-county has also witnessed a population increase due to natural growth. Various migrant groups such as the Bakiga and Bafumbira do not practice family planning and their fertility rates are very high. The new road to the Buhuka Flats has contributed to an increase in business and commercial trade between the Sub-county and other parts of the | <p>Kyangwali Sub-county technical staff and political leadership consultants</p> |

| | Name of Person |
|--|--|
| <p>country. The volume of traffic and traders travelling to the Flats on a daily basis has also increased.</p> | |
| <p>2. The Kyangwali Sub-county technical staff and political leadership consultants indicated the following general and specific social and economic impacts associated with changes that have occurred around the Sub-county since 2012/13:</p> <ul style="list-style-type: none"> • The local revenue from the landing sites is gradually increasing due to increased levels and sources of taxation. Numerous trading centres have developed in the Sub-county. • The Sub-county has witnessed increased social conflicts, most of these being land related conflicts. Other conflicts include social disaggregation and tribalism, animals eating up people’s crops and Gender Based Violence (GBV) which is common among migrant groups. Other crimes include migrants settling and/or cultivating in protected areas such as wetlands and forest reserves. • There are some undesirable outcomes such as increased commercial sex work around the landing sites and towns along the main road from Kyangwali to Kawbwoya. Most migrant fishermen settle at the landing sites without their wives/spouses, and this is seen to be a contributing factor in the increase in commercial sex work. • Household incomes have increased, particularly amongst crop and animal farmers. The demand for agricultural produce is high. The cattle keepers have even formed a cooperative society in Butole Parish which collectively sells their (members) milk. • Public safety is concerned about public health along the new road, particularly regarding HIV/AIDS. Increased accidents have also been witnessed since the opening of the new road to the Buhuka Flats. Community members are concerned that the population influx will compromise their collective efforts to combat HIV/AIDS. • Due to the increased population, public health and education facilities are increasingly becoming overstrained. Medicinal supplies are frequently depleted. The planning and budgeting for public health facilities has not improved to accommodate the increasing population. Schools in the region perform poorly due to the congested learning environment at school, as well as the lack of sufficient educators and textbooks/reading materials. • The increased population in the area makes it more challenging to address the sanitation gap. A few ethnic groups do not believe in using a toilet which contributes to outbreaks of diarrhoea. When it rains, diarrhoea and cholera outbreaks are more frequent at the Kingfisher Flats due to the lack of adequate sanitation. Additionally, the soil also makes it difficult to install sustainable sanitation facilities. Communities need well-constructed and managed sanitation facilities. | <p>Kyangwali Sub-county technical staff and political leadership consultants</p> |
| <p>3. The Kyangwali Sub-county technical staff and political leadership consultants indicated the following sanitation gaps:</p> | <p>Kyangwali Sub-county technical staff and</p> |

| | Name of Person |
|--|--|
| <ul style="list-style-type: none"> • Within the Buhuka Flats, only 55% of community members have access to sanitation facilities and the majority of these sanitation facilities are shared. This figure drops when it rains consistently in the Buhuka Flats. For areas above the escarpment, 70% of the Sub-county has access to sanitation facilities. • Community members around Kyakapere and Kyabasambu have refused to construct sanitation facilities. These communities were told that they are going to be resettled by CNOOC and they have expressed an unwillingness to cooperate. Furthermore, households around the landing sites occupy very small plots of land with insufficient space to build both a house and a toilet. Migrants in the Buhuka Flats are target workers and will only stay for short periods of time, hence these migrants are not willing to invest in the construction of houses and toilets. Migrants prefer to use the wilderness and sleep in temporary shelters. | <p>political leadership consultants</p> |
| <p>4. The Kyangwali Sub-county technical staff and political leadership consultants indicated some social groups that have experienced more impacts than others due to the associated changes that have happened around the Sub-county since 2012/2013:</p> <ul style="list-style-type: none"> • With respect to increased incomes, all farmers are benefitting. However, the money is controlled by men. Women have stopped working in the gardens. • Gender-based violence (GBV) is mainly experienced by women. Public administration costs have risen due to increased social conflicts. • Crop farmers suffer as the herdsmen's cattle eat their crops, which is against the law. • Girl children and women are the main victims of commercial sex work. • Local community members are increasingly selling their land, therefore leaving them with less land available for cultivation. • Fishing as a livelihood activity is declining and the Kyangwali Sub-county technical staff and political leadership consultants are concerned about the decline in fishing. | <p>Kyangwali Sub-county technical staff and political leadership consultants</p> |

| | Name of Person |
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| <p>5. The Kyangwali Sub-county technical staff and political leadership consultants indicated the following adaptive capacities of the Sub-county given all the changes:</p> <ul style="list-style-type: none"> • The Sub-county has a 5 year development plan. It is however difficult to implement the development plan due to limited resources. Most of the plans are not focused on influx management as there are several stakeholders that should be involved in this, including the United Nations High Commissioner for Refugees (UNHCR). • The Sub-county, as Lower Local Government is mainly mandated to deliver extension, education and health services on behalf of the district, and this is what has been planned for. Other services such as water are planned and provided for by the district water office. The planned water services have been zoned according to the livelihood enterprises in the different zones/parishes; Butole (cattle keeping) and Buhuka (fishing) • The implementation of the Sub-county development plan is generally insufficient due to limited resources. | <p>Kyangwali Sub-county technical staff and political leadership consultants</p> |
| <p>6. The Kyangwali Sub-county technical staff and political leadership consultants indicated the following expectations/fears/anticipations/recommendations regarding the oil and gas developments by CNOOC in the Sub-county:</p> <ul style="list-style-type: none"> • The increased influx of people seeking employment opportunities will result in a population increase, placing additional strain on already limited facilities and resources. To prepare for the population increase, an overall improvement of facilities, logistics and human resources is needed, particularly for primary schools and health facilities. • A few areas along the landing sites are difficult to reach and service, yet more people are settling there or are likely to settle there after resettlement. These areas include Cyenjonjo, Kacunge and Ususa. These areas are likely to become host sites after resettlement. CNOOC and Central Government need to work in a collaborative effort with the Sub-county technical staff and political leadership in order to set up basic health, water, educational facilities and staff quarters in these villages to mitigate the negative impacts likely to be associated with project related displacements from other villages. • The Sub-county technical staff and political leadership indicated that they require CNOOC and other stakeholders to plan for a safe piped water supply system for the Buhuka Flats. Additionally, community sanitation facilities should also be set up as part of the company Corporate Social Responsibility programs. • Communities are concerned about the lack of clear information regarding compensation and resettlement due to project related activities. | <p>Kyangwali Sub-county technical staff and political leadership consultants</p> |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Interview date: Tuesday, 28 November 2017
Time of interview: 16:40 18:00
Venue: Kyabasambu Catholic Church
Organisation / Institution: Beach Management Unit Members -Kyabasambu, Kyakapere and Busigi Village

| | Name of Person |
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| <p>1. The Beach Management Unit members indicated that the purpose and mandate of the Beach Management Unit was as follows:</p> <ul style="list-style-type: none"> • To register and approve fishermen and their activities along the three landing sites. • To register and collect user fees from boat owners. • To monitor the quality of fishing gear used, for example the type of nets being used and to apprehend those using the incorrect fishing gear. • To monitor several other activities along the beach, for example business, leisure and hygiene related activities. • To support Local Government in enforcing fishing and hygiene regulations. • To promote unity and good fishing practices among fishermen. | Beach Management Unit members |
| <p>2. The Beach Management Unit members indicated the following successful achievements before it was dissolved:</p> <ul style="list-style-type: none"> • The security of the fishermen and their fishing gear was greatly improved. • The Beach Management Unit managed to solve conflicts between the fishermen, as well as other people at the landing sites. • Improved regulated entry and exit of people into the fishing activities on the lake. • The welfare of the fishermen was greatly improved. | Beach Management Unit members |
| <p>3. The Beach Management Unit members indicated the following key changes in the last five years since 2012/13 regarding the fishing sub-sector:</p> <ul style="list-style-type: none"> • There has been a tremendous decline of fish caught on the lake. In 2010, one boat would collect about 100kg of fish per fishing episode of about 8-10 hours on the lake or even less. In 2017, one boat can collect about 20kg of fish per fishing episode of about 24 hours on the lake. • In 2010, one boat would carry about 100kg of salt for salting the fish while on the lake for three days. In 2017, one boat can carry 20kg of salt for salting fish and still return with some salt unused after the three days. • There are also increased/intensified fishing activities on the lake. • The number of fishermen and volume of fishing gear on the lake has increased since 2010. • There are a number of fish species which have disappeared since around 2010. For example, <i>Lanya (lung fish), Ngara, Njole, Mpoyi and Wechune</i>. These fish are | Beach Management Unit members |

| | Name of Person |
|---|-------------------------------|
| <p>very rare, yet they were the most commercially sought after species around the community.</p> <ul style="list-style-type: none"> • An increased number of fishermen are no longer catching young and premature fish species for example, <i>Nile perch</i>, <i>Tilapia (BuzogoroBudoli)</i>, <i>Lanya</i> and <i>Ngasiya</i>. This is due to the increased demand but diminished supply from the lake. • Formerly undervalued and less sought after species are now being caught as the main catch. For example, the <i>Silver Fish (Muzili)</i>, <i>Mingala</i> and <i>Ragoyi</i>. <i>Large Silver Fish is bought by catering concerns because it can be sold as Nile Perch. Small fish are being sold for food but, very frequently, for animal and poultry feed.</i> • Previously, less investment (time and labour) was required and the returns (catch) would be good. However, in 2017, more time is needed on the lake, more fuel for the boat and the return (catch) is much lower than before 2012. • In 2010, fishermen used to fish in nearby waters. However, due to the decreasing volumes of fish in the lake, fishermen are required to go into the deeper waters, sometimes crossing over into Congolese waters. This has resulted in an increase in trans-boundary conflicts between Ugandans and Congolese over Lake Albert. | |
| <p>4. The Beach Management Unit members indicated the following impacts regarding the changes noticed in the last 5 years from 2012/2013 around the fishing sub-sector:</p> <ul style="list-style-type: none"> • Various fishermen have ventured into other sectors for a source of income. For example, fishermen have ventured into crop farming, harvesting and selling papyrus reeds, mats, grass and building materials such as poles. • Fishermen who have ventured into crop farming are setting up their farms near wetlands and forest reserves. • Social conflicts in the community as well as between Ugandans and Congolese have increased with the majority of these conflicts revolving around fishing on the lake. Theft of fishing gear has also increased. Fishing nets have been stolen with the catch still inside the net on the lake. There is an increase in robberies on the lake and at times on the new road. • Several people have lost out on an income related to fishing. For example, women used to clean and dry the fish. They are now only employed to carry and dry the silver fish. Some women have resorted to informal trade and commercial sex work. | Beach Management Unit members |
| <p>5. The Beach Management Unit members indicated the key drivers associated with the declining fishing sub-sector and provided the following recommendations:</p> <ul style="list-style-type: none"> • Over-fishing and poor fishing methods are common. The number of fishermen and amount of fishing gear must be reduced around the lake. • The promotion of good fishing practice is needed, as well as the enforcement of laws and regulations that encourage good fishing practice. • Fishing holidays should be introduced as is done in the Democratic Republic of Congo, which will allow the lake to have a resting period. | Beach Management Unit members |

| | Name of Person |
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| <p>6. The Beach Management Unit members indicated the following expectations, fears and recommendations regarding the CNOOC project in respect of the livelihoods of communities:</p> <ul style="list-style-type: none"> • Land: the community already has limited land and part of it is being taken by the CNOOC project. There will be an even smaller portion of land left resulting in people not having enough land to build their homes and toilets on. • Compensation: Fear of less or delayed compensation for those who are affected. • Resource accessibility: Some of the land earmarked for CNOOC infrastructure is located where the community collects firewood for cooking purposes and this site is already a challenge for community members to access. Community members face the additional challenge of crossing over the air strip to collect firewood. Grazing land available is also increasingly becoming smaller. • Government needs to draft a special development plan to address the issues of Buhuka Flats. Issues such as land re-distribution, safe and piped water sources for communities, schools and health facilities must be addressed. • Employment: In terms of employment, CNOOC should prioritize the local community members and offer casual jobs to the local people. | <p>Beach Management Unit members</p> |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Meeting date: Wednesday, 29 November 2017
Time of meeting: 10:00-14:30
Venue: Kyakapere Village, Hoima, Uganda
Organisation / Institution: Kyakapere Community Meeting

| Comment | Name of Person |
|--|------------------------|
| <p>1. Question: Since 2015, do they have any idea how many people have moved into the village?</p> <p>Answer: The chairman is the only one who can answer.</p> | Kyakapere Community |
| <p>2. Question: Is there any conflict in the area?</p> <p>Answer: No, there is no conflict.</p> | Kyakapere Community |
| <p>3. Question: Water points: Why is there a tap that does not work?</p> <p>Answer: Kyakapere villagers indicated that they bought drinking water from sources and/or suppliers from up the escarpment. Although there are six taps in the village initially supplied from water piped from the Masika River, they do not work and CNOOC have closed them. Kyakapere sees the water related challenges as punitive and ask: "Why has the Government punished us?".</p> | Kyakapere Community |
| <p>4. Question: What is the number of households?</p> <p>Answer: There are approximately 600 households, 22 shops, and outside kitchens. There is also the likelihood of shared accommodation. (However, the data provided by the members present at the Community Meeting was contradicted by that provided in the datasheets as well as from other sources.</p> | Kyakapere Community |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Interview date: Wednesday, 29 November 2017
Time of interview: 11:30 - 12:30
Venue: Hoima-District Headquarters, Hoima, Uganda
Organisation / Institution: Veterinary Department-Buseruka Sub-county, Hoima District.

| | Name of Person |
|---|------------------------------|
| <p>1. The veterinary extension officer indicated the following changes observed in respect of livestock in the Buseruka Sub-county since 2012/13:</p> <ul style="list-style-type: none"> • The veterinary department has not maintained livestock records for some time. However, since 2010 the livestock numbers have been increasing in the Sub-county, particularly down the escarpment in Tonya Parish. • The number of households engaged in livestock keeping (cattle and goats) has also been steadily increasing. However, it is important to note that migrants keep livestock on a large scale. • The quality of the grass in the rangelands has deteriorated. Additionally, the grass is always short throughout the rainy season. This is one of the indicators of a declining ecosystem (rangeland) with serious implications for the sustainability of livestock in the Sub-county and specific Parishes which keep livestock. • Livestock farming has now exceeded the carrying capacity of the rangelands (down the Buhuka Flats). A considerable increase in livestock farming has been noticed in the Tonya Parish. • The Sub-county Local Government currently has two large cattle markets (operating weekly) at Buseruka and Kabaale. This is a good source of revenue for the Sub-county. • Cattle is being brought in from other Districts and countries. For example, one of the livestock keepers brought in cattle from the north-western part of Tanzania after which the community experienced a foot and mouth disease outbreak. Hence, livestock related disease outbreaks have increased over the last five years. | Veterinary extension officer |
| <p>2. The veterinary extension officer indicated the following key factors associated with the observed changes in the livestock sub-sector:</p> <ul style="list-style-type: none"> • Free communal grazing land has attracted pastoralists into the area. In the Tonya Parish, there is easy access for anyone to graze. The pastoralists who have settled in other parts of the Sub-county where land is not communal have either bought the land or rent the land and stay for some time. | Veterinary extension officer |
| <p>3. The veterinary extension officer indicated the following key challenges the livestock sub-sector faces in relation to the oil and gas development in the sub-county:</p> | Veterinary extension officer |

| | Name of Person |
|---|-------------------------------------|
| <ul style="list-style-type: none"> • The department does not think that there should be a strong impact on the sub-sector. The greater challenge is related to environmental changes that are already being experienced in the Sub-county. When it is the drought season, the pastoralists migrate to other parts of the country because it is difficult for their cattle to graze. The pastoralists need to prepare themselves well in advance for the drought because migrations are more expensive than simple adaptive measures. For example, water storage, harvesting and keeping a relatively smaller number of cattle. • CNOOC and other joint venture partners could possibly address the drought issue through community support programs. Through the Sub-county, the Tonya Parish could possibly receive support in terms of growing a pasture along the three rivers that pass through the Parish into the lake. Simple irrigation equipment can be used to nourish the grass on a wider area along the river banks from which the animals can graze. As part of the community support programs, livestock farmers need to be organized in order to be assisted. However, organisation is a major challenge particularly among the pastoralists. • Some of the pastoralists' children do not attend school. Child labour is a continuous issue that must be addressed, with the primary challenge being the seasonal migration of pastoralists. Government however should ensure that these children attend school. | |
| <p>4. The veterinary extension officer indicated the following regarding the estimated figures of the livestock in the Sub-county:</p> <ul style="list-style-type: none"> • There is no specific updated data on livestock in the Sub-county. The veterinary department only has estimates from the immunisations carried out in 2017. Furthermore, the estimates are only for the Tonya Parish where mass immunisation has been done. | <p>Veterinary extension officer</p> |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS
CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA
PROCESS COMMENTS REGISTER
NOVEMBER 2017

Interview date: Thursday, 30 November 2017
Time of interview: 16:20-18:07
Venue: Nsonga Village Meeting Tree, Uganda
Organisation / Institution: Lake Albert Nile Perch and Tilapia Fishers Association, Nsonga, Nsuzu, Kiina, Kyabasambu and Kyakapere Village

| | Name of Person |
|---|--|
| <p>1. The fishermen indicated that since its commencement, the purpose and mandate of the Lake Albert Nile Perch and Tilapia Fishers Association are as follows:</p> <ul style="list-style-type: none"> • To enforce better fishing methods and unity among fishing communities in the five villages of Nsonga, Nsuzu, Kiina, Kyabasambu and Kyakapere. • To encourage and enable fishermen to save a portion of their income and use the accumulated savings over a year, to invest in other enterprises besides fishing for diversified livelihood sources. • To promote education among the fishing community through sensitizing parents to ensure that children are taken to school. • To sensitize the fishing community on the dangers of HIV/AIDS. • The organisation of a fishing community and to encourage community members to participate in protecting the environment. | Lake Albert Nile Perch and Tilapia Fishers Association |
| <p>2. The fishermen indicated that since its commencement, the achievements of the Lake Albert Nile Perch and Tilapia Fishers Association are as follows:</p> <ul style="list-style-type: none"> • The Lake Albert Nile Perch and Tilapia Fishers Association was fully registered as a community based organization at the District level. • The Association managed to attain office space from where their work takes place. | Lake Albert Nile Perch and Tilapia Fishers Association |
| <p>3. In terms of any fishing related training, the association indicated the following:</p> <ul style="list-style-type: none"> • The association has never had any fishing related training. However, the Sub-county Community Development Officer organised a meeting and informed the members of the forthcoming cage fish farming meeting by the World Bank which will benefit the groups. | Lake Albert Nile Perch and Tilapia Fishers Association |
| <p>4. The fishermen of the Lake Albert Nile Perch and Tilapia Fishers Association indicated the following key changes noted in the last five years since 2012/13 around the fishing sub-sector community:</p> <ul style="list-style-type: none"> • There is a tremendous decline of fish catch on the lake. In 2013, one boat would catch about 800kg of fish or even more of Nile Perch within a period of 21 days or less on the lake. In 2017, one boat can collect about 50kg of Nile Perch within 21 days or more on the lake. • Poor fishing methods have intensified on the lake. For example, the use of electrified lights to attract and catch Mukene fish, under sized nets, small inched hooks and monofilament nets. | Lake Albert Nile Perch and Tilapia Fishers Association |

| | Name of Person |
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| <ul style="list-style-type: none"> • Increased pressure on the lake mostly by the foreigners who use poor fishing gear. Of the total population that are practicing poor fishing techniques, approximately 99% are foreigners and only 1% are Ugandans. • Prior to 2012, fish breeding places/lagoons were preserved by the indigenous fishing communities without any fishing activities taking place. In 2017, due to the increased number of foreigners, mainly consisting of Congolese and Rwandans in Ugandan fishing villages, fish breeding places/lagoons have been turned into fishing grounds resulting in total destruction of fish populations due to under sized nets being used. • From 2013, a number of fish species have disappeared. For example, Kisinja, Ngasiya, Lanya (lung fish), Ngara, Mpoyi, Wechune (Yellow fish) and Biisa. These fish are very rare, yet they were the most commercially sought after species around the community. • A greater number of fishermen are catching young and premature fish species such as the Nile Perch, Tilapia (BuzogoroButo) and Ngasiya. The reason for this is the increased demand for food and less supply from the lake. • Formerly undervalued and less sought after fish species are now being caught as the main catch. For example, the Silver Fish (Muziri), Mingala, Ragogi and Ukoki (Insects in the water) which are mixed with silver fish to make chicken feed. All of the above mentioned fish served as fish feeds in the lake prior to 2013. • Previously, less time and labour was required as investments and the returns (catch) would be good. However in 2017, fishermen need more time on the lake, more fuel for the boat and the returns (catch) are much less than prior 2012. • Prior to 2011, fishermen would fish in the nearby waters. Currently, fishermen go into the deeper waters, sometimes crossing over into Congolese waters. Fishermen then face the danger of being kidnapped and a ransom between UGX3,000,000 and 10,000,000 is asked from their bosses for the release of the fishermen. Trans-boundary conflicts between Ugandans and Congolese over Lake Albert have also increased. | |

| | Name of Person |
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| <p>5. The fishermen of the Lake Albert Nile Perch and Tilapia Fishers Association indicated the following impacts resulting from the changes noted in the last five years since 2013/13 around the fishing sub-sector community:</p> <ul style="list-style-type: none"> • Decline in income: The community's income has decreased tremendously due to declined fish catches. Community members have now changed from consuming 3 meals to 1 meal per day. Parents have no money to pay school fees, particularly for children who qualify to join secondary school. Hence an increase in high school dropouts and affected girls turning to sex work. • Household facilities: Households can no longer attain improved housing facilities for themselves. • Increased theft: Theft incidences both on water and on land have increased. • Family breakdown: increased cases of domestic violence where most wives have lost love for their poor husbands and others have divorced and re-married to other men with money. • Industry transformation: Various fishing community members have ventured into crop farming, harvesting, selling papyrus reeds, mats, grass and building materials such as poles and tying ropes. • Conflict: Social conflicts have increased in the community as well as between Ugandans and Congolese. For example, Ugandans have been kidnapped together with their fishing materials by Congolese and a ransom between UGX3,000,000 and 10,000,000 is demanded from their bosses for their release. The kidnapping process has resulted in the loss of many fishermen lives. The theft of fishing gear has increased. Fishnets are often stolen with the catch inside the net on the lake. There is increased robbery on the lake and sometimes within settlement yards and along feeder roads. | <p>Lake Albert Nile Perch and Tilapia Fishers Association</p> |
| <p>6. The fishermen of the Lake Albert Nile Perch and Tilapia Fishers Association indicated the following key drivers associated with the declining fishing sub-sector community and provided recommendations:</p> <ul style="list-style-type: none"> • Congolese and Rwandan migrants who have settled on the landing sites have over-fished on the lake and continue to use poor fishing methods. The use of lights as one of the fishing tools on the lake needs to be banned. Foreigners involved in such destructive activities should be deported. • All fishing activities within fish breeding places/lagoons need to be banned in order to protect the lagoons from any kind of intrusion. • The use of all poor fishing gear needs to be banned permanently. As foreigners strongly depend on bad and poor fishing practices on the lake, the banning of such poor fishing practices will discourage foreigners causing them to leave the country. • The Government should provide adequate security and protect the borders in order to prevent the misuse of resources and facilities in Uganda. • The Government should provide appropriate and correct fishing nets on credit to the fishermen, particularly to those who have not benefited from the oil and gas development. • Good fishing practices need to be promoted. Additionally, laws and regulations on bad fishing equipment need to be enforced on a more stringent basis by the Government. | <p>Lake Albert Nile Perch and Tilapia Fishers Association</p> |

| | Name of Person |
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| <p>7. The fishermen of the Lake Albert Nile Perch and Tilapia Fishers Association indicated the following expectations, fears and recommendations regarding the proposed CNOOC project in respect of the community's livelihood:</p> <ul style="list-style-type: none"> • Compensation: The people affected by the project are most likely to face a challenge of inadequate and untimely compensation. This is due to the lack of transparency in any communication made regarding compensation. • Conflict and insecurity: Fear that insecurity is likely to occur in the region. For example, in other countries where oil and gas has been extracted, these countries are often characterised by rebellious activities and wars. • Fishing: Oil and gas activities have also contributed to the low fish catch. For example, the previous offshore seismic survey work involved the use of explosions which is a practice in contradiction to the Fish and Crocodile Act of Uganda. Additionally, too much light around the CNOOC camps causes the fishermen to miscalculate the distance travelled on the water on their way to fishing (usually end up past the borders). Thus, the fishermen are often kidnapped by the Congolese who use it as a business opportunity as previously mentioned. • Noise and vibrations: The noise and vibrations from generators and other equipment have also scared the fish away from the nearby waters. • Land: The community currently has a limited amount of land and part of it is being taken by the CNOOC project. There is going to be very little land left, hence people may not have enough land left to build their houses and toilets. • Transparency:CNOOC is not transparent about their entitled shares. None of this crucial information on the shares has been made public to the directly affected people in Buhuka. | <p>Lake Albert Nile Perch and Tilapia Fishers Association</p> |
| <p>8. The following suggestions were recommended by the fishermen of the Lake Albert Nile Perch and Tilapia Fishers Association to mitigate the indicated fears:</p> <ul style="list-style-type: none"> • CNOOC should provide emergency rescue boats with all the necessary equipment to reduce the common water accidents on the lake. • Clear and timely information should be provided by CNOOC to the community. The provision of accurate and clear information will reduce rumours and confusion amongst project affected people. • The fishing equipment used by the fishermen is made in China. Considering that CNOOC is also a Chinese company, it is suggested that CNOOC assists in the provision of appropriate fishing equipment. CNOOC should also know that all people cannot be employed in the oil and gas sector. • A Buhuka CNOOC football club needs to be formed. Football pitches in the areas that CNOOC operates in also need to be upgraded. For example, a football pitch in Kyakapere village was affected by the pipeline route. It is unfortunate that every year CNOOC organises the 'Amasaza Cup' despite there being no CNOOC Football Club. • To address the issues of the Buhuka Flats, the Government needs to implement a special development plan. Challenges such as illegal migration from the Democratic Republic of Congo and Rwanda into Uganda, land re-distribution, safe piped water sources for the community, schools and health facilities in the Buhuka Flats need to be addressed in the development plan. | <p>Lake Albert Nile Perch and Tilapia Fishers Association</p> |

| | Name of Person |
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| <ul style="list-style-type: none">In terms of employment opportunities from CNOOC, priority should be given to the local community members. | |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Interview date: Thursday, 30 November 2017
Time of interview: 12:10 – 14:06
Venue: Nsonga Trading Centre, Uganda
Organisation / Institution: Nsonga LC 1, Council Executives, Buhuka Parish Chief and Community Members

| | Name of Person |
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| 1. The village chairman expressed thanks to CNOOC for taking trouble to regularly update them of company developments. | Village chairman |
| <p>2. The Nsonga LC 1 Executives, the Buhuka Parish Chief and Community Members indicated the following general and specific social and economic changes that have occurred around the sub-county since 2012/13, particularly those specific to the Buhuka Flats and Parishes such as Butole along the pipeline route:</p> <ul style="list-style-type: none"> • The main road to Kyakapere and other landing sites have been completed. Unfortunately, formerly closed villages/landing sites are now exposed and easily accessible by anyone. • Traffic: Motor vehicles are now able to access the landing site. • An increasing number of people from various parts of the world approach Nsonga and other villages at the lakeshore for business purposes. • Land: An increased amount of land has been fenced off by CNOOC to carry out its activities. Local community member will now have less land to build their homes, toilets and plant crops. • Over population: Additional houses are being built by both newcomers and residents. Hence, the area will become congested as there is already a limited amount of land available. • Mixture of cultures: A variety of languages are now spoken in the Nsonga landing site than before. This is caused by migrants moving into the area. • Water: The community water pipeline has been damaged thus, the community no longer has a clean water source. • New businesses have been opened for example, slot machines for gambling. | Nsonga LC 1 Executives, Buhuka Parish chief and community members |
| <p>3. The Nsonga LC 1, Council Executives, Buhuka Parish Chief and Community Members indicated the following general and specific social and economic impacts associated with changes that have occurred around the sub-county since 2012/13:</p> <ul style="list-style-type: none"> • CNOOC operations have polluted the grazing land and fishing lagoon. Waste water is discharged through a manmade trench. The community's animals ingest the polluted water which causes disease to the animals. There is also a reduction in the amount of fish caught in the lagoon where waste water is disposed of. • Previously, Heritage Oil disposed of their drill waste and stored it at a place called Kiina, using a large portion of land. It has been noted that grass has not grown on that piece of land over a period of eight years since the disposal of waste took place. • A construction company called 'Gang' used to carry out their operations in the valley and would extract sand from the lakeshore which caused ditches. The ditches have | Nsonga LC 1, Council Executives, Buhuka Parish Chief and Community Members |

| | Name of Person |
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| <p>caused the floods to destroy community homesteads.</p> <ul style="list-style-type: none"> • The increased number of fish traders has caused overfishing. Hence, certain fish species in the lake are depleted. • Concern by Nsonga residents that although they gave CNOOC land to undertake their developments, the company has always turned its back on requests from Nsonga for help. • The upgraded road to the landing site has enabled fish consumers to easily transport fish from the landing site to external markets for example, Hoima and Kampala. • The road upgrade has made the delivery of food items and other merchandise to the landing sites easier. Due to this, the amount of food available for landing site residents has increased. • The demand for fish has increased, causing the fish industry to become threatened as fishermen are now using inappropriate fishing gear to try and meet this increased demand. • More people have moved into the landing site. Within the Kyakapere village, sex workers are spreading diseases. | |
| <p>4. In terms of social groups that have experienced a greater impact than others due to the associated changes that have occurred around the sub-county since 2012/13, the Nsonga LC 1, Council executives, Buhuka Parish chief and community members indicated the following:</p> <ul style="list-style-type: none"> • The indigenous residents at Kyakapere who depended on fishing for their livelihood often used appropriate fishing gear. However, the indigenous residents are now having to compete with an increasing number of immigrants who use nonselective fishing methods that are gradually depleting the fish in the lake. • Immigrants arrive into the area with large herds of cattle and the limited amount of land cannot accommodate such large herds. Hence, pastoralists are left with less land for their animals to graze on. • Road construction works have severed a community water supply pipeline. Kyabasambu and Kyakapere villages have no clean water supply. Thus, there are frequent cases of community members suffering from waterborne diseases. | <p>Nsonga LC 1, Council Executives, Buhuka Parish chief and community members</p> |
| <p>5. The Nsonga LC 1 Executives, Buhuka Parish Chief and Community Members indicated the following expectations/fears/anticipations/recommendation regarding oil and gas developments by CNOOC within their resident area:</p> <ul style="list-style-type: none"> • The youth at Kyakapere are expecting jobs from the ongoing oil and gas operations. • The community requests that compensation issues must be well explained to them. • The community at Kyakapere feels that the compensation rates are unreasonable due to the fact that the amount paid to compensate for a house is much less than the amount used to build the same house. CNOOC activities are putting them in poverty. • There is concern that various community members have been relocated repeatedly, thus community members feel a sense of insecurity around making sustainable future plans for their families. • Various community members/project affected people are concerned about the delayed compensation for land, although other property has been paid for. | <p>Nsonga LC 1, Council Executives, Buhuka Parish Chief and Community Members</p> |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Interview date: Monday, 1 December 2017
Time of interview: 11:24-13:10
Venue: Buhuka Primary School, Hoima, Uganda
Organisation / Institution: Herdsmen in the villages of Buhuka Flats

| | Name of Person |
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| <p>1. The herdsmen indicated the following general and specific social and economic changes that have occurred around the Sub-county since 2012/13. Specifically, in the Buhuka Flats and Butole Parish along the proposed pipeline route.</p> <ul style="list-style-type: none"> • The herdsmen pointed out that the oil and gas company’s camps were being moved from Nsunzu to Kyabasambu. • The camps, airstrip and other facilities were continuously expanding in size and number. • Due to companies continuously fencing off more land in the Flats, the herdsmen have witnessed a decrease in size of land available for the animals to graze. • The upgrade of the main road to the Buhuka Flats has resulted in the Flats becoming more accessible. The community has also witnessed an increased amount of motor vehicles in the region. • An increased number of houses are being built by both migrants and residents. • The region previously had regular rainfall. The community has, however, witnessed frequent dry spells and a decreased amount of rainfall in the past few years. • The community has witnessed an increase in the number of migrants that have moved into the region. The migrants have bought land, constructed their homes and settled in Buhuka. • The community’s livestock enclosures and residential houses have been displaced by oil and gas activities without the owners receiving compensation. • Community members have been denied access for their cattle to graze in various areas such as along the airstrip. | Buhuka herdsmen |
| <p>2. The herdsmen indicated the following general and specific social and economic impacts related to the changes that have occurred around the Sub-county since 2012/13:</p> <ul style="list-style-type: none"> • The first oil and gas operators in the valley (Heritage Oil and Gas Company) disposed of drill waste in some areas of Buhuka. Grass has never grown back on the areas where the waste was disposed of. Hence, the areas where the community’s cattle used to graze has been reduced. • The production of milk and meat from the cattle has been reduced due to the lack of nutritious grass for the animals to graze on. • Strange livestock diseases have emerged and killed a large portion of the community’s herds. • It is often difficult for the herdsmen to keep their animals from reaching restricted areas for example the air strip, around the camps and the main road. The herdsmen’s lives are in danger as these areas are guarded by military men who physically assault | Buhuka herdsmen |

| | Name of Person |
|---|-----------------|
| <p>the herdsmen.</p> <ul style="list-style-type: none"> • The amount of land remaining in Buhuka cannot adequately sustain the cattle that community's keep. The Herdsmen are likely to lose most of their livelihood due to land shortages. • The cows and herdsmen are knocked over by speeding vehicles resulting in fatalities. • A portion of the lake water has been contaminated by sewage discharge from the camp owned by CNOOC. • A large number of the herdsmen's cattle are stolen by cattle and goat wrestlers who enter the Buhuka Flats with big lorries and steal the cattle. • Herdsmen such as Francis Rutaisire have been repeatedly resettled by oil and gas developments. The continuous resettlement causes a disruption in the local people's livelihoods as they are not able to plan for sustainable futures. • The local community land management association negotiates on behalf of the herdsmen regarding compensation for land taken by oil and gas operations. However, the local community land management association is not helpful in regard to hastening land compensation issues, yet the herdsmen continue to be displaced. • A local community member, Baziza Francis found himself surrounded by CNOOC project facilities which were continuously developed. He finds it difficult to move his animals in and out of his compound where the cattle enclosure is located. He asked to be compensated and move away but CNOOC told him they are not interested in the space which his house occupies. | |
| <p>3. The herdsmen provided an indication as to whether some social groups have been more impacted than other social groups due to the associated changes that have occurred around the Sub-county since 2012/13:</p> <ul style="list-style-type: none"> • There is concern that various community members have been relocated repeatedly and they feel a sense of insecurity to make sustainable plans for their families. • Some community members/project affected people are concerned about delayed compensation for land, although other property have been paid for. • The Local Association of Communal Land owners will not effectively represent herdsmen to sustain their livelihood in the Buhuka area. • The oil and gas activities will continue degrading the environment, hence worsening climate change. The herdsmen fear that they may face difficulties in maintaining their cattle which is a crucial component of their livelihoods. Thus, they fear that their livelihoods will be compromised when their cattle die from starvation. | Buhuka herdsmen |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Interview date: Friday, 1 December 2017
Time of interview: 14:45-17:00
Venue: Kyabasambu Catholic Church, Buhuka parish, Kyangwali Sub-county.
Organisation / Institution: NsunzuVillage General Community Consultations

| | Name of Person |
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| <p>The Nsunzu Community members indicated the following knowledge that they have regarding the oil and gas project in their area:</p> <p>I had known oil and gas as a project that was meant to help people in the affected villages develop.</p> <p>I had also known that every person in the oil and gas project affected villages would easily participate in the development of the sector and to my surprise, no local person is involved in the project planning and implementation.</p> <p>We are always called for meetings to inform us what is going to be done and not seek our view on how to do it. CNOOC has always said that whatever it is undertaking is on behalf of the Government, so the project is not for the people but for Government.</p> <p>I was a person who led the struggle to open up the road through the escarpment from Ikamiro to the Flats before CNOOC came for its oil and gas exploration and extraction work. This community road cost us a lot of money.</p> <p>When CNOOC developed a plan to properly open up the road, they used the exact route that we had established and I thought CNOOC would compensate us for our earlier efforts to open the road for the community. I even raised this issue with CNOOC in that I was contacted by the then Community Liaison Officer(CLO) and Kahwa Mugat's son who took me to the camp with the documents/detailed expense of whatever we did in the hope of opening a community road. These documents were received by CNOOC while in the camp and up to now no further response has ever been given.</p> | <p>Mr. Ogenwroth William</p> |
| <p>"I feel like crying after seeing CNOOC in our village. We welcomed CNOOC knowing it would be a good development partner yet CNOOC intended to sacrifice us to the Chinese. We were collecting very mature/established stones prior to the road construction phase. When the Chinese came and found us with the good stones that we had collected, they convinced us to load the stones onto their trucks. The stones were then taken to the crushing point with a promise that we would be paid later. Ever since our stones were taken, there has been no further response. We tried to follow up regarding our payment but all was in vain. We reached the Residence District Commissioner [RDC] who also investigated the matter and established that we had collected stones equivalent to 10 full lorries and each was worth UGX600,000. At this stage, we have still not received our money. So we do not know what CNOOC thinks about this complaint!"</p> | <p>Mr. MuherezaMpagiNdahura</p> |
| <p>I appreciate the oil and gas discovery and development efforts being undertaken in</p> | <p>Mr. EriyaKamugisa</p> |

| | Name of Person |
|---|---------------------------|
| <p>this area.</p> <p>This place was full of wild animals, and nobody used to slope (climb down) from Ikamiro [The point where the tarmac road start towards the slope] to the Flats. Bicycles would remain at Ikamiro. I was one of the people who used to carry fish on my head through the escarpment so I know the reality of how tough it was.</p> <p>I very much appreciated the road opening. However, the road looks to have been opened only to benefit CNOOC and not the public. The tarmac stops at the gates of the CNOOC Camps. The community feeder roads have remained unimproved though the company has continued with various consultation sessions and almost the same issues emerge.</p> <p>Why does CNOOC consult us and then fail to respond to our requests?</p> | |
| <p>I am really appreciative to CNOOC for having provided us with the opportunity to share information on the oil and gas industry.</p> <p>As a community, we have received no benefit despite the fact that we have been very cooperative with CNOOC. Our requests are never adhered to. We just hear that oil and gas was discovered in our area and to signify this, camps and many vehicles have been seen in Buhuka.</p> <p>We have been deceived by CNOOC on several issues, especially during engagements and consultations where our signatures and photos are captured.</p> | Mr. Alex Unencan |
| <p>Oil and gas development came to grab our land. Before these activities, we had enough land and it was clearly managed by ourselves. Due to CNOOC's increasing activities, they continuously request different pieces of land from the community.</p> <p>Oil and gas development activities have negatively affected our culture, for example cultural sites have been destroyed [Bunyoro Kitara cultural site's artefacts like pots were taken].</p> | Mr. Wancan Hassan |
| <p>We have also attained some of the benefits from oil and gas. The industry has enabled us to attain a school, road and air strip. However, before construction of the road, we were practicing agriculture within the base of the escarpment. We were eventually told to stop during construction. We were promised to be taken back and that we would be able to continue our agricultural activities after the road construction. We were assured that we would receive gardens that had already been ploughed and protected with a chain link fence. Up till now, this has not been done.</p> | Mr. Ufworu Piracel |
| <p>We really benefited from Heritage Oil (the company that initiated the oil development before CNOOC took over) as it provided us with the school and water.</p> <p>Since CNOOC started operations in our area, we have only received lies.</p> <p>During the road construction, the community water tank was completely destroyed by a big stone that rolled from the construction site and hit it. We have tried since 2015 to ensure that CNOOC reconstruct/repair the destroyed tank and also treat the water, but all our attempts have been unsuccessful. Due to negligence by CNOOC, we now suffer from typhoid and other water related diseases. We are consuming very dirty water from the spoilt tank.</p> | Mr. Urombi Ibrahim |

| | Name of Person |
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| <p>My concern is that CNOOC used to inform community members that it would compensate the owner for the property to be destroyed and even pay for land during permanent acquisition.</p> <p>When the time came to compensate individual owners of the land, CNOOC turned against them and preferred to compensate the Communal Land Association. This is something we do not understand and we have no interest in it. It came to our understanding that CNOOC wants to betray us and maybe it does not want us to get what we are entitled to.</p> <p>Even when it comes to someone who is eligible for resettlement, he/she is not given a chance to choose where to construct his/her house.</p> <p>Finally, I see CNOOC as a collaborator of human rights violations especially if it cannot accord individual rights to land ownership.</p> | <p>Mr. Ukum John</p> |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Interview date: Tuesday, 2 December 2017
Time of interview: 11:00 - 12:00
Venue: BCLA Headquarters, Nsonga Office, Hoima, Uganda
Organisation / Institution: Buhuka Communal Land Association (BCLA)

| | Name of Person |
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| <p>1. The Buhuka Communal Land Association (BCLA) indicated the circumstances and motive for the formation of the BCLA:</p> <ul style="list-style-type: none"> • The main motive of forming the Buhuka Communal Land Association was the increasing individualisation of land by a few people (individuals 'buying' or taking land and registering it in their own name) while several others were being silently displaced. Various people were going to Hoima to apply for land titles yet the land was for the whole community. To stop this, the community opted to form a community structure to represent the land interests of all the community members. Individualisation of land had started to displace others and deny community members access to grazing land and wood fuel areas due to the “fencing off movement”, where people would fence off pieces of land as private property excluding others from having access to it.). • The Buhuka Parish was originally a game reserve with a few isolated illegal landing sites. The former village chairpersons and other local leaders applied to Uganda Wildlife Authority (UWA) for recognition and degazettement. The request was then passed to Parliament and the area was eventually degazetted in 2001. • Around the same time after degazettement, a few community members and few immigrants applied for individual plots at the Sub-county and the District through the village leaders. The “enclosure or fencing off movement” was then started in the area and other community members were denied access and movement through portions of land/areas. Previously, this was not the case. Hence, social conflicts emerged as the local people destroyed the fences of the fenced off land. For example, the fence around the land of Mr. Saad Bulenge was destroyed by the local people around 2003. About 10 other people had applied for individual plots of land and fenced off their lands. • This resulted into a court battle between the 11 individual plot owners and the community members represented by a selected committee. When oil exploration started by Heritage Oil, there was still a pending court case between the individual land/plot applicants/owners and the general community. Heritage Oil agreed to work but maintained the status quo pending court judgment after consulting all the community members. Tullow Oil also found the conflict still in court and agreed to work while respecting the status quo. Even CNOOC also found the conflict still in court and agreed to also respect the status quo pending court judgment. Most of the exploration activities were done while the conflict was still in court and all related compensations at that time were held back/pending until when the court judgment was made. • Around 2006, after a lengthy court process, community members and defendants agreed to settle out of court. All parties agreed to form a Community Land Association to deal with all the land related issues in Buhuka on behalf of the community | <p>Buhuka Communal Land Association</p> |

| | Name of Person |
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| <p>members. Thus, individual owners agreed to surrender back their applications and interests to the Buhuka Community Land Association.</p> <ul style="list-style-type: none"> • An executive team consisting of 21 members was created with the purpose of these 21 members to act as leaders of the Community Land Association. Furthermore, as part of the out of court settlement, the association was registered at the District as a Civil Society Organisation/Community Based Organisation with directives from the court. Land that had been previously registered had to be registered again under the Buhuka Community Land Association. • The Buhuka Community Land Association took the CNOOC contractors to court due to delayed compensations. The court once again ruled for an out of court settlement and directed the Buhuka Community Land Association form a committee of trustees who would then receive compensation on behalf of the association. A board of five trustees was formed (for two years only) and registered with the high court to handle the negotiations with CNOOC contractors regarding pending compensation issues. The idea for the formation of the trustees was presented to the Ministry of Land Housing and Urban Development (MLHUD). • The MLHUD contested the issue of trustees and the whole set up of the Buhuka Community Land Association. Hence, the MLHUD began to technically assist, advise and support community members in terms of the formation of a communal land association according to the Land Act, 1998 and the land regulations. • In 2014, due to the stalemate of compensation issues and the delay in completing the formation of a communal land association, the local people in Buhuka boycotted all CNOOC engagements. Thus, the MLHUD began to speed up the process of formalising the formation of Buhuka Communal Land Association. • In July 2016, the MLHUD together with the Hoima District Local Government and local leaders called for a general meeting including CNOOC and all community members. It was at this meeting that members from the five villages agreed to form the Buhuka Communal Land Association comprising members from Nsonga, Kyabasambu, Kyakapere, Nsunzu and Kiina. | |
| <p>2. The Buhuka Communal Land Association (BCLA) indicated its institutional set up as follows:</p> <ul style="list-style-type: none"> • There is an executive committee of nine members (according to the Land Law) represented from the five villages that make up the association. Out of the nine members, three are supposed to be women. • Each village elects and sends nine members/representatives which are referred to as the ‘village committee’. It is then the village committees that elect the nine executive members for the BCLA. • The executive members hold office for three years and are eligible to stand for only one more term. • An annual general meeting is held, this meeting is comprised of all BCLA members. The BCLA is the only institution that has power to admit any new member into the association following the procedure indicated in the constitution and land regulations. • Within the BCLA executive, there are sub-committees set up to manage special interest areas of the association, these sub-committees then report back to the executive members on a regular basis. Within the BCLA, there is one pastoral committee, two land committee’s and three fishing committees. | Buhuka Communal Land Association |
| <p>3. The BCLA collaborates with the local leadership and other stakeholders in the following ways:</p> <ul style="list-style-type: none"> • The local leaders (LCI’s) in the area and Sub-county leaders (LC III’s) are invited to the BCLA executive and general meetings as observers. • The BCLA has been collaborating with the Kyangwali Sub-county Local Government | Buhuka Communal Land Association |

| | Name of Person |
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| <p>(LCIII), Hoima District Local Government and MLHUD in preparation for the launch of the Buhuka Physical Development Plan (BPDP) that was launched in 2017. The BPDP has all the inputs of the BCLA and has catered for the Buhuka community development interests by zoning physical development into special areas such as grazing zones, fishing zones and leisure zones.</p> <ul style="list-style-type: none"> It is mandatory that the BCLA works towards the community development of Buhuka as well as the development of the local people. The BCLA regularly contributes to the Kyangwali Sub-county development plan. For example, when the BCLA was compensated for gravel/murrum (UGX 231 million), the funds were used to construct Buhuka HC III. | |
| <p>4. The BCLA indicated its spatial mandate as follows:</p> <ul style="list-style-type: none"> The BCLA mandate covers 921 acres. All survey and freehold titles were being processed in 2017. Further, the BCLA mandate does not include Kyenjonjo, Kacunde and Kyanyanja. However, the BCLA constitution states that individual members can apply for consideration of individual interests on land. Individual plots of land can be certified by the BCLA executive once it has been approved by the village committees. | Buhuka Communal Land Association |
| <p>5. The BCLA indicated that the spatial mandate relates to compensation for the project affected persons (PAPs) in the following ways:</p> <ul style="list-style-type: none"> The BCLA does not disenfranchise the individual rights of PAPs over property. PAPs would be compensated for developments on the land. The compensation for land will take into consideration the landholding rights for the BCLA and the executive will call for a general meeting to decide on how the compensation for land should be spent. In 2017, the BCLA controlled 21 acres of land and CNOOC was interested in using approximately 170 acres. The BCLA will allocate land to all those whose dwellings have been affected so that they may develop other dwellings. In cases where grazing grounds have been affected, the BCLA will zone out other zones to offset the limitation (redistribution) or alternatively purchase additional land elsewhere for grazing, based on the decision made from the general meeting. The above mentioned method is the only way to guarantee that communal rights are not lost or subsumed. | Buhuka Communal Land Association |
| <p>6. At the time of registration, the total membership of the BCLA was as follows:</p> <ul style="list-style-type: none"> Nsonga= 927 Nsunzu= 481 Kiina= 582 Kyakapere= 587 Kyabasambu=268 Total= 2 845 | Buhuka Communal Land Association |
| <p>7. The BCLA indicated that some of the challenges it experiences in relation to resettlement issues include:</p> <ul style="list-style-type: none"> For a long period of time, the Buhuka community lived on a game reserve illegally. Buhuka community members were still uncertain of tenure insecurity related to that time. Community members are uncertain about their futures. Some of the Buhuka community members do not know how BCLA is governed and its representative mandate. The community has gone through troubled and lengthy periods of time to form the BCLA, however the BCLA been some source of confusion. The objectives of the BCLA requires funding and commitment. However, funding remains a challenge. The BCLA needs to continue mass sensitization about the BCLA and get all community members to understand the purpose and objective of the BCLA. The BCLA needs funds to implement their community development plans as stated in the BCLA constitution and work plan. There are high levels of migration. Some of the community members migrated and disappeared for some time. When some returned, the BCLA had been formed and had | Buhuka Communal Land Association |

| | Name of Person |
|--|---|
| <p>to convince other members about the returnees. This complicates the admission and registration process. Usually, the village committees verify such members before they are presented to the executive and general assembly for consideration and admission.</p> | |
| <p>8. The BCLA suggested the following recommendations:</p> <ul style="list-style-type: none"> • The BCLA needs to be supported to carry out mass sensitization on collaboration with CNOOC and implement its work plans. • Any other developments in the area should recognize and take into consideration the interests of BCLA. There are synergies out of this collaboration and recognition which are critical for the development of ownership and sustainability. The BCLA already has a good record. For example, the BCLA constructed the Buhuka health Centre III which is a landmark project for the Buhuka community that was physically and socially isolated for a long period of time. | <p>Buhuka Communal Land Association</p> |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Interview date: Saturday, 2 December 2017
Time of interview: 11:20-13:06
Venue: Kiina Tree Shed Meeting Point
Organisation / Institution: Kiina landing site community

| | Name of Person |
|---|-----------------------|
| <ul style="list-style-type: none"> The meeting was opened with a prayer led by the area church leader, followed by remarks from the Village Chairman (VC1) who expressed thanks to CNOOC for taking trouble to regularly update them of company developments. The VC1 urged members to point out any issues affecting them in relation to CNOOC operations. The CNOOC representative introduced the team from both Golder Associates and Eco & Partner and pointed out that the purpose of the meeting was to consult with the community as part of the process to update the Social Impact Assessment. The meeting was aimed specifically at identifying any gaps from the previous study, as well as to identify changes that may have occurred between 2013 and now. The consultant initiated the meeting by engaging in group work with men and women separately, whereafter discussions were held. | |
| <p>1. The Kiina Community identified and wrote down/mentioned the following important features that have had an effect on their social/economic welfare around the Kiina landing site village:</p> <p><u>Women</u></p> <ul style="list-style-type: none"> Trees from where we get firewood; River where we get drinking water; Vegetation on the escarpment which is a source of poles and grass for house construction (in this community, women are the ones responsible for looking for house construction materials especially grass for thatching); Boats that we use to go to the health centre and to the market; and The market place, because it is a centre where one can regularly buy and sell all the food and other products that we need that is close to the different villages and convenient. Also a place to meet people and interact. <p><u>Men</u></p> <ul style="list-style-type: none"> Lagoon where fish breed from which we eat and sell; The river which provides us with drinking water; The escarpment which is the only source of wood for building and fishing materials; The land where we graze animals and grow crops; Livestock (cows, goats and sheep). The livestock is our wealth; and The road that takes you in and out of this village. | |
| <p>2. The Kiina Community indicated the following activities they participate in to sustain their livelihoods/their source of income/what they do to support themselves and their families:</p> | |

| | Name of Person |
|---|----------------|
| <p><u>Women</u></p> <ul style="list-style-type: none"> • Collection of firewood from the hills and selling it to communities surrounding the Kiina Village Landing Site; • Selling of charcoal; • Collecting and selling building materials particularly reeds, grass and poles; • Offering labour to help build mud houses; • Hair dressing (for a few who have the skill); • Providing labour in the construction and maintenance of rental houses (for other women who are sufficiently wealthy to invest in building houses for rent); • Cooking and selling of food; • Vending clean drinking water (Lake water is not clean enough for community to drink the water, hence vendor collects water from a river north of the landing site 2km away and sells it raw at the lakeshore households); • Buying, processing and selling fish; • Tending bars (Bar maids) within Kiina; • Manual laundry services; • Mending clothes with sewing machine; and • Working in restaurants in Kiina. <p><u>Men</u></p> <ul style="list-style-type: none"> • Fishing; • Providing paid transport services as BodaBoda's; • Livestock keeping for the cattle owners; • The youth offer their services of carrying heavy luggage from one landing site to another; • Hair dressing (barbers); • Gambling on slot machines and cards; • Growing vegetables and fruits (done on a very small scale because most of the land is used for cattle grazing on a free-range basis); • Brick making; and • Charcoal burning. | |
| <p>3. The Kiina Community indicated the following challenges experienced while working to sustain their livelihoods:</p> <p><u>Men and women</u></p> <ul style="list-style-type: none"> • The road connecting Kiina to the other landing sites is impassable during rainy seasons; • Unreliable tenants for rental housing business (tenants run away without paying); • Unruly behaviour in bar businesses. The drunkards fight and break bottles. They even commit murder in bars; • Cattle theft in large quantities; • Strange animal and crop diseases (they're strange and unknown) • High taxes on fishing by Government special forces; • Uncontrolled bush burning by people which reduces grass for livestock and construction; • Prolonged dry spells which limits growth of pasture; • Lack of a nearby health centre to get treatment especially for those of us living with HIV/AIDS (we miss the collection of our drugs because of lack of transport to go to Kyangwali Health Centre, located 25km away); • Pirates with heavy machine guns from DRC make the lake insecure for fishermen; • High levels of crime in the Kiina Village landing site (no police and or army detachment) makes it difficult to do business; | |

| | Name of Person |
|--|----------------|
| <ul style="list-style-type: none"> • Absence of clean drinking water; • High prevalence of diseases especially malaria, cholera, intestinal worms, bilhazia and HIV/AIDS. These diseases are costly to treat and in most cases they cause fatalities; • Lack of a Government school in the area makes it difficult to educate our children. Hence, most of them turn into juvenile delinquents at an early stage; • Absence of Government led community development programmes in Kiina to help sensitize and support community and individual effort. Such programmes could include adult literacy training, operation wealth creation or women’s saving and credit schemes; and • Massive hyacinth infestations on the lake blocks access to and from other landing sites. | |
| <p>4. The Kiina community indicated the following ideas/proposals they recommend to address the challenges mentioned by both men and women:</p> <ul style="list-style-type: none"> • Replace our clean water supply/source that was destroyed by the road construction contractor so that we can have clean drinking water. We can then save on money spent to pay for water and treatment. • Government should extend medical/health care services to Kiina especially care for HIV/AIDS patients. • CNOOC should support us to improve access to the road from the Kiina landing site so that they remain connected with the rest of the villages. • The Government should prioritise clean drinking water, health and education programs. According to the Kiina chairman LC1, these three are key elements to drive the community towards development. | |
| <p>5. The Kiina community indicated the following impacts the oil and gas activities had on their lives/social economic/welfare:</p> <ul style="list-style-type: none"> • CNOOC has supported us by bringing the village together to discuss issues affecting our lives, particularly land which had been titled /registered by land grabbers. CNOOC helped us form an association (BUCOLA) which is managing communal land disputes in our Buhuka Parish. • CNOOC engaged and provided correct information regarding land ownership in relation to oil and gas activities when many politicians were conniving with land grabbers to have communities in Buhuka evicted from their land. • CNOOC destroyed our water supply pipes and we no longer get clean water. Our cry to have the pipes fixed have not been answered for a long time. • CNOOC holds meetings on a regular basis in Kiina, we make requests for various things like improvement of our road and a school. However, they promise to respond but they do not do anything. | |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Interview date: Tuesday, 2 December 2017
Time of interview: 15:00-17:00
Venue: Hanga IIB Trading Centre, Buhuka Parish, Kyangwali Sub-County
Organisation / Institution: Village General Community Consultations

| | Name of Person |
|---|--|
| <p>1. The Hanga IIB village community members indicated the following general and specific social and economic changes that have occurred around the village since 2012/13, particularly those specific to the pipeline and other infrastructure:</p> <ul style="list-style-type: none"> • In 2013, the community received sufficient and reliable amounts of rainfall, however in 2017 the community faced prolonged drought which affected their crop farming activities. • The community has witnessed a change in weather and rain patterns, i.e. increased temperatures and unreliable rainfall. Prior to 2013, temperatures and rainfall remained normal and stable. • Increased diseases and mortality rates among community members. Public health facilities are not within close proximity to the community. Private clinics with poor services are available to those who can afford the high rates. • The community’s borehole was damaged and the community no longer has access to safe and clean drinking water. The local people have to compete with animals for water from the natural water stream in the village. • Crop yields have declined. In 2013, the community used to harvest between three and four sacks of beans from one garden. However, in 2017, the community is harvesting less than two basins of beans. • Increased pests and diseases in the crops. Prior to 2013, the community did not have frequent crop diseases, however in 2017 the crops are infested with new diseases such as the armyworm which affected almost everyone who had planted maize in early 2017. | <p>Hanga IIB village general community</p> |

| | Name of Person |
|---|-------------------------------------|
| <p>2. The Hanga IIB village general community indicated the following general and specific impacts that have resulted from the changes that have occurred around the village since 2012/13:</p> <ul style="list-style-type: none"> • Food prices have increased due to the low food production yields in tandem with increasing demand for food (as a result of the increasing number of people as well as decreasing production). Thus, the cost of living is very high. • The low crop yields has decreased people's income levels, hence it is difficult for community members to obtain household necessities. • It is very expensive to purchase safe drinking water from suppliers. Considering that most households are low income earners, they have decided to continue consuming water from the stream which is very unhealthy, thus exposing the community to water borne diseases, particularly typhoid fever. • The mortality rates in the community are high due to the community not having access to a health facility within close proximity. • Increased theft has resulted in the loss of crops, poultry, cows and goats among others. Thus, poverty has intensified among hardworking community members. | Hanga IIB village general community |
| <p>3. The Hanga IIB village general community indicated the following views about CNOOC:</p> <ul style="list-style-type: none"> • The community is aware of CNOOC as a Chinese company that explores and drills for oil and gas in the Buhuka Flats. • The community knows CNOOC as a company that engages with community members at the Hanga IIB tree/trading centre. • The community knows CNOOC as the one company that is constructing an oil pipeline through 25 people's land. | Hanga IIB village general community |
| <p>4. The Hanga IIB village general community indicated their expectations/fears/anticipations/recommendations regarding the oil and gas developments by CNOOC in the village:</p> <ul style="list-style-type: none"> • The community is concerned that dense bush is likely to grow along the pipeline route as they will not be allowed to go near the pipeline after construction. During the dry season, the bush may catch fire and burn the communities' homes and gardens. • Community members fear that their land will be permanently acquired by CNOOC for the pipeline. Furthermore, the money that the community members will be compensated with will not be enough to enable them to purchase land elsewhere. The reason for this is that land sellers will increase the value of land significantly knowing that project affected people were compensated. • The community have fears that some of the community members will be resettled. • Community members suspect that CNOOC may delay the compensation process for the project affected people. If this occurs, people's programs will be interrupted because their plans are dependent on the compensation. • A community member enquired about his/her small piece of land of which the surveyed pipeline route divided it into two parts and how he/she will access either of the parts for crop farming activities particularly during and after construction. • Community members requested that the signing of any land transaction agreement be done once the compensation payments have been done. The community enquired as | Hanga IIB village general community |

| | Name of Person |
|--|-------------------------------------|
| <p>to why they are asked to sign before any payments have been made and where they stand regarding this issue.</p> <ul style="list-style-type: none"> • The community was asked to stop growing long lasting crops, for example bananas and cassava among others. Community members enquired as to whether the discontinuation of such crops will cause hunger/food insecurity in their homes considering that they entirely depend on such crops for food. • The community is not willing to sell their pieces of land and they do not want any party to come and purchase their land. Therefore, the community members enquired as to why CNOOC determines the price that the land should be sold at. | |
| <p>5. The Hanga IIB village general community indicated the following recommendations to overcome the above mentioned fears:</p> <ul style="list-style-type: none"> • CNOOC should stop constructing the pipeline and opt to transport the crude oil on existing established roads with trucks. This will prevent land being taken for the pipeline. • CNOOC should ensure that compensation takes place early enough to ensure that the local people can utilise the compensation money to fulfil their intentions early enough. • CNOOC should provide the community with support services alongside the pipeline development, for example safe drinking water for domestic consumption. • The community is requesting that CNOOC upgrades the road network to benefit both the company and community. Assuming that the community did not have a road to Hanga IIB trading centre, the community enquired as to how CNOOC would have travelled. • CNOOC should conduct a comprehensive study on the causes of the weather and general climate change in the region. CNOOC should provide the community with the findings from this study and create interventions to reduce climate change. For example, a program to plant trees in the region. • CNOOC should develop food security programs, for example providing the community with seeds for food crops. • The community requested that CNOOC provides them with timely information regarding compensation and any other matter which concerns the community. | Hanga IIB village general community |
| <p>6. The Hanga IIB village general community indicated the following different crops which are harvested in the village:</p> <ul style="list-style-type: none"> • The community commonly grows maize, ground nuts, bananas, cotton, cabbage, onion, tobacco, beans, watermelon, sugar cane, pineapple, cocoa, cassava, tomatoes, Irish potatoes, sweet potatoes and avocado. • However, commercial tree species such as eucalyptus and pine are also grown in the community. • Male response: The men in the community mainly grow tobacco, cotton and coffee for cash. • Female response: The women in the community mainly grow beans, cassava and maize to benefit their families in the form of both food and cash, particularly when their produce is sold in the market or at home. | Hanga IIB village general community |

| | Name of Person |
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| <p>7. The Hanga IIB village general community indicated the following challenges that farmers in the community experience:</p> <ul style="list-style-type: none"> • Beans require a lot of maintenance which makes it very expensive for the farmers to grow it in bulk. • The maize crops have been invaded by recently discovered armyworm which also requires a lot of investment to obtain insecticide. • Prolonged drought and weather/season uncertainty has resulted in the drying up of premature crops in gardens. Sometimes the weather has led to declined crop yields. • Tobacco requires a high input of capital for bush clearing, ploughing, weeding and several treatments to ward off pests and diseases. • Farmers in the community have received low prices for their agricultural products hence their income has been reduced significantly. | <p>Hanga IIB village general community</p> |
| <p>8. The Hanga IIB village general community indicated the following recommendations to overcome the above mentioned challenges:</p> <ul style="list-style-type: none"> • For additional farm inputs, farmers usually have agricultural loans from banks as well as agricultural companies who purchase the farmers produce. • Farmers have no control over the price of their produce, for example tobacco/cigarettes where the prices are determined by the buyers. | <p>Hanga IIB village general community</p> |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Interview date: Monday, 4 December 2017
Time of interview: 11:00 – 13:30
Venue: Nsunzu community meeting shed, Uganda
Organisation / Institution: Nsunzu LCI Community Elders

| | Name of Person |
|---|---------------------------------|
| The meeting for the Elders in Nsunzu Community was conducted at Nsunzu, with men and women sitting together and answering some structured questions. | Nsunzu LC1 and Community Elders |
| <p>1. The Nsunzu Community elders indicated the following general and specific social and economic changes that have occurred in the Buhuka Flats since 2012/13:</p> <ul style="list-style-type: none"> • More people have moved into the villages. Originally residents were mainly of the Bakobyia and Alur indigenous groups. The Bakobyia and Alur would come from the Democratic Republic of Congo to (DRC) to offer labour for fishing and to do some trade. Now all tribes live in the Flats. • The Buhuka community used to have vast land for their cattle and goats, however land has become scarce and individuals are claiming ownership of the land. The Buhuka community elders hear that titles have been registered for the land by unknown people. The elders consider this unfair because land originally belonged to their ancestors and had no boundaries, however individuals want to own it now. • For the first time, motor vehicles have reached the Buhuka Flats. Previously, people would often die without knowing or seeing a car unless one climbed uphill to the market at the top of the escarpment where there were vehicles. • More houses have been built along the lakeshores. Fewer people live in the compound (the village area set back from the Lake, as per the requirements of NEMA). • New developments have occurred, for example a decent road and a permanent school have been built. • A few local people have been employed in the CNOOC camp. • There is no longer enough land for community members to build their homes and toilets, for their cattle to graze or for agricultural production. • There is less rainfall, hence the region is drier and the seasons have changed. It rains either later than expected or it does not rain at all. The temperatures are also overly high. • The appearance of strange diseases to cattle and goats. • The dress code for young girls is inappropriate. Instead of dresses, girls (including married women) now wear tight pants. • The chairman used to know all people living and working in the village however, there are too many people now and he does not know them at all. | Nsunzu LC1 and Community Elders |

| | Name of Person |
|--|---------------------------------|
| <ul style="list-style-type: none"> Some people have been resettled (moved from one piece of land to another to allow CNOOC developments to take place). There has been a supply of tap water, which was never in the village before (however, it is currently not functioning). | |
| <p>2. The Nsunzu Community Elders stated that the following impacts had resulted from the changes that have occurred in the Buhuka area since 2012/13:</p> <ul style="list-style-type: none"> The amount of land for grazing and settlement has decreased. There is competition for land and land related conflicts have increased. Individuals who have negative characteristics and lifestyles have moved into the Buhuka area. Hence, unknown habits have emerged for example, commercial sex has been introduced among children in the Buhuka community. Cattle theft is increasing. This is attributed to the improved road that allows vehicle access to the Flats. Some of the youth have been employed in the CNOOC camps and are now able to sustain their livelihoods. More food reaches the valley and it is easier to get to the escarpment to do business than before. More children go to school. Road accidents have claimed some lives, particularly when heavy trucks are on the road. Male workers from the CNOOC camps impregnate the women in the community and then flee without taking responsibility for their children. Grandparents often have to carry the burden of looking after grandchildren. Elders also argue that CNOOC camp workers and the migrants in the Buhuka Flats are responsible for increased spread of HIV/AIDS in the area. There is less grass for animals to graze on. The reason for this is the prolonged dry season. The milk production from the community cattle has decreased. The contractor that built the road damaged the community's water pipe hence, the community no longer has access to clean drinking water. There are restricted areas that have CNOOC facilities and community members are prohibited from accessing such areas. For example if community members are found grazing their livestock in the air strip, soldiers physically assault them. There is concern from the elders that the community cultural shrine was displaced by CNOOC and their traditional priest, Bitanihirwe William, was relocated from the Flats. The elders argue that this has contributed to the prolonged dry spells and low fish catch because nobody intercedes with the forefathers on behalf of the community. | Nsunzu LC1 and Community Elders |
| <p>3. The Nsunzu Community Elders indicated their views regarding the activities of the Buhuka Community Land Association (BUCOLA) as well as how the Association manages community land affairs and if the Association meets their expectations:</p> <ul style="list-style-type: none"> BUCOLA was formed with support from CNOOC. The Association has assisted the Buhuka community in managing land grabbers by going to court where titles of land grabbers were cancelled. According to the elders, this was helpful because the land grabbers did not belong to the Buhuka community, hence they were unknown to the community. The Nsunzu community elders want BUCOLA to expedite the process for land compensation, because compensation for other items of the people resettled was made, but land has not been paid for as yet. However, some elders are dissatisfied with the way BUCOLA is tackling issues associated with managing communal land. For example, BUCOLA wants to also manage resources by stopping people from mining sand (some of the elders have | Nsunzu LC1 and Community Elders |

| | Name of Person |
|--|---------------------------------|
| been mining and selling sand as a source of livelihood). | |
| <p>4. The Nsunzu Community Elders indicated the following expectations/ fears/ anticipations/ recommendations regarding the oil and gas developments (pipeline) by CNOOC. The elders also provided recommendations as to how their fears can be mitigated:</p> <ul style="list-style-type: none"> • The dry spells are likely to only get worse, thus their cattle will die from the lack of grass. • Some residents have been separated from their clansmen particularly those resettled during road construction. Others have been resettled repeatedly, this has not been good for them to be moved more than once in a period of five years as it makes it difficult for them to settle and plan their future. They are uncertain as to whether they will be resettled again. • The Buhuka community always has grievances with CNOOC but do not know where to report these grievances to, as the camp is guarded by soldiers. Hence, the community does not have access to speak to anyone from CNOOC regarding their grievances. • CNOOC is acquiring too much land, hence the community fears that their children and cattle will not have any land left. • Workers in the camp are always taking away the daughters of the community through marriage and spreading HIV/AIDS (submission by an elder). The number of orphans is increasing and the community does not have enough money to buy them food and clothes. • CNOOC should fix the community's water source destroyed by the road contractor, so that the Buhuka community can have access to clean drinking water again. | Nsunzu LC1 and Community Elders |

NOTIFICATION AND SOCIAL IMPACT ASSESSMENT UPDATE PROCESS

CONTINUATION OF THE CNOOC: KINGFISHER FIELD DEVELOPMENT PROJECT ESIA

PROCESS COMMENTS REGISTER

NOVEMBER 2017

Interview date: Monday, 4 December 2017
Time of interview: 11:37-15:46
Venue: Buhuka Primary School, Nsonga Village, Buhuka Parish, Kyangwali Sub-county
Organisation / Institution: VGSLAs/SACCOs stakeholders

| | Name of Person |
|--|-----------------------|
| <p>1. The VGSLAs/SACCOs stakeholders indicated the following ways in which the VGSLA/SACCO have evolved in the region (their origin and how they have changed over time):</p> <ul style="list-style-type: none"> • The idea to start our group was generated by me. I informed and invited my fellow women in the village to attend the meeting with me. This was done together with the support of Local Council 1 Chairman. • In this meeting, I shared the idea of us starting to save a portion of our income and extend soft and affordable credit services amongst ourselves since we were hardworking and there were no external financial services available in Buhuka. • All participants agreed to the great idea. We immediately made decisions on meeting and a saving date, membership fee (UGX 10 000) and Savings (UGX 2 000) per week. • From then, we are now 10 members who are fully registered and we have saved UGX 500 000. | Mrs Doreen Bahikya |
| <ul style="list-style-type: none"> • I am a member of the Nsonga Women Health and Sanitation Group that was formed in 2013. The group started as a result of an idea by one of the women in Nsonga Village to bring women together who could voluntarily participate in cleaning and ensuring good hygiene of the village. • While we continued with our voluntary work of keeping Nsonga town clean, we approached the Sub-county Administrative Assistant (SAS) to help us formalise and legalise our group's operation. • With support from SAS, we managed to have our group registered at the Sub-county and at the district as a fully-fledged Community Based Organisation with a mandate to undertake sanitation issues and other women empowerment projects. • As we progressed with our work, we decided to clean around the CNOOC camp. We collected plastic bottles, polythene bags, cow dung and even slashed off tall grass (cut the high grass) which I believe was a very good act in the eyes of CNOOC Management. • In 2014, CNOOC eventually donated sanitation support equipment to us. These included three wheelbarrows, ten hand hosepipes, 18 pairs of gumboots and ten pangas. • Prior to the commissioning of Kingfisher road by Rt. Hon. Ruhakana Rugunda, our group was hired by CNOOC to clean around the camp at the cost of UGX 2 800 000 and we received our payment instantly. • With the support from the Sub-county Administrative Assistant/Sub County Chief, we were able to apply and received a grant worth UGX 5 000 000 from the Community Driven Development [CDD] program to purchase an engine boat. • On top of the UGX 5 000 000 we added UGX 2 800 000 from the group's treasury and on 18 December 2016, we bought a brand new engine boat that we rent out to our clients at an average of UGX 500 000 per month. | Mrs Kahwa Sarah |

| | Name of Person |
|--|---------------------------------|
| <ul style="list-style-type: none"> We have managed to inspire others and we have initiated one new female group in Nsonga which is still under our mentorship. | |
| <ul style="list-style-type: none"> I am a former chairperson of Tukolehamu Savings and Credit Group which was started as a result of my own initiative in 2007, particularly after receiving advice from one of the government officials that we were supposed to form a group if we wished to benefit from the then National Agricultural and Advisory Services (NAADS). In our first meeting we agreed on a number of issues and these included membership fees (UGX2 000), savings per month (UGX10 000) and various rules and regulations that we used to register the group at the Sub-county. As we continued with saving a portion of our income per month, we received a cow in 2007 from the Sub-county under the NAADS program. The cow was not healthy and eventually died in 2008. We continued with our saving program and later bought eight goats which produced and increased to 24 goats after a period of two years. In 2010, during one of the meetings, members agreed to share the 24 goats amongst themselves. Hence, each member managed to receive two goats. After this sharing exercise, members also agreed for each individual to start operating independently since everyone had received start-up capital that they did not have before. Thus, this marked the end of our group. | Mr John Businge |
| <ul style="list-style-type: none"> I am a member of the Tweimukye Women's Group that was formed in early 2017 to foster savings and provide access to affordable members-based credit services. To join this group, you are required to subscribe with UGX 20 000 and continue saving UGX 5 000 every Friday. Above all other things, we operate under defined and documented set of rules and regulations that govern the members. We have managed to register with the Community Development Office at the Kyangwali Sub-county. We are now ten fully registered members. We commenced with our savings and credit scheme in July 2017 and we are doing very well. | Mrs Scovia Tusiime |
| <ul style="list-style-type: none"> I am an orphan and I was inspired by the one week of Financial Literacy and Livelihood Training provided by CNOOC at the Buhuka Primary School in March 2017. With the knowledge attained throughout the training, I had to mobilize my colleagues, particularly the orphans in the Kyabasambu village to come together and accepted us to join and started up Kyabasambu Orphans and Fishers Youth Group. We now have a total of UGX 2 680 000 saved, we are ten fully registered members. Our set of rules and regulations to govern the members is already in place. We are preparing to register at both the Sub-county and the District. | Mr Julius Nkumire |
| <ul style="list-style-type: none"> I belong to the Mwitanzige Farmers Group that started in April 2016. The overall objective is to end poverty through creating an opportunity for members to save a portion of their incomes and access affordable financial services. We immediately began the savings and credit scheme and shared our accumulated savings in December 2016. We continued saving a portion of our income with the group from 26 January 2017 up to now; and we shall be sharing our accumulated savings on 20 December 2017. | Mr Gerald Oguti |
| <p>2. The Lake Albert Fishing Association is planning to start cage fish farming out of the collections from members. Members received training in cage fish farming under the Gulu University (Hoima branch), a World Bank funded project. Our group is fully registered.</p> <ul style="list-style-type: none"> The Twagalane group-Nsonga is involved in goat rearing with 36 goats and two cows currently (2017). We have eight members and have a plan of registering as a cooperative society. The Buhuka Fishing Association is involved in the fish business. | Lake Albert fishing Association |

| | Name of Person |
|--|----------------|
| <ul style="list-style-type: none"> • The Tweyombeke group is involved in planting trees. • BUKOLA (Buhuka Communal Land Association) has been established to manage communal land in an integrated manner. | |
| <p>3. The VGSLAs/SACCOs stakeholders indicated the following role of the VGSLAs's and other SACCO's that have a Savings Component, as well as how the organisation has changed the livelihood of members and other people:</p> <ul style="list-style-type: none"> • They help us to get school fees for our children, particularly out of accumulated individual savings and affordable credit. • They assist us in terms of receiving an income to build houses. We use a portion of our accumulated savings especially after sharing at the end of the cycle. • They are sources of capital to start businesses. We use part of our accumulated savings especially after sharing at the end of the cycle to start individual or group managed businesses. • The organisation provides us with money to manage emergencies. For example, a death or sickness. • Propels people to work hard and receive what they save. • Promotes unity and cooperation among community members since they have common activities that all the group members subscribe to. • VGSLAs have assisted to reduce poverty among the community by encouraging us to work hard as the way of receiving what we save. When we have received loans from the group, we are usually obliged to struggle and pay back the loan. In doing this, I find myself rightly investing and diversifying my sources of income. • Information sharing has increased among the community members. • Provision of additional capital to individual businesses. • Increased capacity for lobbying • They assist members to meet their basic necessities. | |
| <p>4. The GVSLAs/SACCOs stakeholders indicated the following social groups that are benefitting more and those that are left behind as well as the reasons for this occurrence:</p> <ul style="list-style-type: none"> • Saving groups are mostly benefitting the women and youth because they are the social groups who have the burden of looking after and taking care of the home. • Elderly people have been left behind because they think that they are about to die and see no need of joining these groups. The elderly also do not have enough energy to participate in these groups. Furthermore, the elderly depend on their children for survival. | |
| <p>5. The VGSLAs/SACCOs stakeholders indicated the following challenges they face within the community:</p> <ul style="list-style-type: none"> • It is very difficult to register a group at the district. It costs UGX 100 000 to register at the district. • The Community Development Offices (CDO) are located very far from our places of residence. • Insecurity for our savings. Our savings will be at great exposure to robbers, particularly when the boxes are kept at members' homes. • Lack of commitment among some members to attend group meetings. • Lack of refresher training sessions. • Persons who have taken out loans but have defaulted in respect of repayment of loans (defaulters). | |

| | Name of Person |
|--|----------------|
| <ul style="list-style-type: none"> • Non obedient members. • Untrustworthy treasurers. • Lack of sufficient capacity to access grants. • Poor time management by some members and a lack of commitment by a few members who leave the groups. • Dishonesty among members. • Lack of confidentiality among the members. • Property ownership by the group is difficult. • Dishonest leaders who fail the group. • Poor planning. For example, the group may choose a wrong enterprise. • Fraudulent business attendees that steal the business money. • Price fluctuation. • Conmen. • Reduced and unreliable source of income, particularly among fishermen. • Emergencies such as chronicle illnesses. • The migration of a few members. • Someone may be robbed and fails to save. • Discouragement from non-group members who want to see others fail. | |
| <p>6. The VGSLAs/SACCOs stakeholders indicated the following recommendations for the community to overcome the challenges they face:</p> <ul style="list-style-type: none"> • Cooperation and working together in unity. • Having regular meetings. • Some groups received training from the Sub-county Community Development Officer (CDO). • Observing rules and regulations set up by the group. • Respect for one another, particularly regarding the group members listening to their chairperson. • Leaders need to be a local person and not someone who comes from other regions. • To have three different keys of three different padlocks on the saving box is kept by three different individuals and the one keeping the saving box has no key. | |
| <p>7. The VGSLAs/SACCOs stakeholders indicated whether or not they work with CSOs/NGOs in the region and how they do so:</p> <ul style="list-style-type: none"> • UWESO (Uganda Women’s Effort to Save Orphans) has built the capacity of the members and initiated the saving programme. • UCOBAC (Uganda Community Based Association for Women and Children Welfare) supports orphans and other vulnerable people. It also provides micro finance services. Further, it developed one savings group with 16 members. | |
| <p>8. The VGSLAs/SACCOs stakeholders indicated the ways in which VGSLAs/SACCOs have been impacted by oil/gas activities:</p> <ul style="list-style-type: none"> • The oil and gas activities have assisted the Nsonga Women Health and Sanitation group by providing us with sanitation equipment. • We concluded a contract with CNOOC to clean around the camp in March 2016 during the commissioning of the Kingfisher escarpment road. CNOOC paid some good money and we invested in buying an engine boat as a group and we hire it out. • The Kingfisher road opening has eased the group’s businesses through improved transport network, especially for those who deal in the Mukene trade (silver fish) • Increased market due to increased population in the area. The improved road network has increased the inflow of people into Buhuka Flats. | |

| | Name of Person |
|--|----------------|
| <ul style="list-style-type: none"> • Boosted savings by the youth especially those employed by CNOOC. • The Kingfisher road opening has denied business opportunity to the boat owners who used to transport fish and other goods on the lake to places like Panymor, Sebagoro, Butiaba and Ntoroko. • The destroyed gravity water flow scheme during the construction of the Kingfisher escarpment road has endangered the groups' members' lives. Members now spend much of the income that they would have saved in the group on treatment of disease like typhoid. • In regions such as Kyabasambu, members spend much of their time fetching water from far places, hence arriving late for the group meeting and sometimes others completely fail to attend meetings. • Seismic survey activities in the waters of Lake Albert led to declined fish catch. This has really affected the income of the various group members hence reduced capacity to save. | |
| <p>9. The VGSLAs/SACCOs stakeholders indicated the following recommendations for VSLAs/SACCOs to improve their performance in the community:</p> <ul style="list-style-type: none"> • CNOOC should strengthen the groups since VGSLAs/ SACCOs in Buhuka are in a remote area and have no access to external funding. • Linkages to financial services, for example banks. • Provide seed capital to boost the group's activities. • Try as much as possible to provide feedback. CNOOC is very poor at doing this, therefore it should improve on the matter. • The communal water tank should be reconstructed and provide safe water for drinking because we are dying of typhoid and bilharzia. | |
| <p>Note:</p> <ul style="list-style-type: none"> • The meeting ended by a speech from CNOOC representative Mr Zac Lubega. • The chairman LC II thanked CNOOC and the consultants. | |



APPENDIX B

Rapid Health Impact Assessment



**Rapid Health
Impact
Assessment**

**Chinese National Offshore Oil
Company**

**Kingfisher Development Area
Project**

Republic of Uganda
June 2015



SHAPE SHAPE CONSULTING LIMITED
"STRATEGIC HEALTH ANALYSIS PLANNING AND EXECUTION"

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Executive Summary

Introduction

SHAPE Consulting Limited (SHAPE) has been subcontracted by the ESIA team to perform a rapid health impact assessment (HIA) for the China National Offshore Oil Company (CNOOC) KFDA project and associated crude oil pipeline feeder (Project) in Hoima and Kikuube Districts, Western Uganda.

While the HIA is a standalone assessment, it is being conducted as part of the broader Environmental and Social Impact Assessment (ESIA), which supports the feasibility studies for the development of the Project. No specific laws or national regulations require that a HIA is performed for the Project, but concerns from interested and affected parties and the need to comply with good international industry practice and especially standards of Development Financing Institutions have prompted the assessment.

The form of the HIA has been based on a rapid approach, which by definition means that no new primary quantitative data has been collected as part of the assessment. However, any data gaps or opportunities will be highlighted in the proposed management measures as conditions subsequent to the impact assessment.

Health Impact Assessment Objectives and Methodology

A HIA seeks to identify and estimate the lasting or significant changes, of project activities, on the health status of a defined population by adopting a systematic approach to identifying different health and wellbeing impacts, both positive and negative. HIAs use available and commissioned qualitative and quantitative evidence, including the public and stakeholders' perceptions and experiences, as well as public health, epidemiological, toxicological knowledge to support the assessment. Further, HIA is concerned with the distribution of health effects across a population by taking into account social inequalities or vulnerabilities and how they might be influenced by a proposed project.

The HIA was conducted as a prospective assessment with the intent to use the outputs as a decision-making tool that identifies and estimates the lasting, or significant changes, of different actions on the health status of potentially affected communities (PACs), or populations, that may be impacted by the Project. This was achieved by adopting a systematic approach to identifying the different health and wellbeing impacts, and developing evidence-based recommendations to maximize potential positive health benefits

and avoid, prevent or mitigate any detrimental health impacts from the Project. Specific objective includes:

- Describing the prevailing baseline health conditions in the PACs, to understand specific vulnerabilities associated with direct and indirect Project factors.
- Consider stakeholder comments and concerns related to the existing state of community health and what potential human health impacts may be associated with the development and operation of the proposed Project.
- Based on identified vulnerabilities and stakeholder input identify and model specific health impacts that may potentially be generated by the Project and evaluate their significance during the different life cycles stages of the Project.
- Develop a Community Health Management and Monitoring Plan (CHMMP) based on the significance of the identified impacts, so that priority management measures can be developed and monitored.
- Evaluate opportunities to integrate the findings of the HIA into the ESIA and the CHMMP into the Projects Environmental and Social Management Plan (ESMP).

The methodology of the HIA was based on the Introduction to HIA Guidance Note as supported by the International Finance Corporation (IFC) and was chosen as it supports the IFC Performance Standards on environmental and social sustainability as well as the Equator Principles for Financing Institutions. IFC Performance Standard 4 (that addresses Community Health, Safety and Security) has particular relevance for the purposes of the HIA, with the approach supporting a systematic and consistent method to collecting and analysing health data through assessing 13 different environmental health areas (EHAs) as part of a structured 'reductionist model' framework.

Health Impact Assessment Activities

The following activities were performed to support the final development of the rapid HIA:

- An initial desktop literature of secondary data available in public domain from standard source and peer reviewed literature that was available in the public domain. This was based on internet searches and reading of any available Project documentation and reports. This supported the development of the baseline health description, and supported the development of survey instruments that were used in the field visit to focus on identified priorities. This was initiated in January 2015 and continued in an iterative manner until late May 2015.
- Two field visits including:

- A short scoping field visit (in March 2015) with the objective to understand the potential health impact areas of concern, view the study area and associated logistics, meet with key stakeholders and to plan the subsequent field work.
- A second field visit (in April 2015) that focussed on stakeholder engagement with district health authorities, village leadership structures and PACs. Data was collected by means of qualitative participatory data methods and review of secondary health data from district and health centre reports and statistics.

Key Health Determinants and Impacts

Table 1 presents a thematic summary of key health impacts so that cross cutting findings across the various EHAs can be presented, a description of the impact definition associated with that theme and recommended relevant management and mitigation measures.

Table 2 provides a summary of the major health impact areas of concern presented in the EHA framework. These are presented based on the inherent and residual significance of risk, so that these can easily be summarised into the overall ESIA or Project risk dashboard.

Table 1: Summary of potential health impacts and recommendations

| Key Health Impacts and Mitigation Measures | | |
|---|--|--|
| Impact Theme | Key Potential Health Impacts | Key Recommended Mitigation Measures |
| Project induced influx and unplanned settlements/ 'urbanization' | <p>Increased potential for communicable disease transmission through:</p> <ul style="list-style-type: none"> • Movement of people with introduction of disease or increased incidence of disease patterns, including the in-coming workforce. • Inability to plan for or provide basic services such as housing, provision of water and sanitation and general environmental hygiene; may promote transmission of diseases spread by various means (respiratory- tuberculosis, meningitis) (food and water- cholera, typhoid) • Increased mixing of people who have money may increase transactional or casual sexual relations and increase rates of Sexually Transmitted Infections (STIs), including HIV/AIDS. • Overcrowding and environmental degradation may increase the transmission of vector related disease and an increase in disease like malaria but also potentially arbo-viral disease and lymphatic filariasis. • Potential introduction of novel zoonotic diseases through movement of people and their domestic animals into the area, but also through altered an altered environment that may increase human: animal interactions. | <p>Develop influx management plans as part of the Project ESMP. These should include consideration of health determinants. Labour recruitment will be an essential element as work opportunities will be the major attractor to the Project, and contractor compliance with plans and policies are essential.</p> <p>Support capacity building for town planning in anticipation for Project induced influx and growth in existing settlements. This should be part of a broader district plan, but that has local relevance so that make-shift settlements do not develop and existing villages develop based on a clear plan. Ikamiro and communities on Buhuka Flats are particularly relevant for the Project.</p> <p>Develop communicable disease strategies to include tuberculosis, HIV, STI and malaria programmes, with the objective of promoting/protecting workplace and community health.</p> <p>Outbreak control risk assessment and planning for communicable disease such as influenza and meningitis.</p> <p>Ensure effective camp facilities management including the location of camps away from communities to prevent exposure to disease risks (such as malaria) and to exclude the workforce from the community. A closed camp status should be considered.</p> <p>Accommodation and facilities management should be well designed and planned in employee and contractor camps to prevent overcrowding and need to use accommodation developed in communities.</p> <p>Develop information, education and communication (IEC) programmes in the community to increase awareness and reduce communicable disease risks. Ideally, support the development of village health teams (VHTs) in the study area to deliver these (in partnership with the health department or non-governmental organisation).</p> <p>Support selected veterinary health programmes in the study area including vaccination of domestic animals for rabies and cattle for brucellosis. Support rodent control in settlements likely to receive the bulk of influx and ensure effective camp management to prevent attraction of rodents.</p> |
| | <p>Increased utilization and stress on basic, food and health services, including:</p> <ul style="list-style-type: none"> • Health services where access and quality of services is already limited. • Pressure on environmental hygiene through poor sanitation, waste disposal and limited supply of potable water. • Ecosystems services that support livelihoods, especially fishing from Lake Albert | <p>Develop and design appropriate site based medical services that can cater for all workplace health needs so the local health services are not overburdened with medical cases from the workplace. These should be developed based on the stages of the Project but it is strongly recommended to be developed prior to the bulk of the workforce arriving to reduce the need to refer locally. These plans should include all contractors and must avoid the need to refer patients</p> |

| Key Health Impacts and Mitigation Measures | | |
|--|--|---|
| Impact Theme | Key Potential Health Impacts | Key Recommended Mitigation Measures |
| | <p>and farming on the escarpment along the pipeline route.</p> <ul style="list-style-type: none"> • Pressure on education | <p>into the health system at the study area, but at least to Hoima or Kampala.</p> <p>Avoid the recruitment of local medical staff to work on Project medical services and work with the government to support ways to attract medical staff to work in the public health facilities in the study area.</p> <p>Evaluate opportunities for health systems strengthening (HHS) and support the development and implementation of a clear integrated district health strategy, which can plan for influx and requirements to upgrade health services in alignment with the government structures, but ideally focused at the entire district and especially the oil development nodes.</p> <p>CNOOC should have a partnership role to play in their study area, but solely in supporting the government to fulfil its mandate of providing public health services and not assuming this role. All HSS should be performed after a formal memorandum of understanding is concluded that defines each party's role and responsibilities and deliver timeframes. These agreements must be based on sound sustainability principles.</p> <p>As an element of town planning, support local authorities in the provision of basic services to cater for the anticipated demand, especially environmental health including water, sanitation and hygiene programmes.</p> <p>Support sustainable fishing practices through education, assisting with enforcement of fishing laws and economic interventions to manage demand so that overfishing is managed. In a similar way, support agriculture (such as conservation farming) to increase yields on land that will reduce in availability.</p> |
| | <p>Altered economy in the area with increased disposable income and potentially an increase in transactional sex. Women and young girls will be vulnerable groups.</p> | <p>IEC campaigns to especially the local workforce (and contractors) on financial management.</p> <p>Support to PACs and vulnerable groups on gender empowerment, local development programmes and health issues.</p> <p>Contractor management with policies and practices are implemented</p> |
| | <p>Inflation of housing and food prices, which may affect especially the indigenous population and vulnerable local groups.</p> | <p>Develop inflation management and monitoring programs. Support vulnerable groups</p> |
| | <p>Erosion of traditional values and social harmony that may give rise to social decay and associated ills such as crime, domestic violence, ethnic conflict, commercial sex work and substance abuse.</p> | <p>Evaluate opportunities to maintain local cultures and norms and build an equitable society, taking note of especially vulnerable groups.</p> |

| Key Health Impacts and Mitigation Measures | | |
|--|---|---|
| Impact Theme | Key Potential Health Impacts | Key Recommended Mitigation Measures |
| Workforce health impacts | <p>The incoming workforce has the potential to exacerbate the communicable disease burden associated with poor socio-economic and living conditions, especially those transmitted by close contact including TB, meningitis and viral diseases such as measles and influenza. The risk will increase if incoming people originate from areas that have higher prevalence of disease and social circumstances allow for the potential transmission of these conditions locally,</p> <p>The local health system caters for a predominantly rural remote section of the country and has limited capacity in terms of infrastructure and human capital to effectively manage a significant upsurge in communicable diseases, or indeed plan effective health prevention/promotion activities.</p> <p>The employed portion of the workforce may adapt their lifestyle and increase their risks for non-communicable diseases (NCDs).</p> | <p>Develop workplace health interventions including:</p> <ul style="list-style-type: none"> • Develop a workplace TB, HIV, STI and malaria management plan as part of the communicable disease strategy. • Evaluate the origin of any incoming contracted construction workforce and screen for TB and associated communicable diseases as part of the Projects fitness to work programme. • Support effective vaccine preventable disease programmes. • Develop effective design and planning of workplace accommodation to prevent overcrowding. • Develop effective workplace medical services. • Wellness programmes in workforce to prevent NCDs. <p>These plans must make provision for contractors or be part of formal contractor management plans.</p> |
| Sexually transmitted infections (STIs) and HIV/AIDS | <p>There is a risk of increasing STIs in the community from the workforce, with a number of risk factors:</p> <ul style="list-style-type: none"> • Mobility of the workforce, including transport workers and semi-skilled and skilled incoming migrant labour as particularly high-risk groups. • Due to the nature of occupations, men are likely to be in most of these high-risk groups, and being away from their family units prone to high-risk sexual behaviour. • Disposable income in both the incoming workforce, but also local people that may benefit from the Project has the potential to increase transactional sex practices. Young girls and women in the study area are particularly vulnerable to advances from men. | <ul style="list-style-type: none"> • Develop specific programmes for high-risk categories including transport workers. • Develop a code of conduct that prohibits sexual fraternisation within the workforce, especially women that originate from the local community. Maintain a closed camp status. • Screen for STIs as part of fitness to work programme in both the contracted and full time workforce.' • Support health systems strengthening activities with the local health authorities and other organisations to develop a co-ordinated approach to STI/HIV prevention and management in the broader area • Support IEC programmes on awareness and education, and use VHTs to spread messaging, as well as supporting HIV counselling/testing and referral for care/treatment. • HSS in the local health centres to be able to provide effective care and treatment services. • Support women and young girl empowerment programmes. |

| Key Health Impacts and Mitigation Measures | | |
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| Impact Theme | Key Potential Health Impacts | Key Recommended Mitigation Measures |
| Environmental modifications | <p>Environmental health exposures related to the Project will be present in all lifecycle stages of the Project. These are effectively addressed in the various specialist biophysical studies conducted for the EIA and include the following potentials:</p> <ul style="list-style-type: none"> • Reduced air quality both from dust and emissions from the CPF. • Noise especially related to construction of Project infrastructure, operation of drill wells and production activity. • Pollution of surface and ground water sources, which is a sensitive factor as the community are vulnerable to impacts on water quality and quantity, given the poor supply in the area. • Visual intrusion. • Hazardous chemical substances will be used in various areas of the operations and may present as part of the waste stream. Domestic activities may also increase risks to exposure to potential chemical and biological hazards. | <p>As per recommended management measures from the EIA, including effective environmental management.</p> <p>Plan the FEED based on these determinants including need to relocate engineering portions of the Project or physically resettle communities.</p> <p>In addition, it will be important to develop a hazardous chemical substance management plan that includes procurement, storage, handling and disposal of all waste. This should be in alignment with IFC PS 3.</p> |
| | <p>The early works and construction phase will create a macro- habitat disturbance in Buhuka Flats, on the pipeline development corridor and any roads that are developed. This has the potential to increase breeding sites for mosquito proliferation that can increase diseases such as malaria.</p> | <p>Develop integrated malaria control programmes with source reduction as a key element of control. Prevent pooling of water where possible and conduct effective remediation where required after work has completed.</p> |
| Physical and economic resettlement | <p>The final requirements for physical and economic resettlement are still being determined based on the FEED. Impacts can include:</p> <ul style="list-style-type: none"> • Overcrowding and effective environmental hygiene in new settlements • Social discord due to improved houses and services in host sites compared to those who are not resettled. • Location of host sites and type of housing so as not to increase risk to vector related disease. | <p>Health inputs should be reviewed when planning the resettlement communities to ensure that these are addressed effectively. Communication and consultation as part of the resettlement action plan will be required and should include relevant social determinants of health.</p> |
| | <p>Disruption of social network and traditional values disruption</p> | <p>Develop programmes that maintain traditional values and cultural structures in communities.</p> |
| | <p>While the area of land will be relatively small, the loss of arable land (with loss of food and cash crops) may impact on the livelihoods of certain sectors of the community, and even influence nutrition and cause food insecurity.</p> <p>Reduced access to grazing on Buhuka Flats may also reduce ability to keep cattle locally or promote over-grazing in other areas reducing the long-term sustainability of cattle farming and impacts on livelihoods.</p> | <p>Design alignments of roads and the pipeline to minimize loss of arable land.</p> <p>Understand ownership or dependency factors on land, especially in vulnerable groups so they are not impacted by loss of access to land.</p> <p>Support adequate compensation and transitional support packages.</p> <p>Support the re-development of land after the pipeline has been developed and support initiatives to increase yields, with initiatives such as conservation farming.</p> |

| Key Health Impacts and Mitigation Measures | | |
|--|--|--|
| Impact Theme | Key Potential Health Impacts | Key Recommended Mitigation Measures |
| Altered Accessibility | The new escarpment road will significantly enhance access to Buhuka Flats. This will promote trade and improved services to the area, but enable communities to access services outside of their immediate area. | Evaluate opportunities to enhance improved access to the communities in the study area. |
| | Access roads along the pipeline and other secondary roads are likely to improve prompting access to the area. | Influx management. |
| | The improved access may improve private transport networks and availability and probably also access to information through improve telecommunication networks. | Support the benefits of improved access to information by considering the establishment of a local community radio station, and support use of technology in schools. |
| | Improved access will also promote influx, and if well managed (see challenges above) can be a positive development as it will stimulate economic growth. | |
| Accidents and injuries and urbanized lifestyle | Improved roads and economy in the study area will give rise to increased road traffic with the potential for accidents and injuries. Road traffic accidents may be associated with vehicles from the Project as well as from the community. Pedestrians and children are an especially vulnerable group. | Develop a community security and safety management plan for the Project. |
| | | Traffic and transport mitigation measures including traffic calming, pedestrian safety etc. |
| | | Management of mobile equipment and machinery within the framework of the Projects Occupational Health and Safety Management Plan, including fitness to drive and substance abuse programmes. Contractor management as part of this is essential. |
| | | Develop effective IEC programs on road and pedestrian safety, especially in schools, more effective road traffic policing and support with HSS for effective emergency care for trauma cases. |
| There is the potential that crime and domestic violence may increase in the study area due to influx, stress on limited resources, and altered sense of place and an erosion of traditional authority. Substance abuse may be an especially important contributing factor. | | |
| The improved economy in the study area may promote the development of an "urbanized society" with changes in lifestyle practices including smoking, alcohol consumption, sedentary lifestyle and poor diet. This may give rise to increased chronic diseases such as diabetes, hypertension and cancers. The local workforce is especially at risk and this should be a priority business interest to prevent chronic diseases in this cohort. | Support IEC programs related to NCD and modifiable risk factors in both the workforce and communities. Initiate wellness programs in the workplace for the prevention of chronic diseases. | |

| Key Health Impacts and Mitigation Measures | | |
|--|---|---|
| Impact Theme | Key Potential Health Impacts | Key Recommended Mitigation Measures |
| Data-gaps and monitoring of interventions | There is a lack of data for certain health indicators at the level of the study area. The data gaps limit the ability to describe a robust baseline. These gaps will limit the ability of the Project to report on changes in health impacts or success of health interventions from a clear point of departure. | Collect additional primary health data at the community level to support a robust baseline. This can be a condition subsequent to the HIA and included into the CHMMP or EMSP, but should ideally be expedited so that data is available before the Project alters the baseline much more. The baseline should ideally be completed before the early works phase starts at the CPF or along the pipeline so that it is complete well before construction starts. This data collection may be complex and can take up to 6 months to complete. |
| | The district routine health management information system (RHMS) is weak and not well suited to support the surveillance of health indicators in the study area. In addition, the health centres in the study area are poorly resourced and capacitated and thus data fed back into the information system is similarly weak. | Support initiatives to improve the functionality of the RHMS in the district. There are numerous bilateral agencies that have supported good systems, but this would require resources and capacity building. However, it is recommended that the Project develop its own community health information system (CHIS) to track key health indicators. Ideally, this should be part of the social/environmental management system and rely on collecting key data from health centres and village health teams. |

Table 2: Summary of inherent and residual health impacts

| Environmental Health Area | | Before Management | | | | After Management | | | |
|---------------------------|--|--------------------|-------------|---------------|------------|------------------|-------------|---------------|------------|
| | | Severity | Probability | Significance± | Direction* | Severity | Probability | Significance± | Direction* |
| EHA#1 | Communicable diseases linked to the living environment. | Major | Probable | Major | Negative | Moderate | Possible | Moderate | Negative |
| EHA#2.1 | Vector-related disease. Malaria and associated determinants. | Moderate | Probable | Major | Negative | Minor | Possible | Moderate | Benefit |
| EHA#2.2 | Arboviral and other vector related disease. | Moderate | Unlikely | Moderate | Negative | Moderate | Unlikely | Minor | Negative |
| EHA#3 | Soil, water and waste-related diseases. | Moderate | Possible | Moderate | Negative | Moderate | Probable | Moderate | Benefit |
| EHA#4 | Sexually transmitted Infections including HIV/AIDS. | Major | Probable | Critical | Negative | Moderate | Possible | Moderate | Negative |
| EHA#5 | Food and nutrition related issues. | Major | Possible | Major | Negative | Moderate | Possible | Moderate | Benefit |
| EHA#6 | Non-communicable diseases. | Major | Possible | Major | Negative | Moderate | Possible | Moderate | Negative |
| EHA#7.1 | Accidents, injuries and violence. | Major | Probable | Critical | Negative | Moderate | Unlikely | Moderate | Negative |
| EHA#7.2 | Work related illness and injury. | Major | Possible | Critical | Negative | Minor | Unlikely | Minor | Negative |
| EHA #8 | Veterinary medicine and zoonotic diseases | Moderate | Possible | Moderate | Negative | Minor | Unlikely | Minor | Negative |
| EHA #9 | Noise | Not ranked for HIA | | | | | | | |
| | Air Quality and malodours | Not ranked for HIA | | | | | | | |
| | Water quality/quantity | Not ranked for HIA | | | | | | | |
| | Visual intrusion | Not ranked for HIA | | | | | | | |
| | Hazardous chemical substances | Major | Possible | Major | Negative | Baseline | Unlikely | Minor | Negative |
| EHA#10.1 | Local economic development and employment | Minor | Possible | Minor | Benefit | Major | Possible | Very High | Benefit |
| EHA#10.2 | Social ills and gender inequality | Moderate | Possible | Moderate | Negative | Moderate | Possible | Moderate | Benefit |
| EHA#10.3 | Altered access | Moderate | Possible | Moderate | Benefit | Moderate | Probable | Major | Benefit |
| EHA#10.4 | Social harmony and project expectations | Moderate | Probable | Moderate | Negative | Minor | Possible | Minor | Negative |
| EHA #11 | Health seeking behaviour and cultural health issues | Minor | Possible | Moderate | Negative | Baseline | Unlikely | Negligible | Baseline |
| EHA #12 | Health systems and services | Moderate | Possible | Moderate | Negative | Moderate | Possible | Moderate | Benefit |
| EHA#13 | Health programmes and systems | Minor | Possible | Moderate | Negative | Moderate | Possible | Moderate | Benefit |

*Direction can be either negative (implying a negative impact) or beneficial (implying a positive impact)

± See appendix A for the categorization of significance rankings

Community Health Management and Monitoring Plan

The recommendations listed in Table 1 and in Chapter 8 form the basis for the development of the Community Health Management and Monitoring Plan (CHMMP), but this does require the these findings are discussed with the Project development team, and once the outcomes are agreed then a framework CHMMP will be developed that can integrate with the Projects ESMP. This framework will be presented to different stakeholders and once finalized the plan will be used to guide community health interventions for a defined period (to be determined as per each element of the plan). The framework will be used to develop detailed plans for the design, development, implementation and monitoring of specific health programmes outlined in the mitigation measures.

It is noted that some interventions may present 'conditions or actions subsequent' to the HIA that will assist in the implementation of management measures or support monitoring activities. Further, it is recommended to develop and maintain an effective surveillance system to monitor health impacts and interventions, with data collected and analysed from primary sources as well as from longitudinal sources to be included in the surveillance system.

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Glossary and Acronyms

Glossary

Food security: Defined as including both physical and economic access to food that meets people's dietary needs as well as their food preferences.

Health: A state of complete physical, mental, social and spiritual well-being and not merely the absence of disease or infirmity.

Health determinants: The range of personal, social, economic and environmental factors that determine the health status of individuals or populations.

Health impacts: A health impact can be both positive and negative. It refers to changes in community health that are attributable to a *Project*.

Health seeking behaviour: A series of actions undertaken by individuals who perceive themselves to have a health problem or to be ill for finding an appropriate remedy. This is influenced by a wide range of factors from personal beliefs about the health problem, past interactions with the health system as well as competing basic needs that may also require expenses.

Health Impact Assessment: A combination of procedures, methods and tools that systematically judges the potential, and sometimes unintended, effects of a Project on the health of a population and the distribution of those effects within the population. HIA identifies appropriate actions to manage those effects.

Health outcomes: A change in the health status of an individual, group or population, which is attributable to a planned intervention, or series of interventions, regardless of whether such an intervention was intended to change health status.

Morbidity: Refers to a diseased state, disability, or poor health due to any cause.

Project: Refers to the Project concession and mining as well as associated support activities.

Stakeholders: All those who have rights or interests in the Project and/or are affected directly or indirectly, by the Project. Stakeholders can be individuals, communities, social groups, organizations, or administrative bodies.

Study area: The study area refers to the potentially affected communities (PACs) residing around the area of influence of the Project and who may be impacted either directly or indirectly.

Acronyms

| | |
|-------|--|
| ACT | Artemisinin-Based Combination Therapy |
| AFP | Acute Flaccid Paralysis |
| AIDS | Acquired immune deficiency syndrome |
| ALARP | As Low as Reasonably Practicable |
| ANC | Antenatal Care |
| ARI | Acute Respiratory Infection |
| ART | Anti-Retroviral Treatment |
| BOD | Burden of Disease |
| CCHF | Crimean-Congo haemorrhagic fever |
| CDTI | Community Directed Treatment with Ivermectin |
| CHMMP | Community Health Management and Monitoring Plan |
| CHIS | Community Health Information System |
| CLTS | Community Led Total Sanitation |
| CMP | Contractor Management Plans |
| CNOOC | Chinese National Offshore Oil Company |
| CPF | Central Processing Facility |
| CSW | Commercial Sex Workers |
| CVD | Cardiovascular Diseases |
| DALY | Disability-Adjusted Life Year |
| DFI | Development Financing Institutions |
| DHS | Demographic and Health Survey |
| DOTS | Directly Observed Treatment Short course Therapy |
| EA | Exploration Areas |
| EHA | Environmental Health Area |
| EIA | Environmental Impact Assessment |
| EPFI | Equator Principle Financing Institutions |
| EPI | Expanded Programme on Immunization |
| EVD | Ebola Virus Disease |
| ESIA | Environmental and Social Impact Assessment |
| ESMP | Environmental and Social Management Plan |
| FEED | Front End Engineering Design |
| FGD | Focus Group Discussion |
| FID | Financing Investment Decision |
| FP | Family Planning |

| | |
|--------|---|
| FTW | Fitness to Work |
| GBV | Gender Based Violence |
| GDP | Gross Domestic Product |
| GIIP | Good International Industry Practice |
| GPN | Good Practice Note |
| HAT | Human African Trypanosomiasis |
| HAV | Hepatitis A virus |
| HBV | Hepatitis B virus |
| HC | Health Centre |
| HCS | Hazardous Chemical Substances |
| HCT | HIV Counselling and Testing |
| HCW | Health Care Worker |
| HDI | Human Development Index |
| HIA | Health Impact Assessment |
| HIV | Human Immunodeficiency Virus |
| HMP | Health Monitoring Plan |
| HRA | Health Risk Assessment |
| HRH | Human Resources for Health |
| HRRH | Hoima Regional Referral Hospital |
| HSB | Health Seeking Behaviour |
| HSD | Health sub-districts |
| HSS | Health Systems Strengthening |
| IEC | Information, Education and Communication |
| IFC | International Finance Corporation |
| ILO | International Labour Organization |
| IMCI | Integrated Management of Childhood Illness |
| IPIECA | International Petroleum Industry Environmental Conservation Association Organization |
| IPTp | Intermittent Preventive Treatment in Pregnancy |
| IRS | Indoor Residual Spray |
| IV | Intravenous |
| KAP | Knowledge, Attitude and Practices |
| KDA | Kingfisher Development Area |
| KPI | Key Performance Indicator |
| KII | Key Informant Interview |

| | |
|--------|---|
| LF | Lymphatic Filariasis |
| LLIN | Long Lasting Insecticide Treated Bednet |
| MHP | Maternal Health Project |
| MICS | Multiple Cluster Indicator Study |
| MDG | Millennium Development Goal |
| MDR-TB | Multi-Drug Resistant TB |
| MoH | Ministry of Health |
| MOU | Memorandum of Understanding |
| NCD | Non-Communicable Disease |
| NGO | Non-Governmental organization |
| NHR | National Referral Hospitals |
| NHS | National Health System |
| NMCP | National Malaria Control Programme |
| NTD | Neglected Tropical Disease |
| OPD | Outpatient Department |
| OHS | Occupational Health and Safety |
| OHSMP | Occupational Health and Safety Management Plans |
| PAC | Potentially Affected Community |
| PHC | Primary Health Care |
| PLHIV | People Living with HIV |
| PM | Particulate Matter |
| PMI | Presidents Malaria Initiative |
| PMTCT | Prevention of Mother-to-Child Transmission |
| PPP | Public-private Partnership |
| PS | Performance Standard |
| RAP | Resettlement Action Plan |
| RDT | Rapid Diagnostic Tests |
| RHH | Regional Referral Hospital |
| RTA | Road Traffic Accident |
| RHIMS | Routine Health Information Management System |
| SDH | Social Determinants of Health |
| SMC | Safe Male Circumcision |
| SIA | Social Impact Assessment |
| SSA | Sub-Saharan Africa |
| STH | Soil-Transmitted Helminthiasis |

| | |
|-----------|---|
| STP | Sewerage Treatment Plant |
| STI | Sexually Transmitted Infection |
| TB | Tuberculosis |
| TBA | Traditional Birth Attendant |
| TH | Traditional Healer |
| TM | Traditional Medicine |
| TP | Target Population |
| TWC | Temporary Work Camp |
| UAIS | Uganda AIDS Indicator Survey |
| UDHS | Uganda Demographic and Health Survey |
| UNHS | Uganda National Household Survey |
| UMIS | Uganda Malaria Indicator Survey |
| UNHCR | United Nations High Commission for Refugees |
| UNICEF | The United Nations Children's Fund |
| USAID | United States Agency for International Development |
| VHF | Viral Haemorrhagic Fever |
| VHT | Village Health Team |
| VPSHR | Voluntary Principles on Security and Human Rights |
| WHO | World Health Organization |
| WHO- SARA | World Health Organization Service Availability and Readiness Assessment |
| YF | Yellow Fever |
| YLD | Years Lived with Disability |
| YLL | Years of Life Lost |
| WASH | Water, Sanitation and Hygiene |

1 Terms of Reference

1.1 Objectives

SHAPE Consulting Limited (SHAPE) has been subcontracted by the ESIA team to perform a rapid health impact assessment (HIA) for the China National Offshore Oil Company (CNOOC) Kingfisher Field Development Area (KFDA) and associated crude oil pipeline feed Project (Project) in the Kikuube and Hoima Districts, Western Uganda.

As per the scope of work, the HIA was conducted as a prospective assessment in a phased manner so that it is fit for purpose, and can be used as a decision making tool for the Project and ensure compliance with Development Financing Institution (DFI) performance standards. The assessment and output forms the health component for inclusion in an international standard environmental and social impact assessment (ESIA).

The ultimate goal is to support the development of evidence-based recommendations to maximize potential positive health benefits and avoid, prevent or mitigate any detrimental health impacts from the Project, and specifically includes:

- Description of the prevailing baseline health conditions in the potentially affected communities (PACs), so that the vulnerability of the population related to their existing Burden of Disease (BOD) and direct and indirect Project factors could be evaluated;
- Understand and take stakeholder comments and concerns into account related to potential human health impacts and needs associated with the development and operation of the proposed Project.
- Identification of community health impacts that may potentially be generated by the Project and evaluation of their magnitude and significance during the different life cycles stages of the Project.
- Consider specific management and mitigation options to manage any identified impact.
- Recommendations for alternatives from a pure health and well-being perspective.
- Develop a Community Health Management and Monitoring Plan (CHMMP) to manage identified impacts and monitor the success of these interventions and changing perceptions of health in the PACs and amongst other stakeholders.

The target audience for the HIA includes: i) the Project proponent and partners; ii) potential DFIs or lenders; iii) Ugandan authorities and regulator as required; and iv) interested and

affected parties in the community or elsewhere. Disclosure and dissemination of the report will consider this audience.

2 Project Description and Activities

The following section describes a summary of the proposed Project activities and their specific association to community health, but also a brief general overview so the reader can understand the Project. However, the reader is referred to the final Project description that will be produced for the ESIA, when it is available. The information below is summarised from the ESIA report

2.1 Project Ownership and Location

China National Offshore Oil Corporation Limited is a Chinese state-owned company with headquarters in Beijing. Founded in 1982, it has evolved from a purely upstream oil and gas exploration company to an international energy company with promising primary businesses and a complete industrial chain. The company is one of the largest independent oil and gas exploration and production companies in the world. It is currently listed on both the Hong Kong and New York Stock Exchanges [1].

In early 2012, CNOOC through its subsidiary CNOOC Uganda Limited purchased a one-third interest from Tullow Oil Plc (Tullow) in Exploration Areas (EA) 1, 2 and 3A of the Lake Albert Basin, with the intention that it would subsequently operate EA3A while Tullow and Total S.A. would operate EA2 and EA1 respectively. In September 2013, the Ugandan Government awarded the first oil production license to CNOOC Uganda Limited to start the development of the Kingfisher Field that lies within EA3A, with commercial production expected to commence in 2018 [2, 3]. The total lifespan of the Project is estimate at 25 years [3].

The Project (EA3A or KDA) lies on the south-eastern flank of the Lake Albert Basin, which is part of the western arm of the East African Rift System. The KDA is located in the area known as the Buhuka Flats, within the administrative boundary of Buhuka Parish, Kyangwali Sub-County in Kikuube District. The study area comprise of two distinct areas as spatially shown in Figure 1 and Figure 2 [3]:

- The KDA is approximately 15 km long by 3.0 km wide and covers an oil area of 32.3 km². Most of the field lies under Lake Albert, but some of well basin lies under a narrow strip of land.
- The 46 km long Kingfisher feeder pipeline. The pipeline extends to include Kyangwali, Butoole, Kaseeta and Kabale Parishes.

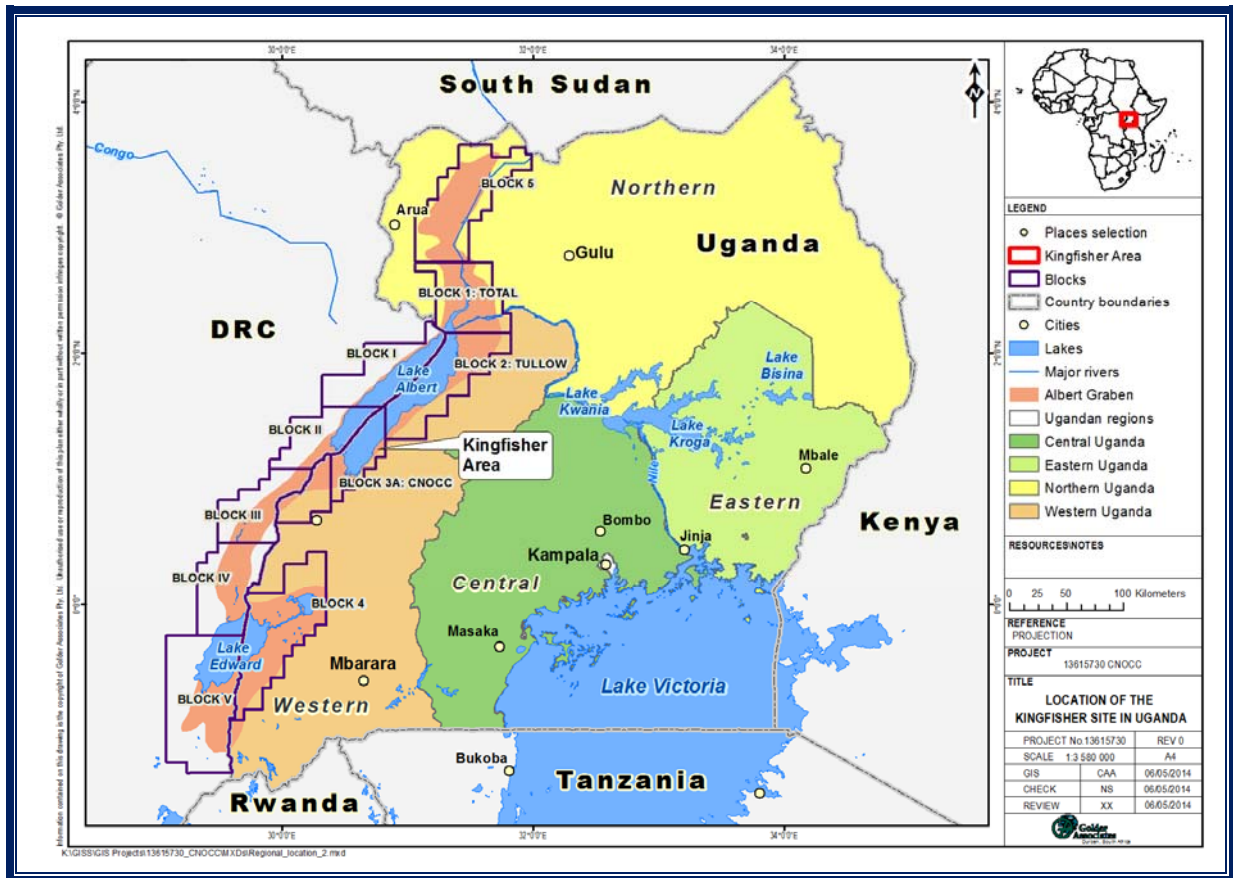


Figure 1: Project location

2.2 Project Components

2.2.1 Description of Project Components

The Project activities include three distinct elements, which are considered within the scope of the HIA [3]:

- The development of five onshore well pads (four well pads for Kingfisher Main (Pad 1, Pad 2, Pad 3 and Pad 5) and one well pad (Pad 4-2) for Kingfisher North with a total of 40 wells (27 producer wells and 13 water injection wells). Three of these wells currently exist (Kingfisher 1,2 and 3), but will require upgrades to fulfil the requirements for oil production. The well-fluids produced from the individual well pads will be transported via flowlines to a Central Processing Facility (CPF) to separate water and gas from the oil phase. These and the associated support infrastructure to produce to achieve a target of 40,000 barrels of oil per day (BOPD) will be located on the Buhuka Flats. This will include a lake water extraction system, accommodation camps and offices, a jetty, and an airstrip. These are shown spatially in Figure 3.

- This includes the escarpment road that links Buhuka Flats (close to well-pad 2) to the village of Ikamiro at the top of the escarpment.
- The transfer of stabilised crude oil through a 46 km long buried feedline (pipeline) to a delivery point near Kabaale village.
- Improvement of roads including an upgrade of the road that passes from Ikamiro village through the Bugoma Central Forest Reserve towards the tar road linking Hoima.

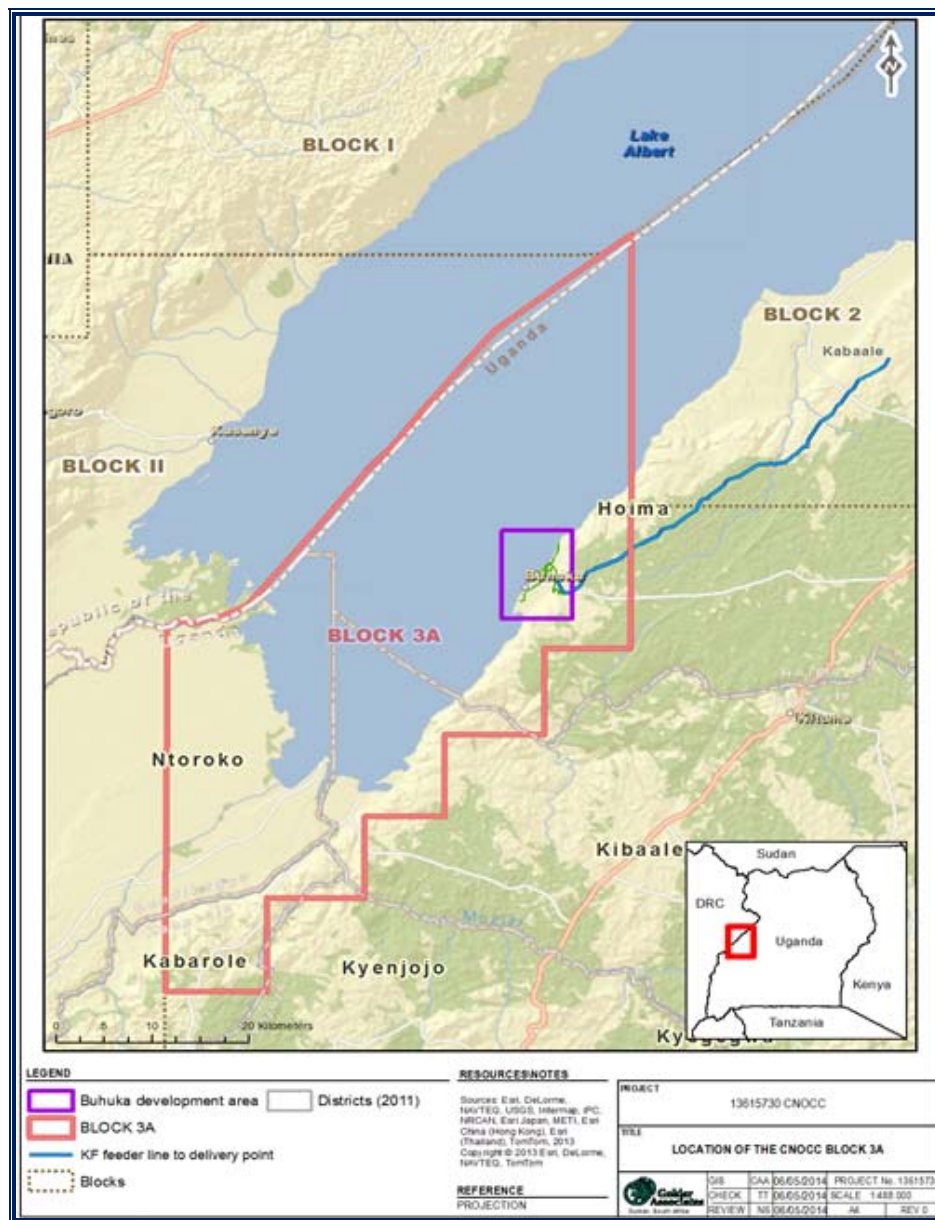


Figure 2: Location of EA3A, KFDA Project and pipeline

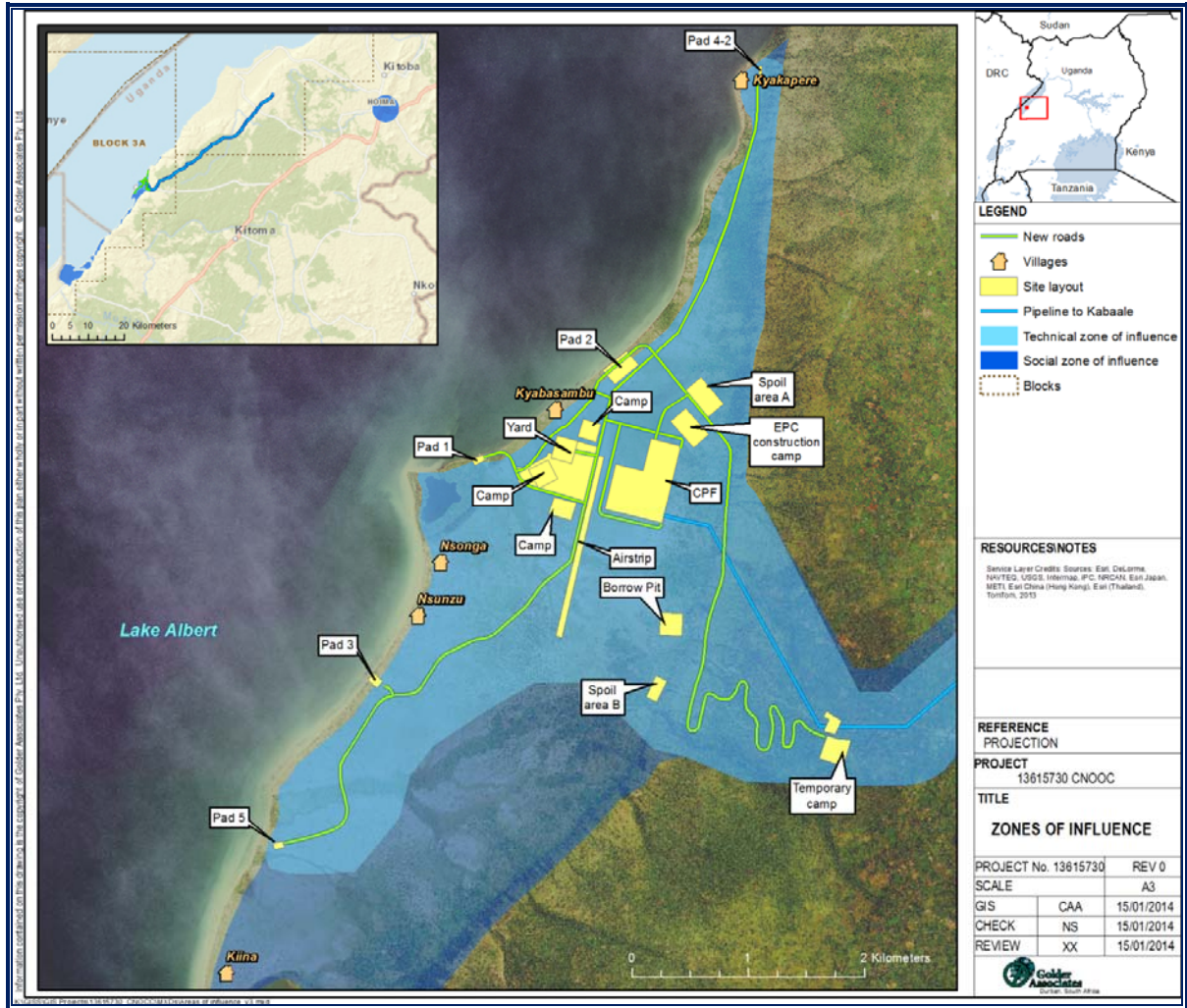


Figure 3: Project components on Buhuka Flats

2.2.2 Project Process Flow

- The process will begin with the drilling and construction of wells from the five onshore (proposed) well pads. A typical well pad will be approximately 260m x 180m in size and will include a rig and auxiliary facilities, drill waste pits, fuel tank storage area, drilling fluids preparation area and mud tank, flare pits for emergency use, control rooms, fence among others. All five well pads, including the three existing well pads, will be constructed and/or upgraded to meet well drilling requirements. All 40 wells are proposed to be drilled from the five onshore well pads. Drilling for oil will be very deep, at more than 2000m below the surface of Lake Albert [3].
- After well completion, the rig and the auxiliary facilities will be removed and feeder field pipeline will be installed to transfer the well-fluids from the well to the CPF.

- The well-fluids (mixture of gas, crude and water, etc.) will be sent to the CPF via infield flowlines from the individual well pads. The production flowlines, the water injection flowlines, and the water intake flowline will be constructed using certified carbon steel.
- The well-fluids will be processed in the CPF to separate formation water and associated gas from the oil phase. The oil will be stabilized, desalted and dehydrated to meet export specification to delivery point.
- Associated gas will be separated at the CPF and utilized for field requirements as fuel gas. A safety flare system will be developed in the CPF.
- A schematic diagram of the process flow is illustrated in Figure 4 below. This will be updated based on the final front-end engineering design (FEED).

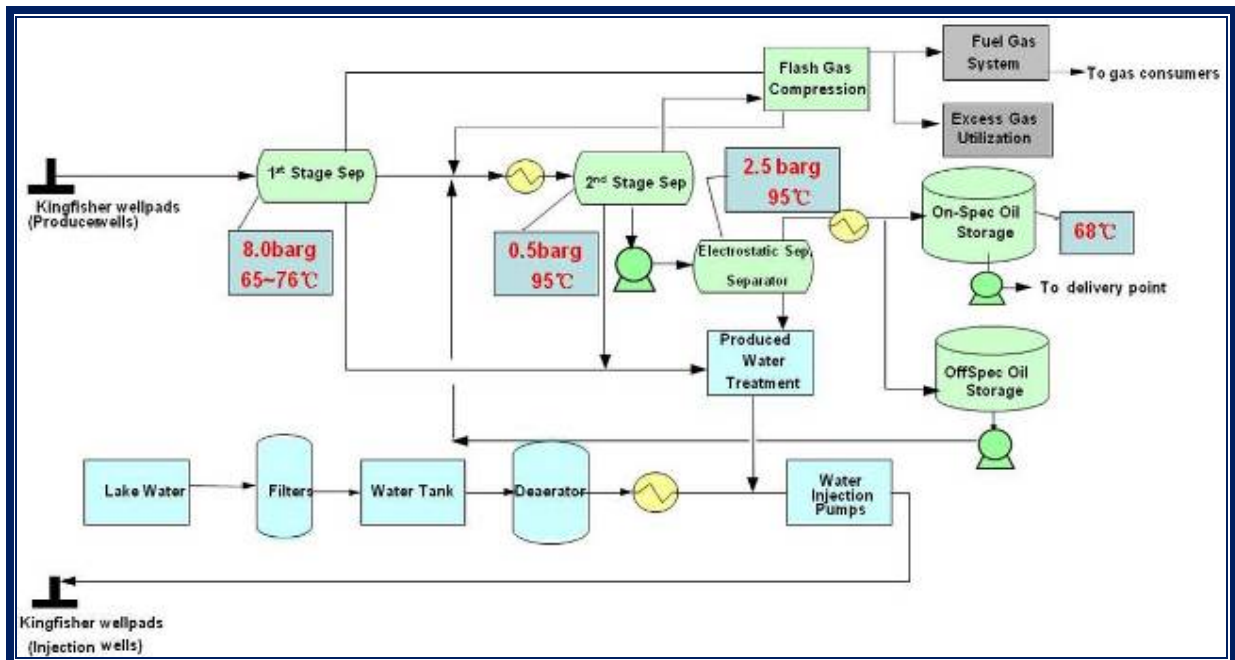


Figure 4: Schematic process flow

In addition to the processes described above, the CPF will include (final plans as part of FEED) [3]:

- Produced oil and off-spec oil tankage as storage.
- Fuel production for Project use.
- Diesel fuel storage.
- Transmission pipeline station.

- Flow-line receivers station.
- Open and closed drain systems.
- Integrated control safety and shutdown system as well as other plant safety equipment including fire and gas detectors, fire water storage, a fire water main with hydrants and monitors, CO₂ system, fire station equipped with fire engine(s) as required.
- Field instrumentation, including flow metering.
- Manned control room.
- Security with area lighting, closed circuit TV and fences/barriers.
- Maintenance workshop.
- Laboratory.
- Office and administration areas.

2.2.3 Crude Oil Feeder Pipeline

A 46 km long buried pipeline will be developed from the CPF to the refinery. The pipe will be made of carbon steel at a width of 30-35 cm, requiring a servitude of 30m². Other pipeline features include:

- Two block valve stations:
 - One at the CPF, from the delivery point to the pipeline.
 - Second, located at the top of the escarpment to manage the volume of potential leaks from the entire pipeline as it could be switched off from the CPF, and to manage pressure ratings created by the escarpment.
- The pipeline will be insulated to achieve and maintain flow temperatures, at or above pour point, plus 5 degrees Celsius (5°C).
- An electricity cable running parallel to the pipeline will provide power to the intermediate heating stations along the pipeline route. A fibre-optic cable will also run alongside the pipeline to support monitoring and safety requirements.
- Service roads will be required to allow for pipeline inspections in given sections.

2.2.4 Spatial Boundaries

The spatial boundaries for Project infrastructure are outlined in Figure 1 and Figure 2. For completeness, they include the following:

- Well-pads, CPF and associated infrastructure on Buhuka Flats. This is located within Buhuka Parish and consists of 11 villages in the local study area and directly within

the Project footprint (8 km either side (north or south) of the Project). These villages have an estimated population of 2,830 households, with a detailed description of village profiles provided in the SIA [2].

- Escarpment road from Buhuka Flats to Ikamiro village. This is still within Buhuka Parish, and includes the village of Ikamiro, as well as other villages in association with the Project (especially those on Buhuka Flats) as the new road will dramatically improve access into the study area.
- Stabilised crude oil pipeline from the CPF along a 46 km route to a refinery site near Kabaale. This includes 23 larger settlements with a detailed description of village profiles provided in the SIA [2].
- Upgrades to access roads from Hoima Municipality to Ikamiro.

2.2.5 Temporal Boundaries

The Project involves three phases: preparation phase, construction and drilling phase, and operation phase. A number of sequential steps in development need to be completed to support the other, as shown in Figure 5. The final plans will be part of the final FEED.

During the preparation phase, a range of geophysical survey, planning and designing work will be done. During the construction and drilling phase, a range of well pads, wells, pipelines, central processing facilities, camps, airstrip, road, jetty, and other infrastructural support facilities will be constructed.

Drilling operations of development wells shall continue after the onset of the first oil production, which is expected in 2018/2019. There is however a strong dependency on the development of the oil refinery to support the development of the Project. As mentioned, the Project will have an expected life span of 25 years once in operation [3].

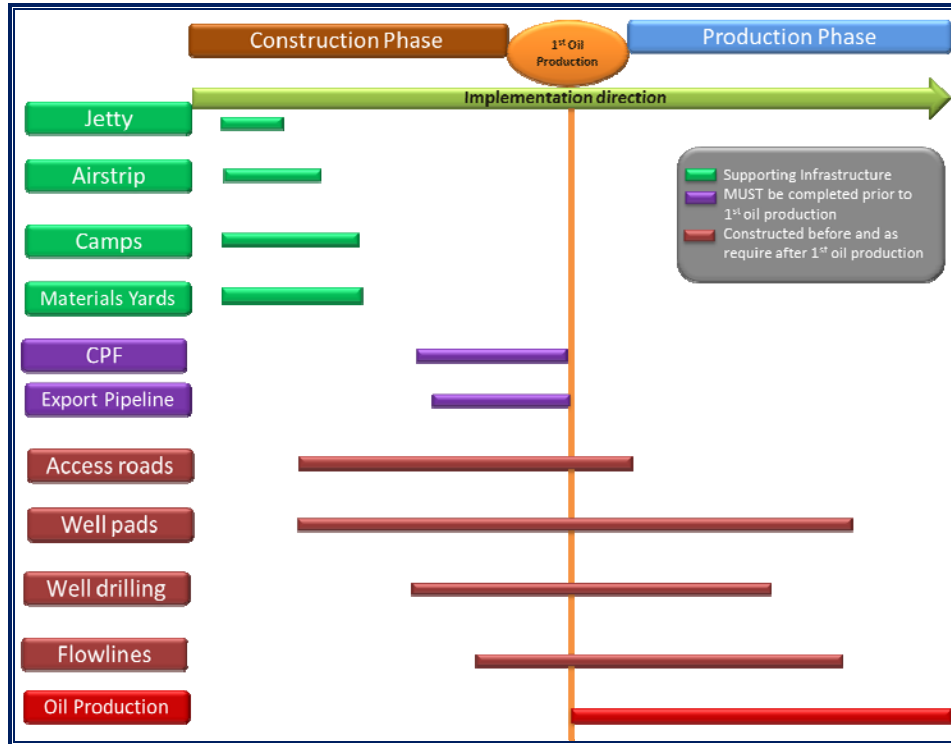


Figure 5: Construction and implementation schedule

2.2.6 Construction Support

A quarry will be developed to support the development of the CPF and related infrastructure. The location of this facility is not yet known and subject to on-going studies. It will be important to consider from an environmental health perspective with air quality, noise and vibration all potential impacts.

2.2.7 Accommodation Camps

A number of accommodation options will be developed for the Project:

- The drilling crew camp (drilling camp), which is the current Bugoma camp located near Kyabasambu village. The camp can accommodate a maximum of about 250 people.
- The permanent operators' accommodation camp (production camp). This will be similar to the drilling camp, with more permanent facilities. Based on initial estimates the camp would be sized for around 220 personnel, including operational, maintenance, support, security and other personnel.
- Two temporary construction camps will be required: One dedicated to the CPF and in-field facilities (will be located on the Buhuka Flats north of the CPF).

The other will be dedicated to the pipeline construction workforce, and while the exact location is yet to be determined, it is likely to be located around the mid-way point of the pipeline route. This will provide single accommodation and welfare facilities for the pipeline construction team and would be fully self-sufficient comprising power generation, water treatment and sewage, and waste disposal.

- There is a proposed consideration to maintain and upgrade the current escarpment road construction camp located near Ikamiro village. Due to its strategic location, it can be used as a security watchtower, evacuation base, or a stopover for very important persons visiting the Project.

The services in the camp are described in the ESIA scoping report and the final design and scope of service will be defined in the FEED, but include:

- Sleeping facilities of varying grades with ablution facilities.
- Messing and laundry services.
- Medical facility.
- Recreational facilities.
- Potable water production and storage facilities.
- Sewage water treatment plant.
- Fuel station and vehicle maintenance house and washing bay.
- Waste storage.
- Fire and security.
- Training rooms and offices.

2.2.8 Staff Requirements

Staff requirements are not known yet and will be subject to planning as part of the FEED.

The following are estimates of the number of people required:

- Construction phase:
 - CPF: [REDACTED]
 - Pipeline: [REDACTED]
- Operations phase:
 - Approximately 240 people.

Their respective origins and splits between expatriates, other country nationals and Ugandans are not known yet. However, CNOOC has a casual labour policy in place that

aims to comply with a 60% local resident employment target for casual job opportunities. Contractors will need to comply with this.

2.2.9 Access Roads and Transport

Access roads will be developed for the Project including the escarpment road, infield roads and regional roads [3].

The escarpment road has been subject to a separate ESIA process, and as the road construction was underway during the HIA, only future health impacts related to the road are to be considered. The road connects Ikamiro to Buhuka Flats and will be about 7 kilometres long, 9 metres wide, and important aspects from a health perspective include:

- Two construction camps.
- Crusher plants.
- Borrow pits.
- Water abstraction points.
- Dumping of material onto stockpiles.
- Movement of heavy vehicles with excavation and material haulage.

The in-field roads were addressed in the same ESIA as the escarpment roads and include roads on Buhuka Flats. Regional roads include the upgrade of the road that links Ikamiro to the new tar road (near Hohwa) that further links Hoima.

The existing airstrip near Kyabasambu village will be upgraded in the construction phase.

2.2.10 Waste Management

A separate waste management specialist study has been completed as a portion of the Project ESIA [138]. Waste management is addressed under the Ugandan National Environment Management Authority and related guidelines, and international practices and safeguard policies for oil and gas management (including DFI standards), with the following key findings that have relevance to human health:

- The Project is located in a remote area, with no current landfill or waste disposal sites.
- General and hazardous waste generated during the construction of Project infrastructure will not be mixed, but stored separately before removal by a private

contractor for disposal at approved waste facilities. Waste will be recycled as far as possible. Potential hazardous waste material generated during construction may include solvents, paints, welding/grinding by products, oils and grease.

- Drilling waste streams cannot be pre-classified and can only be analysed once produced to determine their classification, and risk to human health. Evidence has shown the waste from drilling in Uganda has substances capable of polluting the environment, especially traces of heavy metals and residual hydrocarbons.
- It is anticipated that large volumes of potential hazardous material will be stored and handled at the CPF. There is the potential for spills of oil, fuel and chemicals if due care is not taken.
- Production waste streams that will be generated can also not be pre-classified and will be subject to analysis once the CPF and other aspects are operational. The specialist study has developed an estimated waste inventory that includes waste oil and other hydrocarbon waste, waste production water, metals soiled with oil, domestic waste from food, plastics etc., and domestic waste water effluent from the various camps. These various materials have either been classified as non-hazardous or hazardous with various treatment options:
 - Hazardous material in form of hydrocarbon or contaminated by hydrocarbon- offsite treatment by approved waste company.
 - Hazardous domestic wastewater effluent- treated on site and discharged back into environment based on accepted discharge limits.
 - Non-hazardous domestic waste- landfill storage for later disposal at a licensed offsite landfill, and recycling.
- Unauthorised disposal of waste is also addressed which is important as illegal disposal or open burning of waste can pose health impacts. This includes re-use of containers that previously contained hazardous material, for collecting or storing water.
- Management and mitigation measures have been proposed for the construction, operations and closure phase of the Project, which includes the development of a specific waste management plan.

2.2.11 Electricity

Electricity will be generated at the CPF from the gas generated from the processing of well-fluids. The excess gas will be adequate for all power generation needs, heating systems and

other utilities. Electrical switchgears (medium and high voltage) and a power supply distribution system shall be developed and provided to Project infrastructure including [3]:

- The CPF.
- CPF delivery point on the pipeline.
- Well-pads with a transformer and switchgear at the each well-pad.
- Water extraction (from the lake) pump station.
- Heating stations and block valve stations along the crude pipeline.
- Permanent accommodation area.

In addition, back-up power will be provided through fuel powered generators.

2.2.12 Water

Water for the process needs of the Project will be sourced from two main sources [3]:

- Water produced during the separation of well-fluids at the CPF. The water produced from the separators will be treated in three stages to meet the required standards for water injection into wells. The CPF will be designed to produce 110,600 barrels of water per day.
- Water from Lake Albert will be abstracted at an intake facility and pumped to the CPF via a dedicated flow-line. This water will also be treated to ensure that it is suitable for water injection into wells.

The CPF will have the capacity of processing 124,500 barrels of water per day for water injection into wells.

2.2.13 Resettlement and Land Take

Land acquisition and resettlement will be required for the Project and these will be addressed in the ESIA and the Resettlement Action Plan (RAP). This is a requirement under Ugandan legislation and DFI Performance Standards.

Based on information in the SIA, Project infrastructure is expected to result in the loss of approximately 91.4 ha of land in Buhuka Flats (approximately 6% of the available land area). Only 0.2 ha of cultivated land will be lost as the predominant crops are grown as “backyard gardens” (mainly vegetables) that will be retained. Lost grassland for cattle grazing will be a more significant impact as the area is already over grazed and less land will place even

more pressure on the available land for grazing [2]. This will be addressed as part of the livelihood restoration plan to be developed together with the RAP.

In addition to the loss of land, 6 household structures are located directly within the Project infrastructure footprint, with a further 217 structures located within 50 metres from all proposed infrastructure. A total of 569 structures are located within 200 metres of the Project, with substantial number (319) located close to pad 4-2 in Kyakapere village. To avoid this physical resettlement of households, it has been proposed to re-position pad 4-2 [2].

The pipeline is expected to require a construction servitude of 10 metres, which will result in the temporary loss of all crops during construction, until the land is rehabilitated. In addition, the pipeline may affect a substantial number of household structures, but the final alignment will endeavour to minimise impacts as much as possible [2].

The final RAP will need to include a review from a health perspective, but for the purposes of the HIA, general impacts related to physical resettlement and economic displacement will be considered.

3 Relevant Legislation and Policies

For the purposes of the HIA, it is relevant to consider the laws and regulations of Uganda as well as international principles, performance standards and best practices of the mining sector.

3.1 National Legislation

There were no specific references found that legally require the assessment of community health or the use of HIA as a specific requirement for Oil and Gas project developments.

Specific laws that relate to health will be addressed below and reference is made to key environmental legislation, which will be addressed in the relevant specialist studies. Most of these legislation can be found in Lexadin [4] and the Uganda Law Library [5] websites. While some of the laws do make specific reference to health, it is often limited to pollution or general safeguards but does not include any description of specific health outcomes or determinants to consider, or any approaches/methodology to adopt when accessing potential human health impacts.

3.1.1 *The National Environment Act 1995 (Cap. 153)*

An Act to provide for sustainable management of the environment and to establish an authority as a coordinating, monitoring and supervisor body for that purpose:

- **Section 24-32: Environmental standards**
 - Air quality standards.
 - Water quality standards.
 - Standards for the discharge of effluent into water.
 - Standards for the control of noxious smells.
 - Standards for the control of noise and vibration pollution.
 - Standards for subsonic vibrations.
 - Soil quality standards.
 - Standards for minimisation of radiation.
 - Other standards (for industrial products, solid waste disposal, etc.)

- **Section 34-57: Management of the environment and control of pollution**
 - Restrictions on the use of wetlands.

- Management of wetlands.
- Land use planning.
- Management of dangerous materials and processes.
- Duty to manage and minimise waste.
- Management of hazardous waste.
- Prohibition of discharge of hazardous substances, chemicals, oil, etc. into the environment and spiller's liability.
- Prohibition of pollution contrary to established standards.

3.1.2 Public Health Act (Cap. 281 of 1935)

This Act consolidates the law regarding the safeguarding and promotion of public health:

- **Section 28-35: Provisions regarding certain epidemic or endemic diseases.**
 - Applies to diseases such as plague, cholera, yellow fever, cerebrospinal meningitis, typhus, sleeping sickness or human trypanosomiasis and any other disease which by statutory order is declared a formidable epidemic disease.
 - Local authorities to report notification of formidable epidemic disease by expeditious means.
 - Power of Minister to make rules for prevention of disease.
- **Section 36: Prevention of introduction of infectious diseases**
 - For the purpose of preventing the introduction of infectious disease into Uganda, the Minister may by statutory order; (a) regulate, restrict or prohibit the entry into Uganda of any person or of persons of any specified class or description or from any specified country, locality or area; b) regulate, restrict or prohibit the introduction into Uganda or any specified part of Uganda of any animal, article or thing; c) impose requirements or conditions as regards the medical examination, detention, quarantine, disinfection, vaccination, isolation or medical surveillance or otherwise of persons entering, or the examination, detention or disinfection or otherwise of such persons as aforesaid or of articles or things introduced into any part of Uganda.
- **Section 54-73: Sanitation and housing**
 - Every local authority shall take all lawful, necessary and reasonably practicable measures for maintaining its area at all times in clean and sanitary condition, and for preventing the occurrence in the area of, or for remedying

or causing to be remedied, any nuisance or condition liable to be injurious or dangerous to health.

- What constitutes a nuisance (Clause 57).
- No person shall cause a nuisance, or shall suffer to exist on any land or premises owned or occupied by him or her or of which he or she is in charge, any nuisance or other condition liable to be injurious or dangerous to health.
- Rules as to buildings (Clause 71).
- A local authority or a medical officer of health may enter any building or premises for the purpose of examining as to the existence of any nuisance in the building or premises at all reasonable times.
- **Section 74-92: Sewerage and drainage**
 - Right of owners and occupiers within district of local authority to drain into public sewers.
 - New buildings to be provided with any necessary drains, etc.
 - Latrine accommodation to be provided for new buildings.
- **Section 93-99: Prevention and destruction of mosquitoes**
 - Any collection of water, sewage, rubbish, refuse, ordure or other fluid or solid substance, which permits or facilitates the breeding or multiplication of animal or vegetable parasites of human beings or domestic animals, or of insects or of other agents cause or facilitate the infection of human beings or domestic animals by such parasites; and
 - Any collection of water in any well, pool, gutter, channel, depression, excavation, barrel, tub, bucket or any other article, found to contain any of the immature stages of the mosquito; shall be nuisances liable to be dealt with in the manner provided in this Act for the treatment of nuisances.
 - Premises not to be overgrown to allow breeding of mosquitoes.
 - Wells and other water storage to be covered.
 - Where any of the immature stages of the mosquito are found on any premises in any collection of water in any cesspit, well, pool, channel, barrel, tub, bucket, etc, fallen or standing, immediate steps will be taken to destroy the immature stages of the mosquito by the application of oil or larvicide, or otherwise.

3.1.3 The Water Act of 1997 (Cap. 152)

The Water Act applies to the use, protection and management of water resources and supply.

- **Section 5-8: Right in water and water use**
 - All rights to investigate, control, protect and manage water in Uganda for any use is vested in the Government.
 - General rights to use of water (Clause 7).
 - Limitation on use of water (Clause 8).
- **Section 12-16: Water investigation**
 - The Minister may provide for the collection, collation and analysis of data concerning the occurrence, flow, characteristics, quality and use of any water or waste.
 - Power to enter land and investigate water resources.
 - Adherence to the National Water Action Plan.
- **Section 20: Water pollution**

A holder of a permit shall:

 - not cause or allow any water to be polluted;
 - prevent damage to the source from which water is taken or to which water is discharged after use; and
 - take precautions to ensure that no activities on the land where water is used result in the accumulation of any substance, which may render water less fit for the purpose for which it may be reasonably used.
- **Section 28: Waste discharge**
 - A person who is responsible for the production, storage, discharge or deposit of any waste shall not cause or permit any waste to be discharged directly or indirectly into any water, except in accordance with a waste discharge permit.

3.1.4 Control of Smoking in Public Places Regulations, 2004

This supplementary regulation can be found in section 107 of the National Environment Act (Cap. 153). It prohibits and controls the smoking of tobacco and tobacco products in public places.

- **Regulation 3 (1): Right to a smoke-free environment**

Every person has the right to a clean and healthy environment and the right to be protected from exposure to second hand smoke.

- **Regulation 3 (2): Duties**

Every person has a duty to observe measures to safeguard the health of non-smokers.

- **Regulation 4-6: Non-smoking and smoking areas**

Smoking is prohibited in enclosed, indoor area of a public place including public transport
The owner of a public place may designate a smoking area detached from non-smoking areas.

- **Regulation 7: Signage**

The non-smoking and smoking areas shall be marked with clearly legible and prominent signs as per this regulation.

3.1.5 Employment Act, 2006

- **Section 33: Medical examination**

The Minister may by regulations require persons over the age of 18 years seeking employment involving exposure to hazards specified by regulations to undergo medical examination before being engaged by an employer and at regular intervals thereafter.

- **Section 36: Employment of children**

A child under the age of 14 years shall not be employed in any business, undertaking or workplace, except for light work carried out under supervision of an adult aged over 18 years, and which does not affect the child's education.

- **Section 55: Sick Pay**

An employee who has completed no less than one-month's continuous service with an employer and who is incapable of work because of sickness or injury is entitled to sick pay. Guidelines for the administration of this regulation are well outlined in subsequent sections of the Act.

3.1.6 Occupational Health and Safety

Laws and regulation in respect to occupational health are well described in the country's Occupational Safety and Health Act, 2006 [6]. Highlights include:

- Workplace to be kept clean.
- Healthy and safe working environment.
- Provision of adequate sanitary conveniences.
- Provision of adequate safe drinking water.
- Provision of protective gear.
- First aid at the workplace.

- Fire preparedness and adequate response.
- Safe use of machinery, plant and equipment.
- Handling of hazardous materials.
- Medical examination or supervision in certain processes.

3.2 National Plans and Strategies

A number of national strategies and plans that are operational and relevant to health include:

- National Health Policy II of 2010 – aims to attain a good standard of health for all people in Uganda in order to promote healthy and productive lives.
- Health Sector Strategic and Investment Plan 2010/11-2014/15 – aims to attain significant reduction of morbidity and mortality due to environmental health and unhygienic practices and other environmental health related conditions.
- The National Human Immuno-deficiency Virus (HIV) Prevention Strategy for Uganda 2011-15.
- National Strategic Plan for HIV and AIDS 2011/12-2014/15
- National Development Plan 2010/11-2014/15 - advocates for reduction of poverty, improved nutrition and food security, protection of the environment and sustainable use of natural resources, promotion of positive health seeking behaviour, etc.
- Uganda Nutrition Action Plan 2011-2016.
- The Uganda Gender Policy – advocates for women empowerment.
- The National Food and Nutrition Strategy 2005 – envisions a hunger free country without malnutrition in all segments of the population.

3.3 International Management Standards

3.3.1 Development Financing Institution Guidelines

There are a number of international guidelines or good international industry practice (GIIP) guidelines that support an approach to evaluating community health impacts linked to industrial development projects.

SHAPE follows the 2012 International Finance Corporation (IFC) Performance Standards (PS) on Environmental and Social Sustainability as the benchmark GIIP as this is supported as a well-established methodology published in the scientific literature and forms the default guidance for a number of multilateral financial institutions and industry trade associations [7]. These are generally the default standards that are used to support the Equator Principles for Financing Institutions (EPFI), which are a benchmark for the

IFC Performance Standard 4 (2012) “Community Health, Safety and Security”:

The client will evaluate the risks and impacts to the health and safety of the affected communities during the project life-cycle and will establish preventive and control measures consistent with good international industry practice (GIIP), such as in the World Bank Group Environmental, Health and Safety Guidelines (EHS Guidelines) or other internationally recognized sources. The client will identify risks and impacts and propose mitigation measures that are commensurate with their nature and magnitude. These measures will favor the avoidance of risks and impacts over minimization.”

financial industry in order to ensure that the projects they finance are developed in a manner that is socially responsible and reflect sound environmental management practices. These standards are often used as GIIP, irrespective if the company requires external financing. PS 4 which deals specifically with Community Health, Safety and Security and the IFC “Introduction to HIA” Good Practice Note (GPN) will be followed throughout the HIA process [7, 8]. PS4 recognises the public authorities’ role in promoting health and safety of the public but addresses the client’s responsibility to avoid or minimise the risks and impacts on community health that may arise from Project related activities. A specific element focuses on addressing changes in ecosystems services and how these may affect human health.

3.3.2 International Conventions

Uganda is a signatory to various international conventions and protocols that will be applicable to the Project and provide additional direction in the absence or limitation of local legislation or policy. These include:

- The International Labour Organization Conventions (ILO) with a broad range of standards. Uganda is a member of the ILO since 1963 and is a signatory to 31 ILO Conventions [9].

- The World Health Organization Framework Convention on Tobacco Control (adopted at 56th world health assembly, 21 May 2003).
- The Ramsar Convention on Wetlands of International Importance adopted in February 1971. Uganda entered the convention in 1988 and has 12 Ramsar Sites including the Murchison Falls- Lake Albert Delta Wetland System [10].
- United Nations Agencies including [10]:
 - International Health Regulations as promulgated by the World Health Organization (WHO).
 - United Nations Environmental Program including Stockholm Convention on Persistent Organic Pollutants (Resolution No. 19/96 of November 26, 1996).
 - United Nations Framework Convention on Climate Change.
 - Kyoto Protocol (Resolution No. 10/2004 of 28 July).
 - Basel Convention on the Control of Trans boundary Movements of Hazardous Wastes and Their Disposal (Resolution 18/96 to November 26, 1996).
 - United Nations Development Programme. Global and Inclusive Agreement 2002.
 - Convention on the Elimination of All Forms of Discrimination against Women.
 - International Convention on the Elimination of All Forms of Racial Discrimination.
 - International Covenant on Economic, Social and Cultural Rights.
 - Convention on the Rights of Persons with Disabilities.
 - Partner programmes such as the Millennium Development Goals (MDGs).
- The Algiers Declaration to Strengthen Research for Health was also adopted in June 2008, supported commitments to narrow knowledge gaps in order to improve health development and health equity in the region [11].
- The Ouagadougou Declaration on Primary Health Care and Health Systems in Africa: Achieving Better Health for Africa in the New Millennium (2008) [12]. This has declaration has nine major priority areas, namely:
 - leadership and governance for health;

- health services delivery;
- human resources for health;
- health financing;
- health information systems;
- health technologies;
- community ownership and participation;
- partnerships for health development; and
- research for health.



3.4 Company Management Standards

Based on information provided it was not evident that CNOOC had any specific management standard to address public or community health as part of project development or the ESIA process.

4 Health Impact Assessment Framework and Methodology

4.1 Introduction and Definitions

A HIA seeks to identify and estimate the lasting or significant changes of different actions on the health status of a defined population. HIA may be defined as “a combination of procedures, methods and tools by which a project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population”. The HIA identifies appropriate actions to manage those effects [13-15]. Thus, HIA has an important role as a key decision-making tool in development planning at the project level.

The WHO defines health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity [16]. This is influenced by a complex interaction of social, economic, genetic, and environmental factors. This follows a very social model of health, and a reductionist approach as described in section 4.2.2, and will be followed in this HIA [8, 17].

HIA assists extractive industry developments by understanding the existing health needs of the community and considering the consequences of different project processes and activities, and how these may influence community health as a decision making tool. These consequences will be formulated into a CHMMP so that the negative health effects are avoided or mitigated, and potential positive effects are enhanced.

HIA needs to be a participative process and inputs of various stakeholders are sought throughout. The process allows the views of different groups, including vulnerable ones, to be considered and to ensure that the proposed CHMMP is respectful of local cultures, perceptions and requirements. The potential for sustainable development is significantly increased through this process.

4.2 Health Impact Assessment Methodology

To ensure compliance with the IFC performance standards the methodology outlined in the IFCs GPN on HIA. The main elements of the GPN are discussed briefly, so the context and methodology of the HIA process is understood.

It is important that a distinction be made between HIA and Health Risk Assessment (HRA). HRA is concerned with the identification of hazards and risks to the workforce, which relate to occupational health and safety and engineering design. Generally, HRA is “within the fence” while HIA is “outside the fence” but there are distinct overlaps with HIA often taking a central position as workplace activities can affect community health and existing community health needs or disease burdens can effect workplace health. It is thus important that these assessments should not be placed into individual elements but integrated to support an overall strategic plan for the project as described in Figure 6. Workplace health is specifically out of scope of the HIA; however, it is important to understand which activities in the workplace can impact community health. This is important as the project activities can impart direct external influences on community health and as the workforce originates from the community workplace activities and potential exposures may be transferred back to the community at the end of shifts.

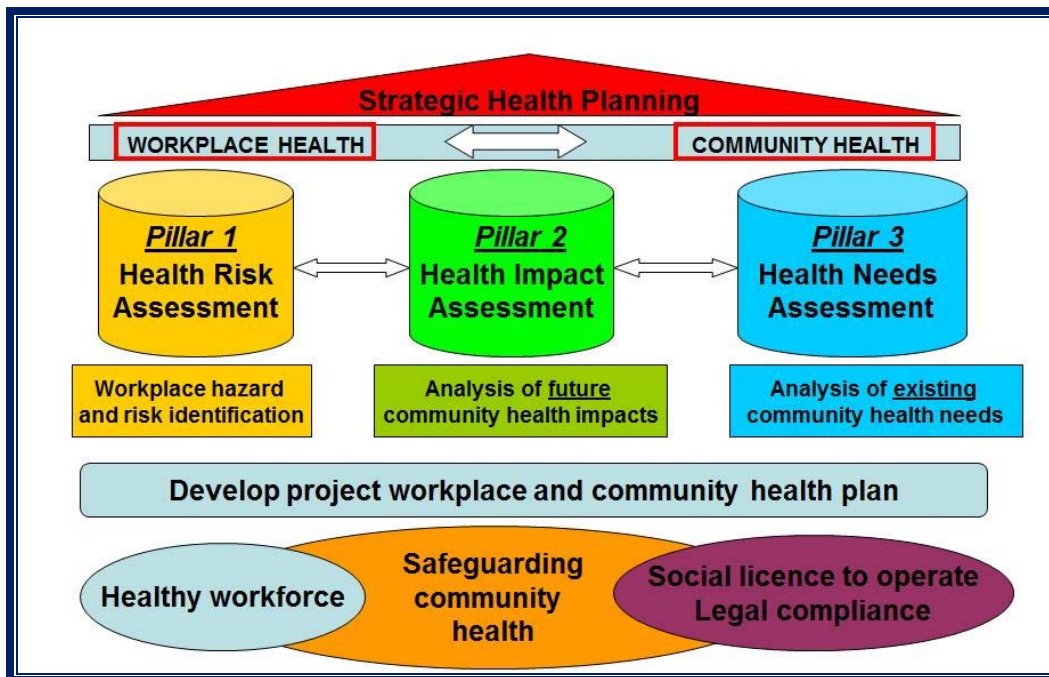


Figure 6: Strategic health assessment pillars

4.2.1 Form and Nature of Health Impact Assessment

Figure 7 outlines the six phase framework in the HIA process, which is based on a same approach followed the ESIA process, which allows for integration across studies as well as compliance with local regulations and GIIP. This integration allows for the development of a CHMMP that generally follows a similar framework to environmental and social management plan (ESMP).

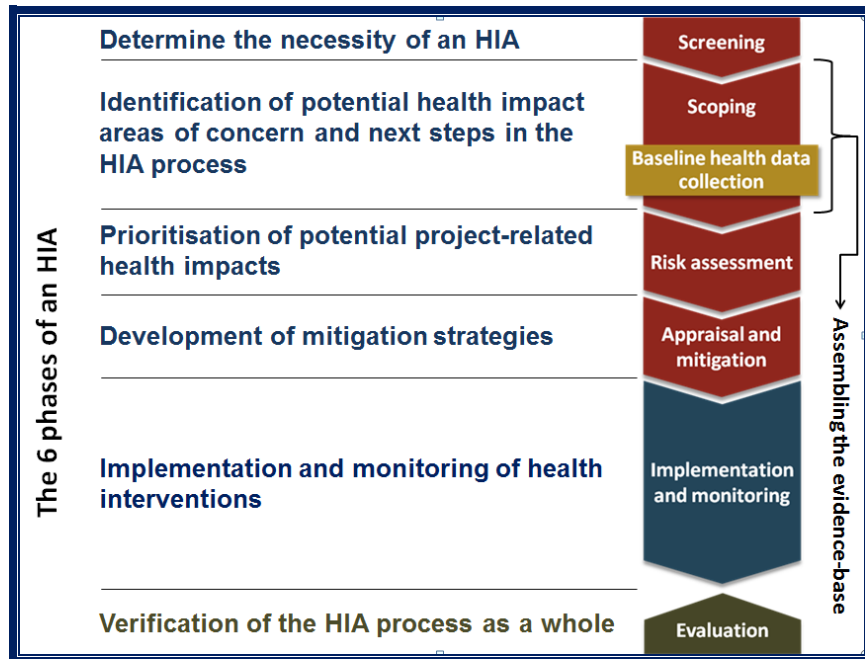


Figure 7: HIA flow chart

HIAs are generally divided into three main levels as described in Table 3. These levels are generally determined at scoping by considering the following: (i) the range and magnitude of potential health impacts, (ii) the social sensitivity of the PACs, and (iii) the definition of the project and its areas of influence (project footprint) [8].

Table 3: Levels of HIA

| Level of HIA | Characteristics |
|---------------------|--|
| Desktop/Scoping HIA | <ul style="list-style-type: none"> • Provides a broad overview of possible health impacts. • Analysis of existing and accessible data. • No new Project specific survey data collection |
| Rapid Appraisal HIA | <ul style="list-style-type: none"> • Provides more detailed information of possible health impacts. • Analysis of existing data • Stakeholder and key informant analysis • No new Project specific survey data collection |
| Comprehensive HIA | <ul style="list-style-type: none"> • Provides a comprehensive assessment of potential health impacts. • Robust definition of impacts. • New Project specific survey data collection • Participatory approaches involving stakeholders and key informants. |

4.2.2 Environmental Health Areas

The IFC methodology uses 13 Environmental Health Areas (EHAs) to support the systematic analysis of health considerations based on an analysis performed and published by the World Bank, as summarized in Table 4 [17, 18]. The set of EHAs provides a linkage between project-related activities and potential positive or negative community-level impacts and incorporate a variety of biomedical and key social determinants of health (reductionist approach). In this integrated analysis, crosscutting environmental and social conditions that contain significant health components are identified instead of an HIA focusing primarily on disease-specific considerations.

While not every EHA may be relevant to a given project, it is still important to systematically analyse the potential for project-related impacts (positive, negative or neutral) across the various EHAs.

Table 4: Environmental health areas

| Environmental Health Areas (EHAs) | |
|--|--|
| 1. | Communicable diseases linked to the living environment – Transmission of communicable diseases (e.g. acute respiratory infections, pneumonia, tuberculosis, meningitis, plague, leprosy, etc.) that can be linked to inadequate housing design, overcrowding and housing inflation. It also considers indoor air pollution related to use of biomass fuels. |
| 2. | Vector-related diseases – Mosquito, fly, tick and lice-related diseases (e.g. malaria, dengue, yellow fever, lymphatic filariasis, rift valley fever, human African trypanosomiasis, onchocerciasis, etc.) |
| 3. | Soil-, water- and waste-related diseases – Diseases that are transmitted directly or indirectly through contaminated water, soil or non-hazardous waste (e.g. diarrheal diseases, schistosomiasis, hepatitis A and E, poliomyelitis, soil-transmitted helminthiases, etc.) |
| 4. | Sexually-transmitted infections, including HIV/AIDS – Sexually-transmitted infections such as syphilis, gonorrhoea, chlamydia, hepatitis B and, most importantly, HIV/AIDS. Linkages of TB will be discussed where relevant under HIV, but often linked to EHA1. |
| 5. | Food- and nutrition-related issues – Adverse health effects such as malnutrition, anaemia or micronutrient deficiencies due to e.g. changes in agricultural and subsistence practices, or food inflation; gastroenteritis, food-borne trematodiases, etc. This will also consider feeding behaviours and practices. Access to land plays a major role in developing subsistence farming contexts |
| 6. | Non-communicable diseases – Cardiovascular diseases, cancer, diabetes, obesity, etc. |
| 7. | Accidents/injuries – Road traffic or work-related accidents and injuries (home and project related); drowning |
| 8. | Veterinary medicine and zoonotic diseases – Diseases affecting animals (e.g. bovine tuberculosis, swinepox, avian influenza) or that can be transmitted from animal to human (e.g. rabies, brucellosis, Rift Valley fever, Lassa fever, leptospirosis, etc.) |
| 9. | Exposure to potentially hazardous materials, noise and malodours – This considers the environmental health determinants linked to the project and related activities. Noise, water and air pollution (indoor and outdoor) as well as visual impacts will be considered in this biophysical category. It can also include exposure to heavy metals and hazardous chemical substances and other compounds, solvents or spills and releases from road traffic and exposure to mal-odours. There is a significant overlap in the environmental impact assessment in this section. |
| 10. | Social determinants of health – Including psychosocial stress (due to e.g. resettlement, overcrowding, political or economic crisis), mental health, depression, gender issues, gender based domestic violence, suicide, ethnic conflicts, security concerns, substance misuse (drug, alcohol, smoking), family planning, HSB, etc. There is a significant overlap in the social impact assessment in this section. |
| 11. | Cultural health practices – Role of traditional medical providers, indigenous medicines, and unique cultural health practices. |
| 12. | Health services and systems capacity – Physical health infrastructure (e.g. capacity, equipment, staffing levels and competencies, future development plans) and institutional capacity within the health service. |
| 13. | Health programs - coordination and alignment of the project to existing national and provincial level health programs, (e.g., TB, HIV/AIDS, malaria), and future development plans. |

4.2.3 Community Profiling

To identify and quantify potential health impacts an accurate population profile is required and it is important to distinguish between differences in exposure and susceptibility. Thus, besides a demographic profile of the at-risk population and the identification of the most vulnerable groups, it is crucial to understand how the construction and operational activities are likely to impact at an individual, household and community level.

The key aspects when considering the potential influence of the project to the PACs is the exposure pathway of the potential health determinant, considering:

- Is there a hazard?
- Who or what may be exposed to this hazard (pathway and rate of exposure to estimate the concentration/extent to which human receptors may be exposed).
- The mode (air, water, food, vector, social determinants etc.) and route (inhalation, ingestion etc.) of exposure?
- What is the risk of exposure based on a likelihood and consequence analysis (magnitude, duration and length)- the impact assessment and modelling phase as discussed in section 4.2.5 and Appendix A;
- How sensitive or vulnerable the receptor is to the potential hazard or impact.

A PAC is a defined community within a clear geographical boundary where project-related health impacts may reasonably be expected to occur. PACs are inherently prospective and simply represent best professional judgments. PACs are likely to change over the course of project implementation; and there may be changes in the project design, and thus its longer-term implications are not fully known. This implies that the definition of PACs may need further adaptation as the project moves ahead; therefore, the specification of a PAC should be viewed as time-dependent as it will evolve over the project cycle. Findings of social and economic assessments, resettlement and influx management plans need to be carefully updated as this allows linkage between the PACs and key demographic determinants such as age structure and population numbers. Mitigation strategies may also require specific considerations for the different PACs. On the one hand, not all the EHAs may be of concern for mitigation for the individual PACs. On the other hand, a separate risk analysis for a PAC may be indicated due to a particular susceptibility to a specific health impact. However, at this stage of the impact assessment only limited risk analysis will be carried out for different PACs.

4.2.4 Baseline Health Studies

It is essential that a baseline against which the impacts of the project can be measured is developed to support the description of the prevailing health status in the communities, prior to project development. Baseline data collection needs to consider what data is available to inform the baseline; what (if any) new data may need to be collected; and if the data is adequate to support future monitoring and evaluation of potential impacts and mitigation/management measures. This is generally defined at scoping, or at the impact assessment process (especially in rapid HIAs), and may involve the additional collection of data, or additional data collection may be a 'condition subsequent' to the impact assessment.

The analysis of baseline data occurs within the framework of the EHAs as described above. This supports a systematic review of data and allows for flexibility in approach across the EHAs. Baseline data collection can be in the form of primary data collection as well as reviewing data from secondary sources. The potential sources of data are further described in Table 5.

Table 5: Sources of baseline health data

| Baseline Health Data Collection and Sources | | | |
|--|--|------------------------------------|--|
| Primary Data | | Secondary Data | |
| Type of data | Source of data | Type of data | Source of data |
| Qualitative from participatory discussions | Key informant interviews with broad range of stakeholders including health authorities, local authorities and agencies | Health data | Literature review of health data in public domain including: <ul style="list-style-type: none"> • Standard open source literature (such as WHO reports etc.) • Published peer review studies. • Health statistics and records from national, regional and local sources. • Health studies performed by agencies and NGOs |
| | Group meetings with local authorities and communities | Social data | <ul style="list-style-type: none"> • Social baseline and impact assessment reports as well as community development reports • Other data such as traffic and crime reports |
| | Focus group discussions with key sections of the community, including vulnerable groups | Environmental data | Project baseline data on potential environmental health determinants, including maps |
| | Direct visualisation of communities, prevailing environmental health, and social challenges. | Similar projects | Evaluating similar projects in similar settings and understanding their potential and actual impacts and what mitigation measures were applied |
| Quantitative | Epidemiological cross sectional baseline health surveys focussed at specific objectives | Stakeholder engagement and reports | Analysis of minutes or reports from stakeholder meetings |
| | Data sources from social and environmental baselines and impact assessments | | Community grievance or concerns register |
| | Routine health information systems | | |

4.2.5 Risk Assessment and Impact Categorization

This process analyses, models and ranks the potential impacts associated with the project and their potential influence on PACs through the different life cycle stages of the project. It includes the analysis of potential negative impacts and their management measures, but also the discussion of potential positive impacts and measures to enhance these. This is based on the evidence presented in the baseline health description, the project activities and information obtained from the ESIA process and other specialist reports/studies that are available.

A standardised risk assessment model was followed for the modelling of impacts and includes:

- identification of health related issues where project activities may impact on a variety of receptors;
- a prediction of what may happen to the PACs and health determinants as a result of the direct and indirect activities of the project- the impact definition; and
- the impact evaluation, which considers the significance of the health impacts, based on a consequence and likelihood modelling. This will need to consider an inherent ranking that considers the risks at baseline and the project related impacts without mitigation, as well as the residual risks after the successful implementation of proposed mitigation measures.

The precautionary principle was adopted in analysing and modelling impacts¹.

The evaluation of the significance of the impacts will also consider the confidence/uncertainty of the assessment. This will occur for both inherent and residual risks with the following considerations:

- the uncertainty analysis for the assessment of inherent risks will present the confidence of the assessor in determining the potential of the impacts to occur based on the evidence to hand; and

¹ If an action or policy has a suspected risk of causing harm to the public or to the environment, and in the absence of reliable evidence that the action or policy is harmful, then the burden of proof that it is *not* harmful falls on those taking the action.

- the uncertainty analysis for the assessment of residual risks will present the confidence of the assessor in determining how likely the mitigation measures are to succeed if properly implemented, as well as the ease and practicality of the proposed mitigation measures and the potential for them to be effectively sustained.

The risk assessment process is an entirely subjective process, and to reduce this subjectivity, a number of variables are considered in the assessment process as per the methodology described in Appendix A.

4.2.5.1 Direct Versus Indirect Effects

There are two general categorizations of impact effects, namely (i) direct and (ii) indirect. A direct (primary) effect demonstrates a specific cause-and-effect relationship. An indirect effect is a secondary by-product of an interaction among multiple variables and may be a consequence of a direct effect. Indirect effects are often of equal or greater significance than the more obviously observable direct impacts. The HIA analyses both potential direct and indirect effects.

Theoretically, there are virtually a limitless number of indirect effects that could be hypothesized, and in order to manage this situation the following approach is considered:

- a set of most likely indirect effects will be constructed on the basis of past relevant experiences at similar projects; and
- a sufficiently robust monitoring and evaluation system will be developed in a CHMMP such that early detection of significant indirect effects is possible.

4.2.5.2 Cumulative Effects

In this HIA, cumulative impacts will be considered, but only in a qualitative fashion, as there is no formal agreed definition for cumulative impacts from an HIA perspective. For the purpose of this HIA, cumulative impacts are considered to be generated by multiple causes and pathways and may arise on a human receptor at any scale [19].

4.2.6 Management and Mitigation

Mitigation refers to measures that avoid, minimize, eliminate an adverse effect, or maximize a potential benefit. Although mitigation is presented as the final phase of the HIA, it should be viewed as an on-going process, beginning as the project is being conceptualised and

designed, and ending only when impacts from the project operations and final decommissioning have concluded. When there is a significant process change or development of new aspects of the project, it is important that potential health impacts be considered as part of this. Impacts and associated mitigation measures also require constant review and adjustment and thus the plan, do, check review management cycle must be followed, in sustainably addressing health impacts and associated management measures.

Recommendations for mitigation/management will focus on identification of measures that can be taken to reduce potential impacts to as low as reasonably practicable (ALARP) both from a technical and financial perspective. These are generally presented based on a hierarchy of controls with avoidance as the priority where possible, as presented in the following (in order of importance) list:

- avoid at source – remove the source of the impact;
- abate at source – reduce the source of the impact;
- attenuate – reduce the impact between the source and the receptor;
- abate at the receptor – reduce the impact at the receptor;
- remedy – repair the damage after it has occurred; and
- compensate – replace a lost or damaged resource with a similar or a different resource of equal value.

The measures described above promote pre-execution advice to the project which can be incorporated in the design phase and support the use of HIA as a decision making tool. This can include a range of alternatives for example location of specific project infrastructure and selection of equipment, social development priorities etc. It is easier to propose changes at the front end rather than promoting challenging and expensive retrofits.

For the purposes of the project, mitigation measures have been divided into three categories based on the focus of the intervention, namely:

- **Project impact mitigation:** Interventions required in order to mitigate the future health impacts of a project on PACs. Due to their influence, these mitigation measures are deemed as required and not merely voluntary contributions, and thus the precautionary principle will apply where relevant. These may also be regulatory requirements.

- **Occupational health, safety and environmental management:** Interventions aimed at ensuring a healthy, safe and productive workforce. In addition, it considers aspects that can be controlled in the workforce to prevent community health impacts occurring from a health, safety and environmental perspective.
- **Strategic community investments:** Interventions suggested that will improve the existing health status of the communities. These can be in the form of negotiated commitments made by the project proponents as well as extended benefits, which should bring about health benefits and improve social license to operate in the receptive communities. It should also promote project sustainability if developed based on sustainability principles.

The current HIA will have limited focus on these strategic community investments as it is anticipated that these will be developed as part of a community development plan, which is out of the current HIA scope. It is however noted that there is often an overlap between required mitigation measures and extended benefits, which are generally based on negotiated commitments to maximize potential health benefits in the potentially affected communities.

The management and mitigation measures proposed in the impact assessment will form part of the framework CHMMP that will form the final commitments to be included in the ESMP.

4.2.7 Monitoring and Audit

The CHMMP will ensure that the associated mitigation measures and interventions are meeting the desired objectives. Any monitoring system must have sufficiently sensitive and specific key performance indicators (KPIs) so that changes in key objective endpoints can be documented in an appropriate and timely manner.

Numerous KPIs have been established for monitoring health performance indicators and for the purposes of the HIA, these are divided into three categories [8]:

- **Structural-** buildings, equipment, drugs, medical supplies, and vehicles; personnel; money; and organizational arrangements;
- **Process-** assess the effectiveness of the actions, and identify who is involved and whether the various programmes are working; and

- **Outcome-** measures the long-term effects of a program. The five Ds (death, disease, disability, discomfort, and dissatisfaction) are typically considered outcome measures. The morbidity and mortality outcome indicators are calculated as rates.

4.2.8 Stakeholder Consultation

Stakeholder engagement and consultation is a crucial element of the HIA process. Project stakeholders are defined by the IFC as 'those individuals and groups that are affected by, or express an interest, in the Project' [7]. Stakeholder consultation in an impact assessment improves the quality and relevance of the findings by providing insights into the likely positive and negative health impacts both from stakeholder experience of the locality, as well as from their experiences of other projects [8]. Stakeholders can inform the project about what they value, as well as recommending, and potentially collaborating in the implementation of the most acceptable ways of mitigating, enhancing and monitoring the potential health and well-being impacts of any developments.

5 Health Impact Assessment Process and Activities

5.1 Introduction

This section describes the HIA activities for the Project and includes a description of desktop work, fieldwork and stakeholder engagement. As the process of HIA is inherently iterative, activities may continue beyond the current reporting in this document, with additional information and mitigation measures added, as they become available. However, for the purposes of the HIA the baseline data collected in the different activities and associated community health profile will serve as the point of departure for the assessment and subsequent surveillance efforts.

The HIA is considered a prospective assessment, although some direct and indirect impacts related to the exploration and early works of the Project are evident in KDA. These include the construction of the escarpment road and the influences of Project induced in-migration. These are discussed in the impact evaluation (section 8), but for the purposes of the HIA, the baseline data collected in the different activities and associated community health profile, will serve as the point of departure for the assessment and subsequent surveillance efforts.

5.2 Health Impact Assessment Process and Activities

5.2.1 Level of Health Impact Assessment

The form of the current HIA has followed a rapid appraisal approach (in yellow in Table 3), but this does not assume that a superficial process was followed, rather that no new Project specific primary quantitative data was collected and stakeholder participation was not extensive. The decision to select a rapid approach was based on timing and other constraints, but it was recognised that the Project met the criteria for a Category A Project (as defined by the IFC). Projects of this nature generally require the collection of robust primary data to support the required evidence to model impacts, and support surveillance activities to monitor and evaluate the predicted impacts and success of mitigation measures.

The current HIA has focussed on analysing available secondary data and primary qualitative data collected using participatory means. While this approach allows for a detailed description of the health baseline and an understanding of specific vulnerabilities in the study area, it does not describe specific indicators at the level of the PACs in detail. These data gaps and opportunities for data gap closure will be highlighted in the impact assessment

chapter as conditions subsequent to the HIA. This will include recommendations for primary quantitative data collection in the form of a cross sectional household survey including collection of biomedical, environmental health and questionnaire based data.

5.2.2 Completed Health Impact Assessment Activities

The HIA process was initiated in February 2015, and included desk and field components as discussed below.

5.2.2.1 Desktop Literature Review

The deskwork initiated in January 2015 and completed in April 2015, consisted of a literature review of secondary data from standard source literature that was available in the public domain. The review was conducted based on the preferred IFC ‘reductionist approach” of evaluating thirteen EHAs to ensure the review was systematic.

The review focussed on the national, provincial, district and (where available) local level, in a step down fashion. Core documents that were consulted include the World Health Organisation Country Cooperation Strategy for Uganda [20], the Uganda Demographic and Health Survey 2011 (UDHS) [21], the Annual Health Sector Performance Report 2012/13 [22], Uganda AIDS Indicator Survey 2011 [23], Uganda Malaria Indicator Survey 2009 [24], the National Household Survey 2009/10 [25], and the 2002 Population and Housing Census [26].

The findings are summarised in the baseline status presented in section 7.

5.2.2.2 Field Work and Stakeholder Engagement

A preliminary field visit was conducted by Dr Mark Divall and Dr Izak Olivier from the 16th to 20th March 2015 with an objective to understand the potential health impact areas of concern, logistics in the study area, meet with key stakeholders and to plan the subsequent field work. Activities included introductory meetings with senior management from CNOOC Uganda, the Hoima District Health Management Team (DHMT) and a field visit along the proposed pipeline route and to the KDA. In addition, communities in the study area were visited, which included an introductory meeting with the village leadership structures and a short walk through of public health facilities. Plans for follow up meetings and engagements

were made at this stage and an overall impression of the Project obtained. The activities of the preliminary activity are summarised in Appendix B (progress report).

A second field visit was completed by three consultants from SHAPE/Golder namely: Dr Izak Olivier, Dr Milka Owuor and Ms Annette Kobusingye, from the 25th April to 1st May 2015. They were supported by CNOOC site team including senior management, community liaison and health departments. The focus of the visit was collection of primary health data through participatory methods and continued stakeholder engagement at the district and community levels. Prior to the field visit, a formal letter was submitted to the Hoima DHMT to request for consultation and inform the stakeholders about the planned visit and the activities (attached in Appendix C).

Stakeholder workshop and key informant interviews

A consultation workshop with the Hoima DHMT was held on the 27th April 2015. A frank discussion was held on the existing health structures, health strategy, needs/challenges, and BOD in the district and the study area. In addition, the potential impacts of the Project were discussed.

The meeting also served as an opportunity to seek permission to conduct key informant interviews (KIIs) with focal programme staff in the district, as well as to gather and review health statistics and information from the district and local level. This also included an assessment of the health facilities in the study area.

A list of key informants consulted at the district and local levels is attached in Table 6.

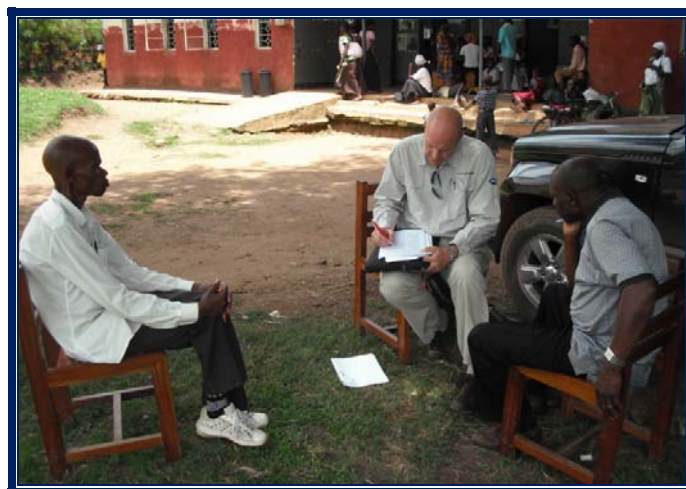


Figure 8:Key informant interview

Table 6: List of key informants consulted at the district and local level

| Name of Key Informant | Function of Key Informant | Date of Interview |
|---|---|--------------------------|
| HIA Introductory meeting - Hoima DHMT | | |
| Kiiza B. Deo | Secretary for Health, Hoima District | 17.03.2015 |
| Fredrick Byenumbe | District Health Inspector, Hoima District | |
| David Kabagambe | Bio-statistician, Hoima District | |
| Kiiza Byaruhanga | District councillor | |
| Fred Kugonza | In Charge - Buhanguzi Health Centre | |
| Patricia Asimwe | HMIS, Hoima DHMT | |
| Isaac Bitamale | CDO-Community Department | |
| HIA Introductory meeting - Kabaale Health Centre | | |
| Bachia Grace | Nursing Officer | 17.03.2015 |
| Hope Jamillah | Enrolled Nurse | |
| HIA Introductory meeting - Kaseeta Health Centre | | |
| Kunihira Mary | Enrolled Nurse | 17.03.2015 |
| HIA Introductory meeting - Kibale Community | | |
| Christus Ataremwe | Community representative | 17.03.2015 |
| HIA Introductory meeting – Ikamiro Community | | |
| Community Leadership | | 17.03.2015 |
| HIA Introductory meeting - Buhuka Health Centre | | |
| Ahaisibwe Innocent | Enrolled Nurse / In Charge | 18.03.2015 |
| HIA Introductory meeting – Nsonga Community | | |
| Kaahwa Godfrey | Chairman - LC II | 18.03.2015 |
| Kyaligorica David | S/LC I | |
| Businge John | Vice Chairman - LC I | |
| Kagooro Felsisters | Councillor | |
| HIA Introductory meeting – Kiina Community | | |
| Kasani Gaki Mozamil | Chairman - LC II | 18.03.2015 |
| HIA Introductory meeting Kyangwali Health Centre | | |
| Ayebale Apolo | Clinical Officer | 18.03.2015 |
| Kule Milton | Pharmacist assistant | |
| Hoima District Health Management Team Workshop | | |
| Dr Francis W Mulwany | Hospital Director - HRRH | 27.04.2015 |
| Beo Kiiza | Secretary for Health and Education – Hoima District | |

| Name of Key Informant | Function of Key Informant | Date of Interview |
|---|--|-------------------|
| Mabwia Flavia | Assistant CA | |
| Annette Mutaganye | District HIV Focal Person | |
| David Timbigamba | DDI – Hoima District | |
| Conrad Mvume | Monitoring and Evaluation officer | |
| Annah Muhave | Marie Stopes Uganda | |
| Lutigard Nyamahunge | Bujumbura Health Centre | |
| Banage Jane | Bugahya HSD | |
| Patricia Assimwe | Hoima HMIS | |
| John Williams Byakagaba | Hoima District Planner | |
| Frederick Byemume | District Health Inspector | |
| Fred Kungonza | In Charge - Buhaguzi Health Centre | |
| Solomon Kwebiiha | Buhaguzi Health centre | |
| Dr Ddungo Mark | Infectious Disease Institute | |
| M Nakafeero | Infectious Disease Institute | |
| Joseph Kasuruba | Bunyoro Television | 27.04.2015 |
| Kamba Isaac | Agricultural program manager - Worldvision | |
| Wilfred Ndozireho | HMC Health Inspector | |
| Moses Rubanga | DHMT member | |
| Odong Saladin David | Malaria Consortium | |
| Kabaale Health Centre Assessment | | |
| Innocent Kusuma | Senior Clinical Officer / In Charge | 27.04.2015 |
| Isingoma James | Chairman – Kabaale village | |
| Hoima Regional Referral Hospital Assessment (HRRH) | | |
| Dr FW Mulwanyi | Hospital Director - HRRH | 28.04.2015 |
| Sr Rita Mbabazi | Senior Nursing Official | |
| Were Mbalaka | Hospital Administrator | |
| Kyangwali Health Centre Assessment | | |
| Nkenga Hakim | Senior Clinical Officer / In Charge | 28.04.2015 |
| Mwesigwa Amon | Public Health Dental Officer | |
| Gumisiza Peter | Medical Laboratory Assistant | |
| Ayesiga Willington | Medical Records Assistant | |
| Buhuka Health Centre Assessment | | |
| Ahaisibwe Innocent | Enrolled Nurse / In Charge | 29.04.2015 |
| Kaseeta Health Centre Assessment | | |
| Byaruwanga Swinous | Senior Clinical Officer / In Charge | 30.04.2015 |
| Bilia Festus | Health Representative - Kaseeta Council | |

Focus group discussions

In addition, focus group discussions (FGDs) were conducted in the study area. The FGDs served as an opportunity to understand how the communities form opinions on health, as well as providing an assessment of the health status and the health knowledge of local people. These were held with women and men. Where possible the groups were separated into older (30 years and above) and younger/youth groups.

The groups were interviewed using a semi-structured questionnaire, which allowed issues of concern to be addressed in a more efficient way. Responses were rapidly analysed to determine the major health themes. This approach allowed for a high-level understanding of the health challenges from both a biophysical and social health perspective. The FGDs were conducted primarily in the local languages and translators were used when necessary. 19 FGDs were conducted with details as shown in Table 7. Figure 9 and Figure 10 shows some images from the FGD sessions.

Table 7: Location, date, gender, age and number of participants of the FGDs

| Location | Date | Gender of participants | Number of participants | Age range of participants |
|---|------------|------------------------|------------------------|---------------------------|
| Nsonga village (including participants from Nsunzu village) | 27.04.2015 | Females (older) | 12 | 35-65 years |
| | | Females (young) | 18 | 16-29 years |
| | | Males (mixed) | 17 | 18-60 years |
| Kiina village | 27.04.2015 | Females (mixed) | 19 | 21- 50 years |
| | | Males (mixed) | 20 | 17-48 years |
| Kyakapere village | 28.04.2015 | Females (older) | 17 | 30-60 years |
| | | Females (youth) | 17 | 15-26 years |
| | | Males (older) | 19 | 30-78 years |
| | | Males (youth) | 17 | 17-24 years |
| Ikamiro village | 28.04.2015 | Males (mixed) | 18 | 24-68 years |
| Ngoma village | 28.04.2015 | Females (mixed) | 21 | 20-64 years |
| Kacunde village | 29.04.2015 | Females (older) | 15 | 27-63 years |
| | | Females (youth) | 15 | 15-29 years |
| | | Males (older) | 13 | 32-56 years |
| | | Males (youth) | 12 | 19-30 years |
| Kyarushesha village | 30.04.2015 | Females (mixed) | 14 | 18-46 years |
| | | Males (mixed) | 18 | 31-53 years |
| Kyarujumba village | 30.04.2015 | Females (mixed) | 12 | 21-52 years |
| | | Males (mixed) | 16 | 22-65 years |



Figure 9: Focus group discussion session with women in the study area, April 2015



Figure 10: Focus group discussion session with men in the study area, April 2015

6 Community Profile

6.1 Socio-Demographic Profile of the Study Area

In the 2002 national population census, Hoima District recorded a total population of 343,618 persons, comprising 50.5% males and 49.5% females (in total 1.4% of the national population) [27]. Of these, 92% were Ugandan nationals and 8% were foreigners. The district recorded a population growth rate of 4.7% between 1991 and 2002, higher than the national rate of 3.2% [27]. Provisional results from the 2014 national population and housing census shows that the district population has increased to 573,903 persons, with a growth rate of 4.3% between 2002 and 2014 [28]. In the same period, Hoima Municipality recorded a population growth rate of 10.7%, the second highest nationally [28]. The district's population is projected to increase to 659,700 by 2016. The rapid increase in the population has been attributed to the high fertility rates, early marriage patterns (2% of males and 3% of females are married between the age 10 to 14) and immigration. The current population density in the district is estimated at 145 persons/km² [2].

The population of the district is predominantly rural and young, with children (under 18 years of age) comprising 55.3% of the total population. Nearly half of the population (46%) is younger than 15 years. The youth age-group (18-30 years) comprise approximately 23% of the district population [29]. A summary of the demographic statistics for Hoima District and Kyangwali Sub-County is shown in Table 8.

Table 8: Demographic indicators for Kyagwali Sub-County and Hoima District

| Indicator | Year | Kyangwali Sub-County | Hoima District |
|--|-----------|----------------------|----------------|
| Population (No.) | 2002 | 42,331 | 343,618 |
| | 2014 | 97,366 | 573,903 |
| Population growth rate per annum (%) | 1991-2002 | - | 4.7 |
| | 2002-2014 | - | 4.3 |
| Sex ratio (No. of males per 100 females) | 2014 | 104 | 99.8 |
| Total households (No.) | 2002 | 6,345 | 70,286 |
| | 2014 | 20,911 | 125,907 |
| Average household size (No.) | 2002 | 4.3 | 4.6 |
| | 2014 | 4.6 | 4.5 |

Based on census data from the Uganda Bureau of Statistics [26-28].

According to the SIA (2013), the number of households in the Buhuka Flats was estimated at 2,831. Household size ranged from 1 to 11 persons, with an average of 8 members per

household. The majority of households (68%) had 6-8 persons, to an estimate of 22,000 people [2].

| | Village Name | Estimated household count |
|----|--------------|---------------------------|
| 1 | Nsonga | 361 |
| 2 | Nsunzu | 598 |
| 3 | Kyabasambu | 127 |
| 4 | Kyakapere | 469 |
| 5 | Kiina | 273 |
| 6 | Busigi | 117 |
| 7 | Kyenyanja | 135 |
| 8 | Ususa | 261 |
| 9 | Kacunde | 231 |
| 10 | Senjonjo | 150 |
| 11 | Sangarao | 109 |
| | Total | 2,831 |

Figure 11: Estimated number of households in Buhuka Flats, 2013

The district is ethnically rich with nearly every tribe in Uganda represented. The Banyoro and Bagungu are the dominant tribes (about 77%), followed by the Alur and Jonam (7%), Bakiga (4%), and Lugbara and Aringa (3%) [2]. These patterns however differ in Buhuka Parish, where the main tribes are the Alur (44%), Bagungu (28%), Banyoro (11%) and Banyankole (5%). Others include the Congolese, Bakonjo and the Iteso [2]. The area is quickly becoming cosmopolitan because of influx of national and foreign population following the emerging developments in the oil industry. Importantly, the social baseline reported that over a third of respondents in the survey had moved into the area in the preceding 10 years. In addition, it was reported that tensions were on the increase between some tribal groups in the study area, driven by issues surrounding village leadership and land disputes. The majority tribal group in the social baseline was the Alur group (69%).

Agriculture (crop farming and livestock keeping) is the main economic activity, with over 80% of the households being actively engaged in it. Main food crops include bananas, sweet potatoes, pigeon peas, finger millet, sorghum, maize, cassava, beans, soya beans, cowpeas, groundnuts, yams and Irish potatoes. Cash crops grown in the area include tobacco, cotton, tea and coffee. Reliance on rain-fed agriculture limits production, with other challenges including; vermin, crop disease, poor farming practices and environmental degradation. Being richly endowed with natural water resources, fishing is another major economic activity, especially for communities in Buhuka Parish. The communities in Buhuka

flats were reported to be dependent on fishing for their livelihood and a number of challenges were noted including overfishing, destructive fishing techniques and general lack of controls. Small-scale industry (such as brick making, metal and wood works, etc.) and tourism also contribute to the local economy [2, 30].

The study area generally has a low level of social infrastructure provision, with limited accessibility to basic health care, education, clean water, electricity and sanitation [2].

6.2 Relevant Topography and Climatic Factors

The topography of Hoima District is generally undulating with relatively flat low-lying areas alternating with broad hills. Altitudes range between 900 m in the west near Lake Albert and 1,100 m in the eastern part of the district. Along the shores of Lake Albert there is a steep rocky escarpment separating the high lands and the narrow low lying strip along the lake at an altitude of 622 m [29]. The district has an area of 5,932km², of which 38% is occupied by surface water (mainly Lake Albert) and 12% (712.3km²) is forest. Other water bodies in the district include perennial rivers Kafu, Howa, Wambabya, Hoima and Waki [29]. There are also seasonal streams and rivers. A series of erosion valleys and gullies cut the escarpment and discharge runoff from the escarpment to the valley.

Lake Albert is an international waterway supporting a range of different livelihood activities, including fisheries and tourism, and is surrounded by an extremely sensitive ecosystem. Annual rainfall in the district ranges between 700 and 1,000 mm with a bi-modal distribution (March-May and August-November). Temperatures are high and vegetation varies from medium altitude moist forests, forest-savannah mosaic, to savannah and swamps [30].

The KDA lies in a rain shadow and has the least amount of rainfall in the district, typically less than 800mm, with the highest temperatures, typically reaching 30°C. Rainfall rises rapidly above the escarpment ranging from 1250-1500mm per annum before tapering off to 1000mm. Temperatures at the escarpment are generally lower than on the lakeshore, typically 18-25°C. The mean annual precipitation in the middle of Lake Albert is around 700 mm and 1200 mm at the top of the escarpment. Winds generally blow in southern and northern directions along Lake Albert. During rain seasons however, afternoon storms are characterized by easterly winds. Wind speeds of up to 20m/s are common in the area [3].

6.3 Project Potentially Affected Communities

Based on the information to hand, the PACs are divided into seven different groups. These divisions have been created based on the heterogeneity of different potential impacts. Potential health impacts are likely to differ between the construction and operations phase, but there is unlikely to be a marked difference in the PACs, noting that the evaluation of potentially impacted areas requiring continued re-evaluation and revision as required.

The PACs are divided into the following groups below and shown spatially in Figure 12.

Immediate Study Area (KDA):

- PAC 1: Communities that is immediate proximity to KDA on Buhuka Flats, with communities either requiring physical resettlement or who will experience economic displacement. These include the villages of Nsunzu, Nsonga and Kyabasambu.
- PAC2: Communities that is immediate proximity to KDA on Buhuka Flats, with communities not requiring physical resettlement or who will not experience economic displacement.
- PAC 3: Communities outside of the immediate KDA, but located on Buhuka Flats. These include the larger settlements of Kiina and Kyakapere, as well as smaller settlements of Baghdad and Juba.

Broader Area:

- PAC 4: Communities located near the Lake Albert shoreline, but not in the KDA or Buhuka Flats. These include communities to the north and south of Buhuka Flats such as Busigi, Kyenyanja, Ususa, Kacunde, Senjonjo and Sangarao

Immediate Study Area Escarpment and Pipeline route:

- PAC 5: Communities located at the top of the escarpment on the access road to the KDA. These communities have experienced influx and the area is likely to be the main location where additional Project induced influx is likely to occur. It includes the communities of Ikamiro, Ngoma and other smaller settlements around Kyangwali. Ngoma is the main trading post for the villagers from Buhuka Flats so has an important location.

Broad Study Area Escarpment, Pipeline route and Access Roads:

- PAC 6: Communities located at the top of the escarpment on the pipeline construction route to the proposed refinery site near Kabaale, and who will be physically relocated or economically displaced by the pipeline.
- PAC 7: Communities located at the top of the escarpment on the pipeline construction route to the proposed refinery site near Kabaale, who will have construction camps or roads in close proximity to the settlements.
- PAC 8: Communities located along the various transport corridors from Hoima to the KDA.

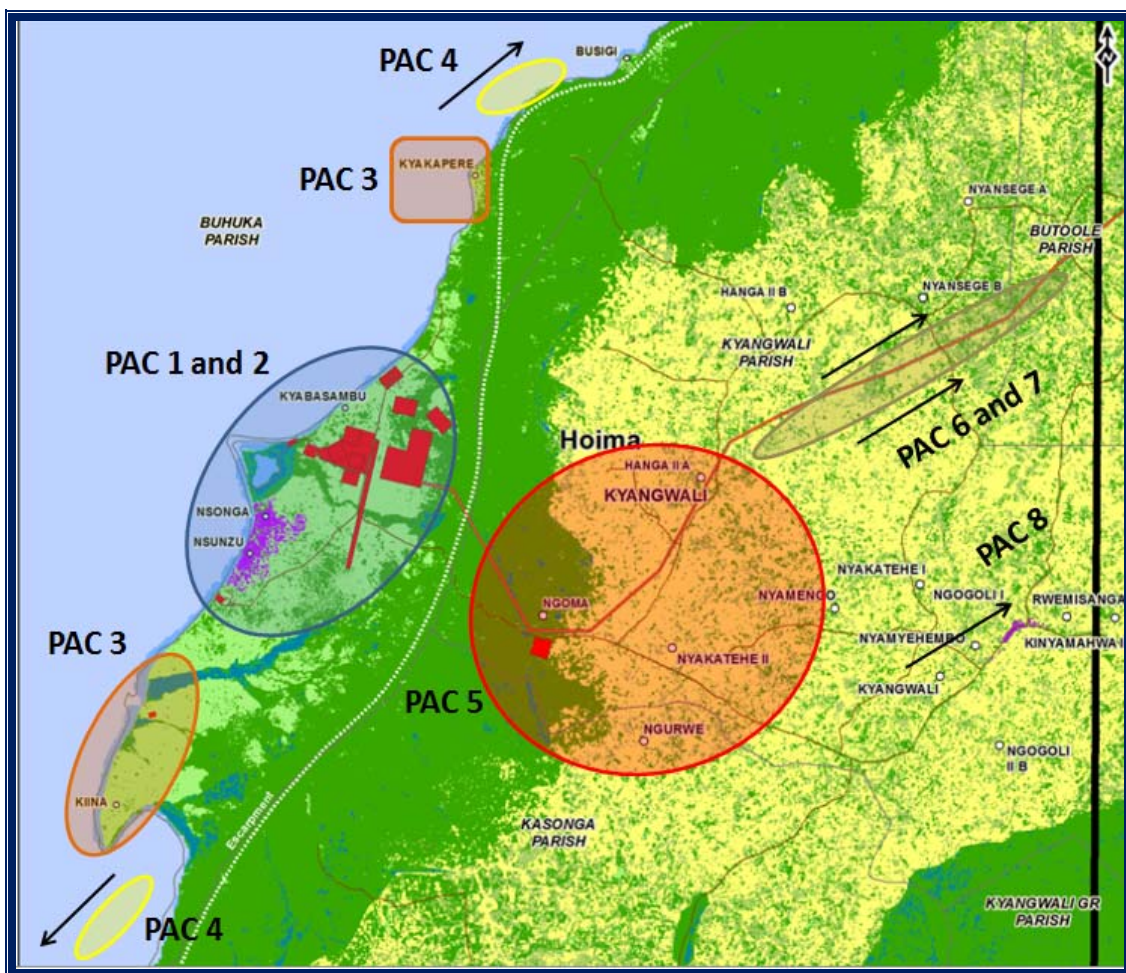


Figure 12: PACs identified as relevant to the HIA

Based on information from the SIA and considering potential health impacts, the following groups were considered as vulnerable [2]:

- Females and young girls are seen as particularly vulnerable groups in the local setting due to cultural practices;
- single mothers and widows;
- orphans;
- elderly
- physically disabled;
- migrants without access to land;
- ethnic minorities; and
- very poor people.

7 Baseline Health Status

7.1 General Health Profile of the Country

In the 2002 national population census, Uganda recorded a population of 24.4 million with a gender ratio of 95 males per 100 females, and an annual population growth rate of 3.3% [26]. Provisional results from the 2014 national census put the population at nearly 35 million people [28] - almost double that of 1990. The population is predominantly young (49% below 15 years) and rural (only 16% live in urban areas) [31].

Uganda has experienced two decades of strong economic growth, with poverty decreasing significantly from 31% in 2005-06, to 22% in 2012-13 [32]. However, with a Gross Domestic Product (GDP) per capita of \$570, Uganda remains a very poor country and far from the middle income status it aspires to achieve [32]. It ranks in the low Human Development Index (HDI)² category, at position 164 out of 187 ranked countries [33].

The country has made good progress towards achieving the MDGs such as promoting gender equality and empowering women, ensuring environmental sustainability and developing a global partnership for development. However, health-related MDGs, including child and maternal mortality rates, remain slow, while progress that had been achieved in regards to HIV/AIDS, malaria and tuberculosis control has reversed in some aspects. Uganda is also off-track on the MDGs related to universal primary education. Performance differs across regions of the country, with the North and Northeast lagging in most indicators, while the Southwest performs worst on health-related indicators. A significant percentage of the population relies on subsistence agriculture, a major source of vulnerability [32].

The BOD in Uganda remains predominantly through communicable diseases, although there is a growing burden of non-communicable diseases (NCDs) including mental health disorders. Maternal and perinatal conditions also contribute to the high mortality. Neglected tropical diseases (NTDs) remain a big problem in the country affecting mainly rural poor communities. Furthermore, there are wide disparities in health status of the population, closely linked to underlying socio-

² The HDI is a summary measure for assessing long-term progress in three basic dimensions of human development: a long and healthy life, access to knowledge and a decent standard of living.

economic, gender and geographical disparities [20]. Table 9 provides a brief summary of the health profile of the country in comparison to the African and global contexts [31, 34].

Table 9: Key health and socio-demographic indicators for Uganda

| Indicator | Year | Uganda | Africa average | Global average |
|--|-------------|---------------|-----------------------|-----------------------|
| Population size (millions) | 2014 | 34.9 | - | - |
| Life expectancy at birth (years) | 2012 | 57 | 58 | 70 |
| Healthy life expectancy at birth (years) | 2012 | 49 | 50 | 62 |
| Population living in urban areas (%) | 2012 | 16 | 39 | 53 |
| Gross national income per capita (PPP int. \$) | 2012 | 1,120 | 2,594 | 12,018 |
| Total fertility rate (per woman) | 2012 | 6.0 | 5.0 | 2.5 |
| Adult mortality rate (probability of dying between 15 and 60 years per 1000 population) male: female | 2012 | 389:360 | 343:298 | 187:124 |
| Infant (under-1) mortality rate (per 1000 live births) | 2012 | 45 | - | - |
| Under-5 mortality rate (per 1000 live births) | 2012 | 69 | 95 | 48 |
| Maternal mortality ratio (per 100,000 live births) | 2012 | 360 | 500 | 210 |
| Adult literacy rate (%) | 2012 | 73 | - | - |
| Incidence of malaria (%) | 2012 | 24.6 | 18.6 | 3.8 |
| HIV prevalence (%) | 2012 | 4.3 | 2.8 | 0.5 |
| TB prevalence (per 100,000 population) | 2012 | 175 | 303 | 169 |

Compiled from various sources including World Bank [32], WHO [31], UNICEF [34], Uganda Bureau of Statistics [28, 35], and Uganda Demographic and Health Survey [21].

7.1.1 Mortality and Burden of Disease

The disability-adjusted life year (DALY) is a measure of overall disease burden. It is designed to quantify the impact of premature death and disability on a population by combining them into a single, comparable measure. The DALY is an important indicator as it is a health gap measure that extends the concept of potential years of life lost (YLL) due to premature death to include equivalent years of 'healthy' life lost by virtue of being in state of poor health or disability, quantified as years lived with disability (YLD).

The BOD in the country is reflected in the fact that 68% of premature deaths are due to communicable diseases, 18% are due to NCDs, while the rest (13%) are due to injuries [31].

According to the 2010 global BOD estimates, the leading causes of disease burden and premature deaths in Uganda are HIV/AIDS, malaria, and lower respiratory infections, respectively [36]. Compared to a baseline of 1990, diarrhoeal diseases, sleeping sickness, measles and tetanus recorded the greatest decline in cause of mortality, while road injury and interpersonal violence showed the highest increase (Figure 13).

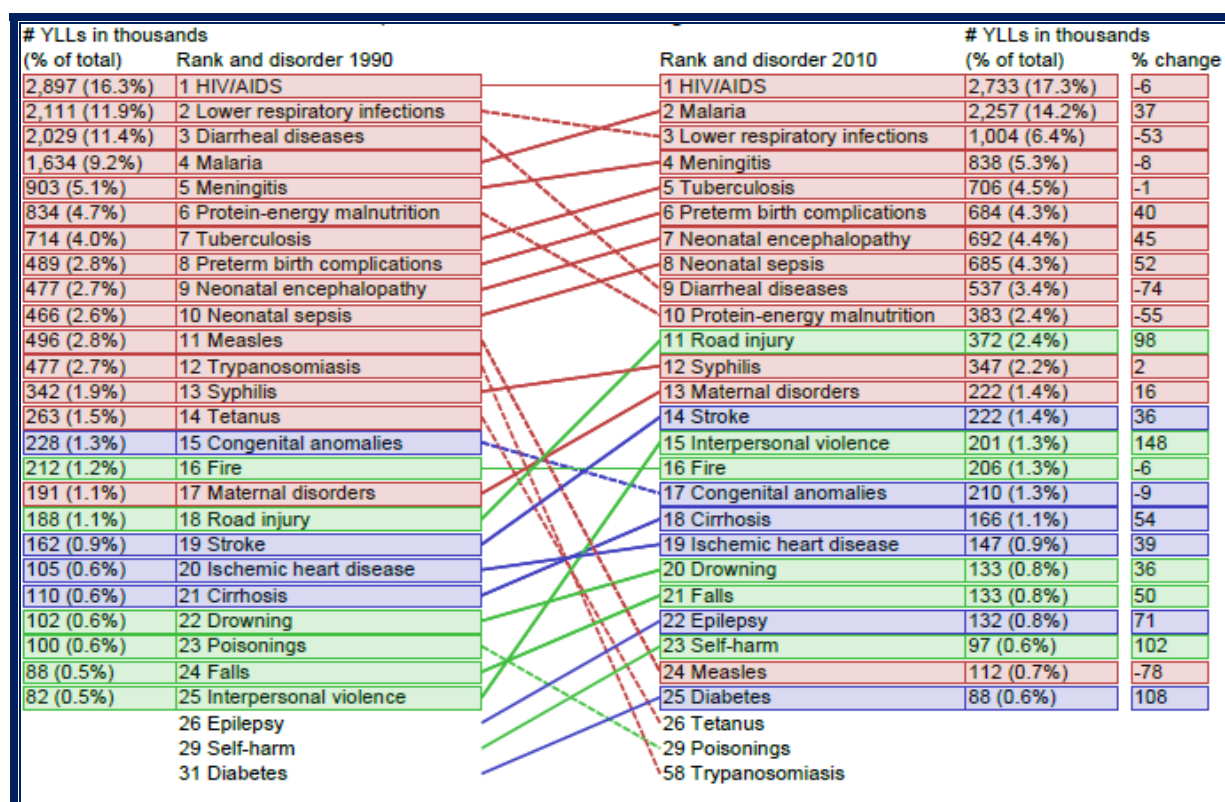


Figure 13: Rank of the leading causes of premature deaths in Uganda, 2010

7.1.2 Health System in Uganda

Human resources and health infrastructure are the most important pillars of a health system. The World Health Report released in 2006 highlighted that while Africa is plagued with 24% of the world's disease burden, it only has 3% of the world's health workers [37].

Health infrastructure

The National Health System (NHS) in Uganda is made up of the public and private sectors. The public sector includes all government health facilities while the private health sector consists of the private not for profit providers, private health practitioners, and the traditional and

complementary medicine practitioners. The private sector contributes to about 50% of the health care delivery [38].

Public health provision is decentralised with districts and health sub-districts (HSDs) playing a key role in the delivery and management of health services at those levels. Service delivery is organised in tiers starting from the community level up to the national level as described below [38]:

- i) Health Centre I/Village Health Teams (VHTs) are the first level of health care delivery and mainly consist of volunteers in villages facilitating health promotion, service delivery, community participation, and empowerment.
- ii) The next level are the Health Centres (HCs) II, III and IV. HC IIs provide a first level of interaction between the formal health sector and communities. They provide outpatient and community outreach services as well as linkages with VHTs. HC IIIs provide basic preventive, promotive and curative services. HC IVs provide HC III broad services plus some emergency care. HC IVs were introduced in some areas as a strategy to address poor access to health care services.
- iii) At the third level are the general hospitals, which provide HC III broad services such as in-patient, surgeries and blood transfusions. They also conduct research and training.
- iv) The fourth level consists of the Regional Referral Hospitals (RRHs) which provide more specialized clinical services and are also involved in teaching and research.
- v) The National Referral Hospitals (NRHs) are the highest and most comprehensive level. They provide advanced tertiary services in addition to all the other clinical services.

All hospitals are expected to provide support supervision to lower levels and to maintain linkages with communities through Community Health Departments. In 2011, the country had 64 public hospitals: 2 NRHs, 11 RRHs and 51 general hospitals (Table 10). The referral system is from the lowest to the highest level of care [38, 39].

Table 10: Structure, characteristics, and size of the health care system in Uganda, 2011

| Type of Facility | Physical Structure and Services | Clinical Personnel | Location | Population Served | | Number of Facilities | | | |
|--|--|---------------------|------------|-------------------|------------|----------------------|------------------------|--------------------|-------|
| | | | | Standard | Current | Government | Private Not-For-Profit | Private For-Profit | Total |
| Health Center I (A.K.A. Village Health Team) | None | N/A | Village | 1,000 | N/A | N/A | N/A | N/A | N/A |
| Health Center II | Stand-Alone Facility, Outpatient Services | Nurse | Parish | 5,000 | 14,940 | 1562 | 480 | 964 | 3,006 |
| Health Center III | Inpatient Facilities (Maternity and General Ward) and Laboratory/Microscopy | Clinical Officer | Sub-County | 20,000 | 84,507 | 832 | 226 | 24 | 1,082 |
| Health Center IV | Outpatient and Inpatient Services, Wards, Operating Theatre, Laboratory and Blood Transfusion Services | Doctor | County | 100,000 | 187,500 | 12 | 1 | 177 | 190 |
| General Hospital | Hospital, Laboratory, and X-Ray | Doctor | District | 500,000 | 263,157 | 64 | 56 | 9 | 129 |
| Regional Referral Hospital | Specialists Services | Doctor, Specialists | Region | 3,000,000 | 2,307,692 | | | | |
| National Referral Hospital | Advanced Tertiary Care | Doctor, Specialists | National | 10,000,000 | 30,000,000 | | | | |
| Totals | | | | | | 2,470 | 763 | 1174 | 4,407 |

Source: Government of Uganda, Health Sector Strategic Plan, 2000/01–2004/05; HSSIP 2010/11–2014/15

Human resource for health

The government of Uganda and the Ministry of Health (MoH) were among the first health systems in Africa to recognise the importance of human resources for health (HRH) and the crisis presented by the situation with regard to HRH numbers, distribution, and management. To meet the MDGs, the WHO has determined that 23 skilled clinical health workers per 10,000 population is the minimum ratio required to provide a basic standard of health care. In 2011, the HRH ratio in the country stood at approximately 18/10,000. While this ratio represents a considerable improvement over the recent years (compared to 13/10,000 in 2005), human resource is still a major challenge for the country with the deficit (in 2011) standing at approximately 11,000 skilled health workers [38, 39].

A summary of the HRH in Uganda compared to the Africa Region is provided in Table 11 [40].

Table 11: Densities of health workers per 1,000 population in Uganda (2005)

| HRH Category | Number | Density per 10,000 population (Uganda) | Density per 10,000 population (Africa Region) |
|-----------------------------|---------------|--|---|
| Physicians/doctors | 2,209 | 0.8 | 2.2 |
| Nurses and midwives | 19,325 | 7.2 | 11.7 |
| Dentists and technicians | 363 | 0.1 | 0.4 |
| Pharmacists and technicians | 688 | 0.3 | 0.6 |
| Environ, and public health | 1,042 | 0.4 | 0.5 |
| Laboratory technicians | 1,702 | 0.6 | 0.6 |
| Other health workers | 3,617 | 1.4 | 1.7 |
| Management and support | 6,499 | 2.4 | 4.1 |
| Total | 35,445 | 13.3 | 26.3 |

7.1.3 Health Profile of the District and Study Area

In 2013, Hoima District had a total of 54 health units including a government RRH with capacity for 200 beds [2]. Despite the high number of health units, access to health care in the district remains a key challenge and is hampered by factors including geographical barriers such as steep escarpments and poor road infrastructure. Table 12 [2, 29] and Appendix G gives a summary of the health profile of the district compared to the national average. The more detailed section in Appendix G represents data reviewed from the district health reports and statistics.

Table 12: Key health indicators for Hoima District, 2010/2011

| Indicator | Hoima District | Uganda |
|--|----------------|--------|
| Life expectancy at birth (years) | 51.7 | 46.3 |
| Fertility rate (%) | 6.9 | 6.6 |
| Infant Mortality Rate (per 1000) | 88 | 88 |
| Child Mortality (under 5 years/1000) | 85 | 129 |
| Maternal Mortality (per 100 000) | 437 | 505 |
| Percentage of females aged 15-49 years (%) | 21.6 | 43.6 |
| Stunting prevalence (%) | 26.5 | 39 |
| Wasting prevalence (%) | 8.5 | 4 |
| Under weight prevalence (%) | 19.5 | 24.5 |
| Total goitre rate (%) | 25.7 | 33.8 |
| HIV prevalence rate (%) | 6.4 | 6.1 |
| Population per doctor | 49,920 | 15,678 |

Appendix F outlines a summary of data collected from district routine health management information system (RH MIS). It was only possible to get data from 2012-2014 and there were numerous challenges in harmonizing the data. Analysis and a narrative on the data are presented in the description the EHAs in section 7.2.

A summary of the distribution between the different levels and ownership of the health facilities is shown in Table 13.

The challenges to the district’s health sector as reported in the current District Development Plan (2011/12-2015/16) include [29]:

- Understaffing for health facilities and the district health office.
- Lack of proper accommodation for medical staff at health facilities.
- Limited funding of the sector despite inflation and population growth.
- Physical inaccessibility to some places, which have the highest disease burden.
- Lack of medical equipment.
- Poor referral system and lack of transport for referred emergency patients
- Lack of community ownership/involvement in health related activities

Table 13: Summary of health facilities in Hoima District, 2013

| Facility level/ Ownership | Government | NGO | Private | Total |
|----------------------------------|-------------------|------------|----------------|--------------|
| Regional Referral Hospital (RRH) | 1 | 0 | 0 | 1 |
| Health Centre IV (HCIV) | 2 | 0 | 0 | 2 |
| Health Centre III (HCIII) | 27 | 5 | 1 | 33 |
| Health Centre II (HCII) | 12 | 6 | 0 | 18 |
| Total | 42 | 11 | 1 | 54 |

N/B: Village Health Teams (VHT) with limited diagnostic, curative and health education responsibilities are designated as level I HCs.

Local health infrastructure:

The study area specifically is served by four level III HCs – Kabaale HC, Kaseeta HC, Kyangwali HC and Buhuka HC. At the time of this survey, Kyangwali HC was in the process of being upgraded to a HC- level IV, with the transition complete in July 2015. More detailed description of the local facilities is described in section 7.2, and Appendix E.

7.1.4 Impacts of Oil Discovery in Lake Albert Basin

Uganda's oil was first discovered in 1938 [41, 42], but it is only in recent years (specifically in 2006) that commercial viability of the resource was confirmed, making oil production a near reality. The main focus is the Albertine Graben (Rift Basin) about 500 km long and 45 km wide, in the Western region of the country [41, 42]. Production is not expected to start until 2016-17, but oil is already central to the country's long term planning agenda, as well as a prominent political issue. Legislation is being passed, and the government is presenting a vision of a country transformed by oil [42]. There is a lot of optimism from the population with calls to emulate Norway's and Botswana's success [43], and avoid the 'resource curse' that has been associated with renowned oil producing countries in Africa, where the link between resource wealth and conflict is well documented [41].

Tullow Oil Plc, Total, and CNOOC are currently the three key oil companies involved in Uganda's oil industry [41, 42]. Founded in Ireland in 1985, Tullow is listed on the London and Irish Stock Exchanges and has operations in Europe, South America, Asia, and Africa. CNOOC Uganda Limited is a subsidiary of CNOOC Limited, a Chinese state-owned oil company formed in 1982. It is currently listed on both the Hong Kong and New York Stock Exchanges and has grown to be a major player in the oil industry with operations or properties in Asia (primarily China), Iraq, Australia, Nigeria, USA, Canada and Argentina. Present in Uganda as Total Exploration and Production, the outfit is a subsidiary of the global oil giant Total, a French company founded in 1924 and listed on the Paris and New York Stock Exchanges [42]. The three companies share a one-third stake across three oil blocks in the Lake Albert region.

While the oil discovery has come with a lot of excitement and hope, there are already concerns and impacts attributed to it. These are largely social impacts as highlighted below.

Governance, economy and domestic expectations

Oil discovery in Uganda has brought to light a range of governance challenges [41] and high domestic expectations [41, 43]. At the national level, there are expectations of increased prosperity as a result of development of socio-economic infrastructure, improved quality of life, and future economic sovereignty [43]. The local communities are particularly concerned with maintaining and protecting land rights as well as the equitable distribution of oil revenues and hope that the government delivers effective programmes, laws and interventions that work for

the community [44]. In response, the government has developed laws and policies to address the technical issues and guide the emerging oil sector. The National Oil and Gas Policy of 2008, has the eradication of poverty and creation of lasting value to society as its two overarching goals. It has pledged to take into account the interests of local communities where oil and gas production is undertaken. There are also calls to keep the economy diversified and avoid future over-reliance and dependency on oil [43].

Land, food security, employment and livelihood

Reports [45, 46] indicate that the oil discovery has already led to changes in ownership of land, conflict, and displacement. Communities in the Albertine region are dependent on crop agriculture, livestock rearing, hunting, fishing and forestry, all of which are impacted by the oil activities. Due to the high level of poverty in the area, (38% depend on less than 1 USD per day), the communities are vulnerable to economic shifts and are slow to adopt alternative livelihood sources.

Population influx

The region is experiencing population influx of migrants looking for opportunities in the emerging oil sector. A study by the National Land Alliance in 2011 found that 39% of the participants had migrated into the area in the preceding 5 years [45]. Influx can trigger population growth, increase land pressure, and escalate competition for limited social services such as education, health and access to potable water and sanitation.

Community cohesion and dynamics

Because of the oil discovery and the ongoing developments, a large number of men have been employed to support construction activities. This has attracted a camp following of commercial sex workers, mostly women and young girls. According to Hoima Municipality Mayor, “*Sex trade was there before, but it was not evident. Now that there is oil, the trade is booming*” [47]. Studies have documented the increase in transactional sex in the region, with clients coming from within and outside the country. Gender issues have also been highlighted, ranging from limited employment opportunities for women, patriarchy, to social tensions and conflicts [48]. These impacts can be attributed to changes in community structure, social cohesion and dynamics.

Benefits of the oil discovery include [45, 49]:

- Roads have been constructed or improved.
- Health centres and schools have been constructed.
- Improved local water sources because of construction of boreholes for the communities.
- Livelihood diversification projects including agro-enterprise, tree planting, training and capacity building etc.
- Employment, development projects and business opportunities have been created:
 - Investors and firms have opened branches in the area. Start-ups by local businessmen are also coming up.
 - Hoima municipality is already a beneficiary of a 150 million-dollar World Bank project for infrastructural development.
 - Electricity generation projects.
- Improved land value.
- Greater market for local produce.

7.2 Environmental Health Areas

The next section describes the baseline health status in relation to the proposed Project with reference to the EHA framework. This is based on the national, regional and local baseline health data that was identified in desk and fieldwork and subsequent validation activities. The findings are summarised in the tables hereafter to provide a more succinct description of large amounts of data.

7.2.1 EHA #1 Communicable diseases linked to the living environment

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
|--|--------------------------------------|---|--|
| Communicable diseases linked to the living environment | Housing and environmental conditions | <ul style="list-style-type: none"> Communicable diseases (e.g., acute respiratory infections, pneumonia, tuberculosis, meningitis, plague, leprosy, etc.) rely on fluid exchange, contaminated substances, or close contact to travel from an infected carrier to a healthy individual. Therefore, they are directly linked to housing design, overcrowding and housing inflation. <p><u>National and regional findings include:</u></p> <ul style="list-style-type: none"> In the 2009/10 National Household Survey (UNHS) [25], the average household size was recorded at 5.0 persons and this has remained more or less the same when compared with previous surveys. The average household size in the Western region was recorded at 5.1. Rural households are slightly larger than urban. The type of construction material (for a floor, roof or wall) of a dwelling can be viewed as an indicator of the quality of housing as well as an indicator of health risk. Floor materials such as earth, sand, and animal dung pose a health problem because they can act as breeding grounds for pests and may also be a source of dust. Findings from the 2011 UDHS showed that more than two thirds (69%) of housing in the country have floors made of earth, sand, or animal dung [21]. Only 1 in every 7 households (15%) in the country has access to electricity, with a large disparity between urban and rural households (55% versus 5%, respectively) [21]. The number of rooms used for sleeping gives an indication of the extent of crowding in households. Overcrowding increases the risks of contracting communicable diseases. Nationally, a sleeping room with more than two persons is considered to be overcrowded. The 2009/10 UNHS found that 44% of households used only one room for sleeping and that the average number of persons per sleeping room was 3.4. Only 3 out of every 10 households in the Western region had adequate number of sleeping rooms relative to the household | <p><u>Direct observation:</u></p> <ul style="list-style-type: none"> Housing in the Buhuka Flats predominantly consisted of traditional structures made of grass-thatched roofs, mud walls and earth floors (Figure 14). A few semi-permanent structures (made of iron-sheet roofing and mud/sand walls) could be seen, especially at the village centres. Most of the houses were small structures consisting of one or two rooms. The houses also appeared cramped together, poorly ventilated and with a potential risk for overcrowding. Housing in communities at the escarpments consisted of a mixture of traditional and semi-permanent structures - some made of brick walls and tin-sheet roofing. Away from the village centres, the structures were more traditional, detached and separated by farms. Cooking arrangements varied between households, with indoor (in a separate structure to sleeping rooms) and outdoor practices noted (Figure 15). There was extensive charcoal use (Figure 17). <p><u>Findings from FGDs:</u></p> <ul style="list-style-type: none"> Nearly all households in the study area used firewood for cooking, either indoors or outdoors. The area had no access to mains electricity supply, the main source of lighting being kerosene lamp. A few houses had small solar panels for electricity. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> The housing in the study area was generally of poor construction with poor quality materials being |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
|---------------------------|--------------------|---|---|
| | | <p>population [25].</p> <ul style="list-style-type: none"> • Under 3% of all households in the district are connected or have access to electricity from the national grid. • Majority (96%) of the population use solid fuels (e.g., charcoal, wood, straw, shrubs, grass, crop residues, and animal dung) for cooking [21]. Cooking and heating with solid fuels can lead to high levels of indoor smoke, which consists of a complex mix of pollutants that can increase the risk of contracting respiratory infections. Children under-5 years are particularly vulnerable [50, 51]. • In the socio-economic baselines from KDA, it was reported that 99% of households use wood/charcoal as a source of energy. | <p>used. The majority of people reside in mud-and-wood walled houses with thatched roofs.</p> <ul style="list-style-type: none"> • Migratory communities living on the escarpment were reported to have much more basic tarpaulin covered structures. • Overcrowding was common in all areas with average densities of 6 to 8 people living in households reported. This was especially evident in the migrant population that includes Ugandan nationals from elsewhere as well as migrants from the DRC and Rwanda. • Significant influx was noted by most stakeholders in the health sector with the Hoima District population growth rate reported to be 4.7% in comparison with the national growth rate of 3.2%. This aligns well with the findings reported in the social baseline studies. • Kyarushesha and Kyangwali were singled out as two areas that are experiencing significant influx. • Influx was highlighted as one of the major health challenges in the Hoima District by both district health officials as well as health centre staff in the rural health centres. • Major impacts were identified as overcrowding and increase in communicable diseases. <p><u>RHMIS data:</u></p> <ul style="list-style-type: none"> • On average, the four rural health centres that serve the study area recorded a 24% increase in outpatient load during the period from 2013 to 2014, with Buhuka HC and Kaseeta HC recording increases of 39% and 37% respectively. • During the same period, all rural health centres recorded an increase in ARI with Buhuka Health Centre recording an increase of 67% in pure patient numbers. |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | Tuberculosis | <ul style="list-style-type: none"> • Tuberculosis (TB) is an infectious bacterial disease, which most commonly affects the lungs. Transmission is through airborne droplet nuclei containing the infectious bacteria produced in the course of speaking, sneezing, and particularly coughing. • Crowding, poor ventilation, and duration of exposure increase the risk of transmission. HIV, malnutrition, and poverty are important risk factors for development of active TB disease. • National statistics include: <ul style="list-style-type: none"> ○ TB remains a major public health challenge with an annual incidence of 166 cases of all forms and a prevalence of 154 per 100,000 in 2013 [52]. The country is listed among the 22 high burden countries, which account for 80% of the global TB burden [53]. ○ Like most countries in sub-Saharan Africa (SSA), the country is battling with the dual epidemic of TB and HIV/AIDS. It is estimated that about 48%-54% of TB patients in the country are co-infected with HIV/AIDS [54, 55]. ○ The country has realised a slow but steady decline in TB incidence and prevalence rates and has achieved all its 2015 MDG targets for reductions in TB cases and deaths. ○ The 2014 global TB report indicates that Uganda recorded lower rates of treatment success at 77%, missing the WHO target of 85% [52]. However, this represented an improvement from 69% recorded in 2012 [53]. ○ On a positive note, Uganda exceeded the 90% target of enrolling HIV-positive TB patients on treatment [53]. ○ MDR-TB is also an emerging challenge, at a prevalence of 1.4% among new cases, and 12% of retreatment cases in 2013 [52]. The country has achieved relatively good treatment success rates for MDR-TB cases, estimated at 77% in 2013, surpassing the WHO target of 75% [52]. ○ TB services are well integrated into the general health care system and are further decentralised to community | <p><u>Findings from the FGDs:</u></p> <ul style="list-style-type: none"> • TB was not specifically mentioned among the leading disease concerns in the study area. However, due to the limited access to health care including TB diagnostics, the true burden of this illness in the local study area is not known, and may be under-estimated. • With the reported high prevalence of respiratory illnesses, the perceived high prevalence of HIV, and the potential risk of overcrowding in the communities, TB remains a top concern. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> • Despite the ability to diagnose TB by microscopy in all but one (Buhuka HC) of the rural health centres evaluated, the majority of health workers did not consider TB to be a major health concern at present. • All health care workers (HCWs) did, however, voice concern about the possible increase in TB cases associated with the rising prevalence of HIV, population influx and poor housing conditions. • Only passive TB case detection was performed at all health centres at the time of the evaluation. • MDR-TB remains largely unrecognised with only one case reported in the Kyangwali Sub-County in 2014/2015. • In addition to low detection rates, anecdotal evidence suggests that between 30% to 40% of all TB cases default treatment. • The DOTS treatment program is no longer supported in study area due to lack of human resources and difficulty in accessing health care. Instead, TB patients are provided with a monthly supply of drugs. |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | <p>level to ensure active community involvement and ownership. The country adopted the Directly Observed Treatment Short-course (DOTS) strategy in the year 2000 [54].</p> <ul style="list-style-type: none"> ○ A National TB and Leprosy Programme (NTP) oversees the provision and management of TB and leprosy services in the country. The NTP management structure consists of central (national), regional (zonal) and district levels [54]. ○ Nearly two-thirds (62%) of the country's TB budget is financed by international partners, 7% is funded domestically, while 31% remains unfunded [56]. ○ Separate studies in rural and urban Uganda [55, 57] have revealed deficiencies in the public health awareness and health provider knowledge gap about TB symptoms, diagnosis and treatment. The studies have also highlighted the need for health system strengthening, including referral systems and implementation of the DOTS strategy. <ul style="list-style-type: none"> ● Regional findings include: <ul style="list-style-type: none"> ○ TB care in Western Uganda faces a myriad of challenges including delays in diagnosis and initiation of treatment, knowledge gap among health workers in regards to TB management, poor referral practices between health units and lack of adequate funding resulting in the abandonment of some DOTS programmes [55]. ○ In Hoima District, VHT's have been identified as an important factor to the success of DOTS programmes [58]. | <p><u>RHMIS data</u></p> <ul style="list-style-type: none"> ● According to RHMIS data the district BCG coverage is attaining between 65% and 116% of intended target populations in the 2014/2015 period. This is down from the limited data available from the 2013/2014 period that reflected coverage ranging from 112% to 120%. ● Reported TB cases ranged from 25 reported by Kyangwali HC to 9 reported by Kaseeta HC and 15 reported by Kabaale HC. |
| | Leprosy | <ul style="list-style-type: none"> ● Leprosy is a disease of poverty and overcrowding. The disease is caused by the slow-growing bacillus <i>Mycobacterium leprae</i>, which is not highly infectious. The incubation period of the disease is about 5 years but symptoms can take up to 20 years to appear [59]. The exact mechanism of transmission is not well known, but has been | <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> ● According to health officials in the study area, leprosy was not a major health concern. <p><u>RHMIS data:</u></p> <ul style="list-style-type: none"> ● Both Kyangwali and Kabaale HCs reported |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | <p>linked to the respiratory route.</p> <ul style="list-style-type: none"> Whereas Uganda has achieved the target of elimination of leprosy as a public health problem, a number of new cases continue to be notified annually. The NTLP reports that at least 400 new cases of the disease are registered each year, though little attention is paid at health centres in terms of diagnosis [54, 60]. About two-thirds of the cases occur mainly in 11 districts in the South-eastern, North, and North-western regions of the country. New cases are unevenly distributed and this complicates control efforts [54, 60]. | <p>leprosy cases in the 2012/2013 and 2013/2014 periods.</p> <ul style="list-style-type: none"> Kabaale HC reported 1208 cases of leprosy during the 2012/2013 period, raising serious concern regarding the validity and accuracy of the RHIMS as this would represent the highest incidence of leprosy, worldwide. Kyangwali HC reported 320 cases of leprosy in the 2013/2014 period. |
| | <p>Acute Respiratory Infections, Measles and Meningitis</p> | <p><u>Acute Respiratory Infection (ARIs)</u></p> <ul style="list-style-type: none"> Pneumonia, a form of ARI that affects the lungs is the leading cause of death in children worldwide and affects adults of all ages. The most serious cases of pneumonia are bacterial (e.g., <i>Streptococcus pneumonia</i>, <i>Haemophilus influenza</i>, <i>Staphylococcus aureus</i>), but viral and fungal cases also occur [61]. Lower respiratory infection is a significant cause of disease burden nationally [36]. The burden is even greater among young children in whom ARIs particularly pneumonia, is the leading cause of death [31]. Statistics from the 2011 UDHS indicate that [21]: <ul style="list-style-type: none"> About 15% of children under-5 years showed symptoms of ARI in the two weeks preceding the survey. ARI symptoms were most reported in children aged 6-11 months (21%). The proportion of children with ARI symptoms ranged from 9%-12% in the Central region, 17% in the Western region, to 22% in the North region. <p><u>Measles</u></p> <ul style="list-style-type: none"> Measles is a highly contagious, serious viral disease transmitted through inhalation of airborne respiratory droplets from an infected person's cough or sneeze. A safe and cost-effective measles vaccine is available. | <p><u>Findings from FGDs:</u></p> <ul style="list-style-type: none"> ARIs were consistently listed among the top five health conditions in the study area. In a few instances, pneumonia was specifically mentioned. Measles was reported to be quite common especially in the Buhuka Flats communities. Participants reported the condition as contagious and without a cure. Children under-5 years were most affected, and in some cases, death would occur due to limited access to health care. There was no mention of meningitis as a concern. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> Communicable, respiratory infections linked to living environment deemed to be the second most common cause of morbidity in the study area. ARIs place a significant burden on health services and personnel. Measles were reported to be common in most areas and communities served by the four rural HCs. Most HCs reported sporadic cases, but that occur regularly The last reported outbreak of measles occurred in Senjonjo in 2014. |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | <ul style="list-style-type: none"> • Measles immunisation coverage nationally is estimated at ~82% [34]. The country reported 2,027 cases in 2012, a decrease from 3,212 cases in 2011 [62]. • Hoima District is prone to measles outbreaks; the latest occurred in February 2014 with at least 39 confirmed cases [63]. <p><u>Meningitis</u></p> <ul style="list-style-type: none"> • Meningitis, an infection of the thin lining around the brain and spinal cord is transmitted through direct contact with respiratory droplets and it can be viral, bacterial or fungal in origin [64]. • The highest burden of meningococcal disease occurs in an area of SSA known as the 'meningitis belt', which stretches from Senegal and Guinea in the West to Ethiopia in the East, with an estimated total population of 300 million people at risk [65]. The belt, experiences meningitis cycles whenever the dry season sets in, dust being a predisposing factor. • A section of northern Uganda lies in the meningitis belt. This border area and adjacent districts have experienced frequent outbreaks of the disease. The most recent outbreak occurred in West Nile districts (March 2014) [66]. In 2009, a major outbreak of the disease in north-western Uganda resulted in at least 47 cases and 13 deaths in Hoima District [67]. | <ul style="list-style-type: none"> • Meningitis is considered to be rare and meningococcal meningitis specifically has not been recognised in the study area. <p><u>RHMIS data:</u></p> <ul style="list-style-type: none"> • ARI (including pneumonia) account for 25% to 55% of OPD visits to the rural health centres in the study area. • Buhuka HC specifically, demonstrated a high burden of disease with ARI representing 55% of the OPD case load while also recording an increase in case load of 67% from 2012/2013 to the same period in 2013/2014. • Despite being included on the national expanded programme of immunisation (EPI) in 2013, none of the rural HC evaluated, had stock of the pneumococcal conjugate vaccine . • Measles cases are sporadically recorded in all regions of the study area. • Available RHMIS data reflected a measles immunization coverage of 87% as opposed to the national average of 82%. • None of the key informants believed meningococcal meningitis to be a major risk in the study area. • Only one case of bacterial meningitis was reported in the study area during the 2013/2014 period (Kyangwali HC) with 7 cases reported in the whole of Hoima District. This is likely to be under reported or diagnosed. • Only one case of "Other Types of Meningitis" had been reported in the study area in the 2013/2014 period with 1376 cases reported in the whole district during the same period. |



Figure 14: Typical housing at a community in Buhuka Flats



Figure 15: Outdoor cooking using biomass fuels



Figure 16: Uncommon use of solar power



Figure 17: Extensive local use of charcoal

7.2.2 EHA #2 – Vector-related Diseases

| Environmental Health Area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
|---------------------------|--------------------|--|--|
| Vector-related Diseases | Malaria | <ul style="list-style-type: none"> • Malaria, a protozoan infection transmitted by female Anopheles mosquitoes causes a significant public health concern [68]. The burden is due to direct health impacts as well as cost of treatment and loss of income, schooling time, and labour [69]. • Malaria remains the leading cause of morbidity and mortality in the country and contributes significantly to the high BOD [21]. While those with low immunity e.g., pregnant women, children under-5 years and people living with HIV/AIDS are particularly vulnerable, the entire population is at risk of malaria infection. • Malaria in Uganda is almost entirely caused by <i>Plasmodium falciparum</i> spp, with the 2009 Uganda Malaria Indicator Survey (UMIS) reporting this species in 99% of cases. <i>P. malariae</i>, accounts for 0.2% of cases as a mono-infection but is more commonly found as a mixed infection with <i>P. falciparum</i>. Both <i>P. vivax</i> and <i>P. ovale</i> are rare and do not exceed 2% of malaria cases in Uganda. • The major anopheles mosquito species are <i>An. gambiae</i> and <i>An. funestus</i>. <i>An. gambiae</i> is the dominant species in most places, while <i>An. funestus</i> is generally found at higher altitudes and during the short dry seasons (September through November), when permanent water bodies are the most common breeding sites. <i>An. gambiae</i> s.l. and <i>An. funestus</i> feed and rest indoors, making LLINs and IRS viable vector control strategies. • Favourable temperature and rainfall patterns allow for intense vector propagation. • About 90% of the Uganda's population is at high risk of malaria infection, 10% at low risk. Malaria is highly endemic in 95% of the country, with 5% consisting of unstable and epidemic prone malaria [70] (Figure 18:) [71]. • Although transmission is largely stable, there is some seasonal variation associated with the rainy seasons in | <p><u>Findings from FGDs:</u></p> <ul style="list-style-type: none"> • Malaria emerged as the leading cause of illness in the study area. • Awareness was limited in terms of cause and prevention of the disease. • Common misconceptions were that malaria is caused by drinking dirty water, working in the hot sun, and bathing in dirty water. Less common misconceptions were that malaria is caused by some birds, wild animals, and eating hot food on plastic plates. • In some instances, the link to a mosquito bite was correctly identified. • Some participants had the correct knowledge that malaria can be prevented by sleeping under mosquito nets, drainage of stagnant water and clearing of vegetation around dwellings. • Women in Nsonga village reported that malaria can be prevented by drinking a local herb called “Ekyibirizi” and Aloe Vera. The herbs were also locally used to prevent and treat malaria during pregnancy. • Over 60% of participants had at least one LLIN for their household. Majority of the nets were acquired from a government mass distribution campaign. Some said they got their nets from CNOOC. • Net utilisation was lower than ownership. Reasons for not using a net were varied: “the nets are torn”, “the nights are too hot”, nets do not fit on floors for those without beds, etc. • It emerged that in some of the farming communities, people use nets to cover seedlings, or gardens. Use of nets in fishing was reported, but this did not appear to be common. (See Figure 22). |

| Environmental Health Area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | <p>different geographic areas [24]. In some high altitude areas in the Southwest, West and East, malaria transmission is generally low, with more pronounced seasonality and occurrence of epidemics [71].</p> <ul style="list-style-type: none"> • Uganda has the of the highest recorded entomological inoculation rates globally, with over four infected bites per night in high transmission areas. • Other national statistics include: <ul style="list-style-type: none"> ○ Among children under-5 years, mortality due to malaria increased from 28% in 2011/12 to 30.7% in 2012/13 [22]. ○ The 2009 UMIS [24] reported that malaria is responsible for 30%-50% of outpatient visits, 15-20% of admissions, and 9-14% of inpatient deaths. About half (52%) of children under-5 years (in the survey) tested positive for malaria by rapid diagnostic test (RDT). ○ Findings from the 2011 UDHS [21] showed that six in ten households (60%) own at least one long lasting insecticide treated bednets (LLIN), while 28% of households have at least one net for every two people. ○ ITN use was reported at 35% for household population, 43% among children under-5, and 47% among pregnant women. ○ Malaria control and intervention strategy in the country includes [21, 24, 70, 71]: <ul style="list-style-type: none"> ▪ Vector control measures including free distribution of LLINs - adopted in 2006, indoor residual spraying (IRS) - adopted in 2005; and use of larval control measures - adopted in 2012. IRS is limited to 10 districts in the North of the country as these have traditionally had the highest prevalence rates. In 2014, to manage potential insecticide resistance Uganda moved to a long lasting organophosphate product, with a single spray round per year. ▪ Intermittent preventive treatment during pregnancy (IPT_p) using Fansidar. ▪ Uncomplicated malaria case management with | <p>Findings from KIIs:</p> <ul style="list-style-type: none"> • Malaria was noted as the main cause for morbidity and mortality in the study area. • Comprehensive community knowledge regarding malaria ranged from fair (Kaseeta and Buhuka Flats) to poor (Other lake-shore communities, Ngoma and Ikamiro) • Health seeking behaviour (HSB) regarding malaria was reported to be poor, especially in remote communities with poor access to formal health services. The majority of people in these communities would reportedly visit a traditional healer or unregistered private medical provider for treatment. • Traditional healing practices that negatively impacted on HSB were reported by HCWs. • The major impact of these practices was the delay in proper diagnosis and treatment as the belief is that the traditional healing practices has to be performed prior to utilising modern medicine. • On the Buhuka Flats, a certain religious leader forbids his followers to seek medical care in the diagnosis and treatment of malaria. • No surveys have been performed in the area but reported LLIN ownership varied 75% and 90%. • Perceived LLIN utilization, however, was rated much lower at between 45% and 50%. This was attributed to poor knowledge and poor risk behaviour. • Malaria control measures implemented include: <ul style="list-style-type: none"> ○ Mass LLIN distribution campaigns – last performed in 2014; ○ IPT_p; and ○ IEC outreach campaigns by HCW and VHT. • No vector control activities were reported anywhere in the study area. It was reported that vector control |

| Environmental Health Area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | <p>artemisinin-based combination therapy (ACT) at the community level and in health units (with emphasis on improved diagnosis and management of severe malaria). Malaria diagnosis and ACT treatment is provided free for patients in the public health sector (since 2006).</p> <ul style="list-style-type: none"> ▪ Early detection and response to malaria epidemics. ▪ Information, education, communication (IEC) and social mobilisation to promote behaviour modification ▪ Monitoring, evaluation and research to assess the extent of implementation of several of these malaria control strategies. <ul style="list-style-type: none"> • Regional findings show that: <ul style="list-style-type: none"> ○ Malaria is endemic in the entire Western Region. In the 2009 UMIS the prevalence rates in the Mid-Western Region was 43% [21]. ○ LLIN ownership in the region was at 53% in 2011 [21]. | <p>interventions would be welcomed by the population, provided that good sensitization was performed prior to implementation.</p> <ul style="list-style-type: none"> • IRS and larvaciding was not part of local control interventions in the study due to limited budgets and access challenges. <p><u>RHMIS data:</u></p> <ul style="list-style-type: none"> • During the 2013/2014 and 2012/2013 periods, malaria accounted for between 35% and 54% of all OPD visits to the four rural HC in the study area. • In addition, the number of malaria cases seen at these HCs increased significantly between the 2012/2013 and 2013/2014 periods: <ul style="list-style-type: none"> ○ Buhuka – 33% increase ○ Kyangwali- 42% increase ○ Kaseeta - 54% increase ○ Kabaale - 6% increase • While this may be due to increased awareness, it is more likely that an increase in case load resulted in the upwards trend. • As reported in the RHMIS data, only between 52% and 68% of mothers who attended antenatal care at the HC in the study area received both doses of IPT. <p><u>Direct Observation:</u></p> <ul style="list-style-type: none"> • The environment on Buhuka Flats and the escarpment villages is conducive for the breeding of a number of species of <i>Anopheles</i> mosquitoes. • Waste management was poor and pooling of water was evident through environmental change. This can promote breeding of nuisance as well as disease transmitting mosquitoes. • Drainage ditches were cleared around community water holes to promote flow of water, and water was pooled in others due to lack of water in dry seasons (Figure 20 and Figure 21). |

| Environmental Health Area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
|---------------------------|--------------------|---|---|
| | Arboviral diseases | <ul style="list-style-type: none"> • Arthropod-borne viruses (arboviruses) have become significant global public health problems, with the emergence and re-emergence of certain diseases in recent years. • These diseases are transmitted by several species of day-biting mosquitoes from the genus Aedes and Culex, which are generally domestic and breed in dirty/polluted water or in human-made containers [73]. • More than 38 arboviruses have been documented in Uganda. Surveillance for these diseases stalled in the 1980s and was only recently reinstated through the Uganda Arbovirus Programme 2007 [72]. • The most important arboviral diseases that may occur in the study area are dengue fever, chikungunya fever and yellow fever. Rift Valley fever remains a theoretical threat. <p><u>Dengue fever</u></p> <ul style="list-style-type: none"> • Dengue is regarded as the most important arboviral disease in humans due to the large case numbers and the morbidity and mortality associated with the disease. • Not much is known of the disease in Uganda, but it is a likely threat. <p><u>Yellow fever</u></p> <ul style="list-style-type: none"> • Yellow fever (YF) poses a significant national health risk, although data on the disease remains scanty. The country's most recent outbreak occurred in October-December 2010 in the five districts in northern Uganda, near the border with South Sudan [74, 75]. • There is currently no specific treatment for the disease and up to 50% of severely affected persons die. • Vaccination is the key preventive measure against YF and disease surveillance remains central to control [76]. The vaccine is safe, affordable and highly effective and a single dose confers life-long protection. To prevent outbreaks, vaccination coverage must reach at least 60% to 80% of the population at risk [77]. <p><u>Chikungunya fever</u></p> <ul style="list-style-type: none"> • Chikungunya is a significant risk in the country but the disease | <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> • Arboviral disease was poorly recognised in the study area. • Although some of the HCW were knowledgeable about the diseases, gaps in diagnostic capacity meant that the extent of the diseases in the region could not be quantified. <p><u>RHMIS data:</u></p> <ul style="list-style-type: none"> • Only two cases of YF was diagnosed in the whole of Hoima District during the 2012/2013 and 2013/2014 periods – both from Kaseeta HC. |

| Environmental Health Area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | Filariasis | <p>is less documented [78, 79]. In February 2014, a few cases were confirmed in Western Nile region [80].</p> <p><u>Lymphatic filariasis</u></p> <ul style="list-style-type: none"> Lymphatic filariasis (LF), commonly known as elephantiasis, is a neglected tropical disease (NTD) [81]. In East Africa, the filarial worm responsible for the infection is <i>Wuchereria bancrofti</i>. LF is transmitted from the bites of mosquitoes harbouring infective larvae. These are often from the same group that transmit malaria and most commonly, <i>An. gambiae</i> and <i>An. funestus</i>. The disease can also be transmitted by the Culex mosquito. The main vectors mainly bite indoors at night and breed in open, generally clean water. The disease is endemic in the country and shares similar environmental risk factors with malaria and overlap in geographical distribution [82]. Thus, LF control will benefit from malaria and vector control measures in this setting. The prevalence of the disease generally decreases with increasing altitude and almost non-existent in areas > 1300 m above sea level [83]. <p><u>Onchocerciasis</u></p> <ul style="list-style-type: none"> Onchocerciasis, or river blindness, is caused by vector borne filarial worm (<i>Onchocerca volvulus</i>). Microfilariae that are present in one person are transmitted to other people through the bite of an infected female blackfly, which belong to the genus <i>Simulium damnosum</i>. Nationally, onchocerciasis is distributed in discrete foci as shown in Figure 19 [84]. Hoima District is among the endemic areas that are targeted for mass drug treatment with ivermectin. A few years of annual mass treatment has reduced the community worm load in target areas by 52%-100% [85]. | <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> LF was reported to be rarely seen in the study area. It was known to exist in the Kibale district to the south of Hoima District. Onchocerciasis was well recognised throughout the study area with the highest burden reported to be in the Kabaale area (of Hoima district), towards the north. Bi-annual (April and October) Community Directed Treatment with Ivermectin (CDTI) campaigns have been implemented in the Kabaale HC catchment area, with the Kaseeta HC catchment area recently (reportedly) declared free of onchocerciasis. The CDTI campaigns were not implemented in the Kyangwali area, and although Buhuka Parish was a target area implementation has not occurred due to difficulty in accessing the area. <p><u>RHMIS data:</u></p> <ul style="list-style-type: none"> Six cases of LF had been reported from the HCs in the study area between 2012 and 2014. During the same period, a total of 96 cases were reported in the whole district. During the 2012-2014 period, one case of onchocerciasis was reported in both Buhuka and Kaseeta HCs, while a total number of 280 cases were reported from the Kabaale HC. A total of 2048 cases were reported in the whole of Hoima District during the same period. |
| | Human African Trypanosomiasis | <ul style="list-style-type: none"> Human African Trypanosomiasis (HAT) commonly referred to as sleeping sickness, is a vector-borne protozoan disease caused by <i>Trypanosoma brucei</i> and transmitted through the | <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> HAT was not widely recognised in the study area. |

| Environmental Health Area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | <p>bite of blood feeding tsetse flies (<i>Glossina spp.</i>).</p> <ul style="list-style-type: none"> HAT is endemic in parts of Uganda and both forms of the parasite occur in the country. <i>T.b.gambiense</i> is dominant in north-western Uganda and <i>Trypanosoma brucei rhodesiense</i> in the south-eastern region. Approximately 6.6% of the country (2.1 million people) is at risk of the infection [86]. The Western region, including Hoima District is at very low risk area for the disease. | <p><u>RHMIS:</u></p> <ul style="list-style-type: none"> No cases were reported in the study area between 2012 and 2014 while only 22 cases were reported in the whole of Hoima District between 2012 and 2013. No cases were reported during the 2013/2014 period. |

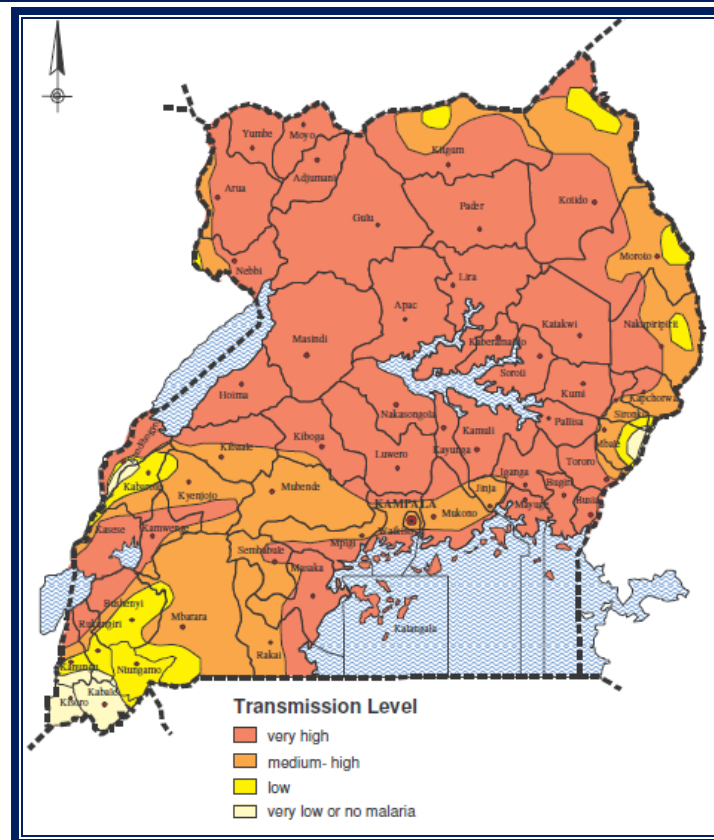


Figure 18: Distribution of malaria in Uganda (current)

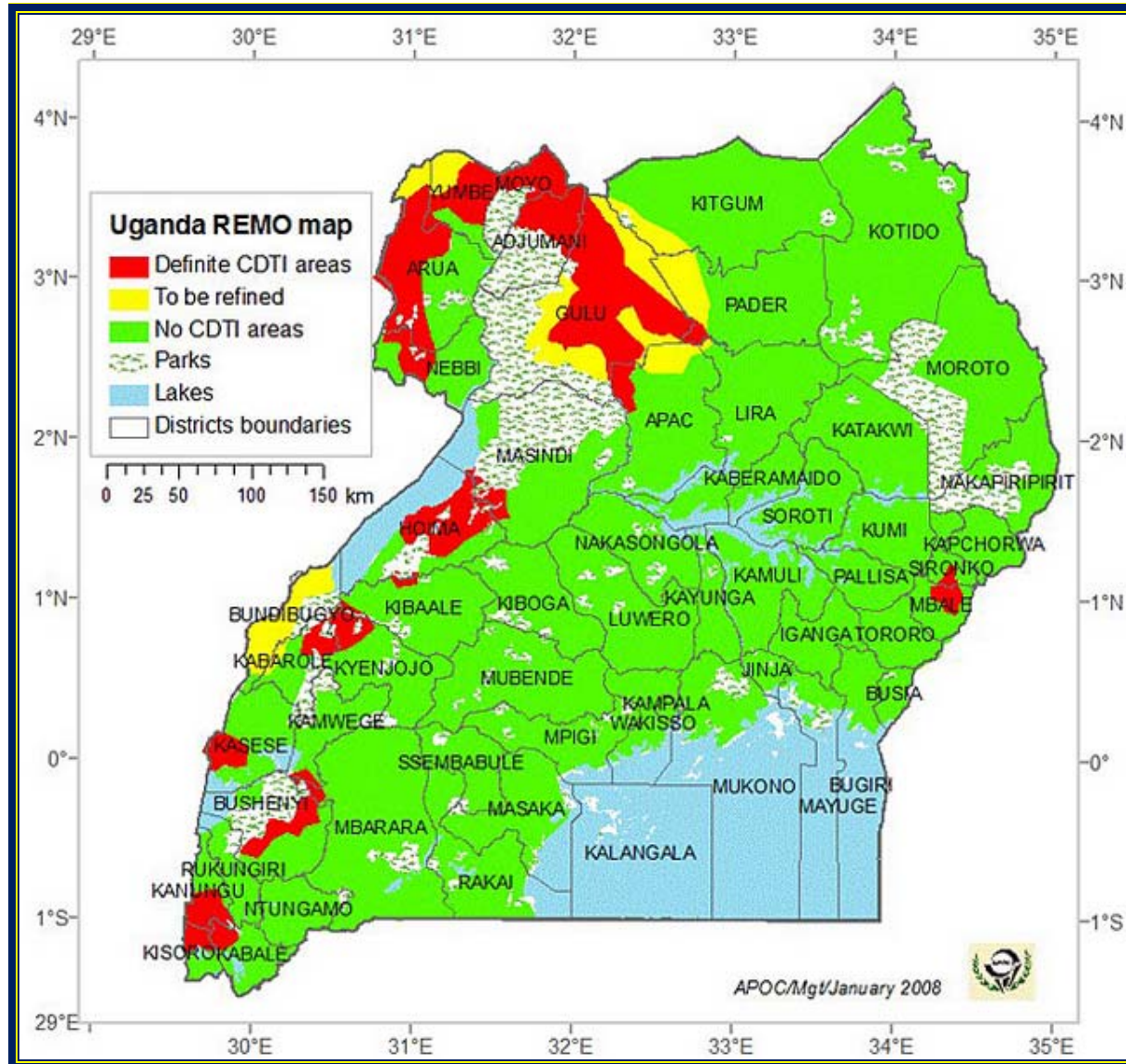


Figure 19: Rapid epidemiological mapping of onchocerciasis distribution in Uganda



Figure 20: Water dam in between houses in Kyarushesha



Figure 21: Clearing drainage ditches



Figure 22: Incorrect use of mosquito net

7.2.3 EHA #3 – Soil-, Water- and Waste-related Diseases

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| Soil-, Water- and Waste-related Diseases | Access to safe drinking water and adequate sanitation | <ul style="list-style-type: none"> The prevalence of soil-, water- and waste-related diseases highly depend on sanitation coverage and access to safe drinking water, factors which often show high variations at national and regional levels. According to the 2014 WHO/UNICEF progress report [87] on water and sanitation coverage (based on data up to 2012), 75% of households in Uganda have access to safe drinking water, at a higher proportion in urban (95%) than rural areas (71%). The country has met its MDG target on access to safe drinking water [88]. Access to adequate sanitation is generally low at 33% (at an equal proportion for both urban and rural areas), showing minimal improvement when compared to 32% coverage in 2010 and 27% in 1990 [88]. In 2011, only 51% of the population in Hoima District was served by the piped water network [35]. The social baseline reported that there was no formal waste system in the study area or broader district, and that Kyangwali often experienced shortages of drinking water. | <p><u>Findings from FGDs:</u></p> <ul style="list-style-type: none"> Access to safe drinking water emerged as the biggest challenge for the communities in the study area with the majority getting their water from unimproved sources. Communities in the Buhuka Flats mainly relied on surface water from the lake or streams (Kyabasambu river) (Figure 24). Communities at the escarpment mainly sourced water from shallow wells or swamps while a few, especially at the village centre had access to a public borehole. A water improvement project in the Buhuka Flats completed years back involved the supply of stream water by gravitational pipes to communal taps. However, at the time of the field visit, only the tap in Nsonga village was functional. The water from the tap was said to be raw “just like river water”, unfiltered and untreated. Some participants said they preferred lake water to the unclear “tap” water. The construction of escarpment roads had damaged the gravitational pump scheme but this is planned to be repaired. A piped distribution network delivers water to the various villages on Buhuka flats, but some of these were damaged and thus even if the central collection area was fixed the distribution of water remains a challenge (Figure 25). No quality assurance of water quality is undertaken from water fed from the gravity scheme. The majority of people do not boil or treat water in any way to make it safer for drinking. They cited lack of access to treatment options such as WaterGuard or Aquatabs, while boiling was considered time consuming, expensive (as they needed charcoal) and difficult to sustain. |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | | <ul style="list-style-type: none"> • Sanitation coverage in the study area was very poor. As many as 70% of households in the Buhuka Flats did not have a toilet/latrine. The majority practiced indiscriminate defecation in the bush, lake shore or inside the lake. Some participants reported that the sandy soil by the lake was unsuitable for construction of pit latrines. Others attributed this to pure negligence and lack of will or determination by people to construct latrines. • Sanitation coverage was slightly higher in the escarpment communities, at approx. 60%. • Disposal of general household waste was also an issue. There were no garbage collection mechanisms or specific dumping sites for waste. Littering and haphazard disposal of waste was common. • Participants in all the communities were aware that indiscriminate disposal of waste was contributing immensely to their ill health particularly diarrhoeal disease, typhoid and bilharzia. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> • According to key informants, the majority of communities obtained water from unprotected sources. • These sources comprised mainly of shallow wells and surface water in the forms of swamps and rivers. • The only area that was considered to be water secure by the interviewees, were the lake-shore villages who had access to Lake Albert. • Most community members would not treat the water before consumption. • HC in the area were dependent on rain harvesters for water supply. This source would frequently run dry and with the exception of Kyangwali HC, the others would use (sometimes unprotected) sources similar to what the communities use. |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | | <ul style="list-style-type: none"> • None of the HC were able to test the quality of water used in the HC but all indicated that water would be treated with chlorine before use. • Sanitation coverage and standards were generally considered to be poor in the area, with latrine coverage estimated to be between 15% (Buhuka Flats) and 50% (Kyangwali, Kaseeta and Kabaale). • Those community members who did not have access to latrines would practice open defecation, sometimes in or close to water sources. • Waste handling and disposal in communities are not organised and the majority of waste is disposed of in the open. • With the exception of Kyangwali HC, all medical waste in the study area is disposed of by burning in open pits. This includes Hoima RRH who was constructing an incinerator at the time of the evaluation. • Kyangwali HC used incineration to dispose of medical waste before burial. <p><u>Direct observation:</u></p> <ul style="list-style-type: none"> • Waste management was very poor with litter strewn over a wide area (Figure 27). • Only a few latrines were noted in communities on Buhuka Flats. These were generally unimproved pit latrines. • Ventilated improved pit latrines were noted in the pipeline communities (Figure 29). |
| | <p>Diarrhoeal Diseases, Cholera and Typhoid fever</p> | <p><u>Diarrhoeal Diseases</u></p> <ul style="list-style-type: none"> • Infective diarrhoea is the second most common cause of death in children under-five globally. About 90% of the ~4 billion annual global episodes of diarrhoea can be attributed to three major environmental causes: poor sanitation, poor hygiene, and contaminated water and food [89]. • National and regional statistics include: <ul style="list-style-type: none"> ○ While diarrhoeal disease is still a major public health, the | <p><u>Findings from FGDs:</u></p> <ul style="list-style-type: none"> • Diarrhoeal disease was consistently listed among the common ailments in the study area. These diseases were attributed to limited community access to safe drinking water, poor personal hygiene and the low sanitation coverage. • Typhoid was said to be very common and frequently diagnosed in those presenting to health facilities. |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | <p>disease has recorded significant decline in the country's share of disease burden. In 2010, diarrhoeal disease was attributed to 5.2% of premature deaths, a decline from 11.4% in 1990 [36]. In 2012, diarrhoeal disease was responsible for 9% of deaths in children under-5 years in the country [31].</p> <ul style="list-style-type: none"> ○ Findings from the 2011 UDHS [21] show that: <ul style="list-style-type: none"> ▪ 23% of children under-5 had diarrhoea, including 4% with bloody diarrhoea, in the two weeks preceding the survey. Reported prevalence of diarrhoea was highest among young children aged 6-23 months. ▪ Reported cases of diarrhoea disease among young children was found highest in the Eastern region (32%) and lowest in the Southwest (14%). The Western region recorded a prevalence of 19%. <p><u>Cholera</u></p> <ul style="list-style-type: none"> • Cholera, the main cause of dehydrating diarrhoea in adults is caused by the bacteria <i>Vibrio cholera</i>. Clinical episodes range from asymptomatic infection to acute fulminant watery diarrhoea which, if untreated, may be fatal [90]. • Uganda has reported cholera cases every year since 1997. It's estimated that an average of ~11,000 cholera cases and 61–182 cholera deaths occur each year. The geographic distribution of the disease is very heterogeneous. While there is a clear distinction between low and high-risk districts, sentinel surveillance would help to better quantify the burden in endemic districts [91]. The outbreaks last an average duration of 15 weeks (range of 4–44 weeks) [91]. • A cholera outbreak in 2013 also affected Hoima District, which recorded at least 32 cases with 3 deaths [92]. <p><u>Typhoid fever</u></p> <ul style="list-style-type: none"> • Typhoid fever, also called enteric fever, follows infection with a bacterium (<i>Salmonella spp</i>) and transmission is via ingestion of contaminated food or water. The disease continues to be a | <ul style="list-style-type: none"> • The study area, particularly the Buhuka Flats has experienced frequent outbreaks of cholera. A major outbreak was reported in 2013, which led to some deaths. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> • Diarrhoeal disease was routinely listed as one of the 5 most common diseases recorded at the HCs in the study area. • Cholera is widely recognised throughout the study area. Sporadic cases are recorded with the last significant outbreak reported to have taken place in 2013. • In certain HCs (Kyangwali), staff had erected isolation tents in anticipation of cases associated with the start of the rainy season. • Typhoid was considered to be common Kyangwali, Buhuka and Kabaale, but less so in Kaseeta. • All HCW considered communities to have poor knowledge regarding appropriate sanitation practices that could aid in the prevention of diarrheal disease and associated outbreaks. <p><u>RHMIS data:</u></p> <ul style="list-style-type: none"> • The highest proportion of diarrheal related OPD cases have been recorded in the Buhuka HC where diarrhoeal disease accounts for between 13% and 15% of all OPD consultations. In all other HCs, diarrheal disease accounted for approximately 5%-6% of all OPD visits. • Based on the annual reports for the four health centres, the ranking of diarrheal disease according to period prevalence was reported as follows: <ul style="list-style-type: none"> ○ Acute diarrhoea – 71.8% ○ Dysentery – 17.2% ○ Typhoid – 8.7 % |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | <p>public health problem in many developing countries, including Uganda [93].</p> <ul style="list-style-type: none"> In 2008-2009, a large laboratory-confirmed outbreak of typhoid fever occurred in Kasese District of Uganda with a high proportion of intestinal perforations and at least 47 deaths [94]. | <ul style="list-style-type: none"> Persistent diarrhoea – 1.3% Cholera – 0.9% Of all the HCs evaluated, only Buhuka HC had reported any cholera cases in the 2013/2014 period with 24 cases in total. None of the other HCs reported any cases in the same period. |
| | Soil Transmitted Helminthiasis and Schistosomiasis | <p><u>Soil-transmitted helminthiasis</u></p> <ul style="list-style-type: none"> Soil-transmitted helminthiasis (STH) is the most common parasitic infection worldwide. STH produce a wide range of symptoms including intestinal manifestations (e.g. diarrhoea and abdominal pain), general malaise and anaemia [95]. STH are endemic nationally and their transmission by contact with human faeces in the soil is promoted by the lack of adequate sanitation. The overall prevalence of roundworms (<i>Ascaris lumbricoides</i>), whipworm (<i>Trichuris trichiura</i>) and hookworm has been reported at 6.3%, 5.0% and 44%, respectively [96]. Lake Albert region has recorded a prevalence of 10%-50% (all STH combined), but no accurate studies are available [97]. <p><u>Schistosomiasis</u></p> <ul style="list-style-type: none"> Schistosomiasis, also known as bilharzia, is a NTD caused by parasitic trematode worms of the genus <i>Schistosoma</i>. Two common forms of the disease occurring in Africa are the urogenital form (caused by <i>Schistosoma haematobium</i>) and the intestinal form (caused by <i>Schistosoma mansoni</i>). Infection is prevalent in tropical and sub-tropical areas, especially in poor communities without potable water and adequate sanitation. Therefore, the prevalence of schistosomiasis is a good indicator of the level of sanitation in a potentially endemic area. In Uganda, schistosomiasis is mainly caused by <i>S. mansoni</i> and affects more than 10% of the population [98]. Epidemiological mapping of the population at risk of schistosomiasis has shown typically high prevalence near the lakeshore and along large rivers. No transmission occurs at | <p><u>Findings from FGDs:</u></p> <ul style="list-style-type: none"> Abdominal illnesses due worms were reported as a common problem. Young children were most affected and some have been noticed to pass worms in their stool. Bilharzia emerged as a big health issue, especially in the Buhuka Flats. In many instances it was listed only second to malaria. Very few participants knew what causes the disease. Majority had the misconception that bilharzia is transmitted through drinking dirty water, while some did not know the cause. Majority were concerned about the illness and wanted to know how it can be “eradicated” from their community. The study area has not been accessed by any deworming programme and due to the limited awareness and access to health care, majority are “suffering without treatment”. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> All HCW noted that both STH and intestinal schistosomiasis were common in the area. All HCs, with the exception of Buhuka HC, possessed the ability to diagnose STH and intestinal schistosomiasis by microscopic stool analysis. Mass treatment campaigns targeting schools (also called Child Days) were implemented in the area. As part of this programme, Albendazole and Praziquantal distribution was managed through school visits in both April and October. Despite these campaigns, STH remained a significant problem in most of the health centres. The burden of |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | <p>altitudes >1400 m or where total annual rainfall was <900 mm [98, 99]. The geographical distribution and intensity of schistosomiasis in the country is shown in Figure 23. The Lake Albert region shows a very high prevalence of up to 80%-100% [99].</p> | <p>disease is best illustrated in Kaseeta and Kyangwali HCs, where the number of STH cases transposed diarrhoeal disease was the third most common disease reported in the annual reports.</p> <ul style="list-style-type: none"> • Although noted as a common disease, the reporting of intestinal schistosomiasis was noted to be very low in the RHMIS data. This raises serious concerns with regards to the disparity between the perceived burden of disease between community members and HCW. This phenomenon was the most prominent on the Buhuka Flats where the HC did not have the ability to reliably diagnose intestinal schistosomiasis, but had to rely on clinical diagnosis. • Without fail, the general lack of adequate sanitation facilities and poor knowledge regarding sanitation practices were noted as reasons for the perceived high prevalence of the diseases. <p><u>RHMIS data:</u></p> <ul style="list-style-type: none"> • As noted above, Kaseeta and Kyangwali HCs reported the highest number of STH cases, with percentages ranged between 7% and 9% of all OPD cases. • Child Day coverage were reported to be very low in certain sub-counties where the study area was situated: <ul style="list-style-type: none"> ○ Kyangwali S/C – 43% ○ Kabwoya S/C – 72% ○ Buseruka S/C – 52% |
| | <p>Hepatitis A and Poliomyelitis</p> | <ul style="list-style-type: none"> • Hepatitis A virus (HAV) is the most common viral cause of hepatitis worldwide and is hyper-endemic in many parts of the developing world. Transmission is via the faecal-oral route including ingestion of contaminated food or water. • Due to the prevailing low sanitation coverage, HAV is expected to be endemic nationally even though statistics are limited, partly due to inadequate diagnostic capacity. | <p><u>Findings from FGDs:</u></p> <ul style="list-style-type: none"> • There was no mention of polio or hepatitis by participants. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> • Neither Hepatitis A, nor Polio were considered to be significant health risks in the area. |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | <ul style="list-style-type: none"> • Poliomyelitis (polio) is a highly infectious viral disease, which mainly affects young children. The virus is transmitted through contaminated food and water, and multiplies in the intestine from where it can invade the nervous system. There is no cure for polio and it can only be prevented by vaccination. • In 2009, 13 years after Uganda was declared polio-free, a case of polio was confirmed in Amuru District in the northern part of the country, prompting a mass vaccination campaign to avert the outbreak [100]. Polio eradication strategies in the country include routine oral polio vaccination immunisation and acute flaccid paralysis (AFP) surveillance. | <p>RHMIS:</p> <ul style="list-style-type: none"> • No cases of (AFP) were reported by any of the rural health centres in the study area during the 2012/2013 and 2013/2014 periods. • Eleven cases of AFP were, however, reported in the Hoima District during the 2012/2013 period, with a further 13 cases reported during the 2013/2014 period, confirming the potential that polio may be a risk in the district. |

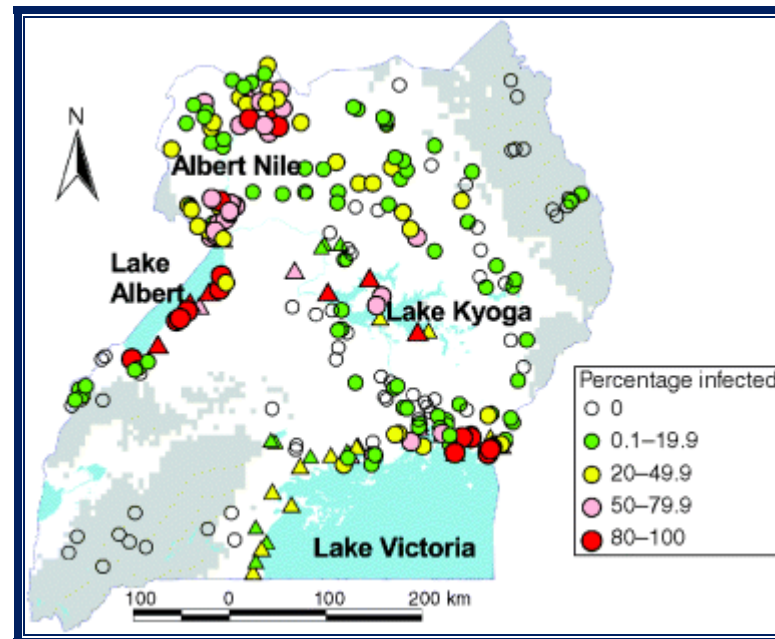


Figure 23: Distribution of Schistosoma mansoni in Uganda

Circles indicate school survey prevalence and triangles represent community survey prevalence. Grey areas indicate areas where either altitude is >1325 m or total annual rainfall is <900 mm.



Figure 24: Use of surface water in Kacunde



Figure 25: Non functional tap from gravity fed water scheme in Kacunde



Figure 26: Functional gravity fed water tap in Nsonga



Figure 27: Dirty environment in Nsonga



Figure 28: Community handpump well in Kyarujumba



Figure 29: Vented improved pit latrines in Kyarushesha

7.2.4 EHA #4 – Sexually-transmitted Infections, including HIV/AIDS

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| EHA #4 – Sexually-transmitted Infections, including HIV/AIDS | HIV/AIDS | <p><u>National and regional statistics</u></p> <ul style="list-style-type: none"> The HIV epidemic in Uganda continues to be generalised, and has not changed pattern in the last three decades [101]. The country achieved impressive success in the control of HIV during the 1990's, bringing HIV prevalence among adults aged 15-49 years down from a national average of 18.5% in 1992, to 6.4% in 2005. Currently, the overall picture is of increased prevalence nationally [101]. Statistics and highlights of the epidemic are presented below: <p>a) <u>HIV prevalence</u></p> <ul style="list-style-type: none"> The 2011 Uganda AIDS Indicator Survey (UAIS) reported HIV prevalence at a national average of 7.3%, with important variations by gender and geographically. The prevalence is consistently higher among women compared to men. The prevalence increases from the age of 15 years, to peak at the age of 35-39 years [23]. The national HIV prevalence (2011) was much higher among women resident in urban areas compared to those in rural areas (10.7% and 7.7%, respectively); but similar for men resident in both settings (6.1%) [23]. Regional variation (shown in Figure 30) shows the highest prevalence in Central region (9.8%) and lowest in Eastern region (4.1%). Western region recorded a HIV prevalence of 8.2% [23]. The HIV prevalence is particularly high among female sex workers (33%) and their male partners (18%), gay men (13%), and <u>fishing communities</u> (37%) [101]. <p>b) <u>HIV burden</u></p> <ul style="list-style-type: none"> The total burden of HIV as represented by the number of people living with HIV (PLHIV) has continued to increase. This is a result of continuing spread of HIV, and increased longevity among PLHIV [101]. | <p><u>Findings from FGDs:</u></p> <ul style="list-style-type: none"> HIV/AIDS emerged as a top concern for communities in the study area. However, the local burden of the illness was not well known because of limited access to and uptake of HCT. In the Buhuka Flats, the majority of respondents were not aware of where they can receive HCT. Some mentioned that the test was available at Buhuka and Rwenyawawa HCs, but majority were not sure. For the communities in the escarpments, HIV testing was said to be available at the Kyangwali HC. Uptake of HCT was very low in all the communities, citing distance and limited access to a health facility, fear of knowing ones status and possible stigma. In the Buhuka Flats the common tone was that when it comes to HIV <i>“we are all dead”</i>. It was reported that people who test positive do not disclose their status while continuing to expose others. <i>“Once they are known, they relocate to another ‘landing site’ and continue to behave in the same manner”</i>. The perceived high prevalence of HIV in the communities was attributed to high risk sexual behaviours specifically: <ul style="list-style-type: none"> high rates of polygamy, multiple sexual partnerships, transactional sex work, and low condom utilisation rate. HIV knowledge was relatively good, a majority recognised the sexual route as a principal mode of transmission. Prevention measures such as abstinence, fidelity and condom use were largely identified. The knowledge and awareness appeared to be higher among the youth compared to older participants. However, the main challenge appeared |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | <ul style="list-style-type: none"> • Between 2007 and 2013, the estimated number of PLHIV in the country increased from 1.2 million to 1.6 million. Approximately 93% of the PLHIV are adults aged 15 years and above [101]. • The HIV epidemic is worsened by co-morbid high prevalence of TB, cultural practices and negative laws. <p>c) <u>HIV incidence</u></p> <ul style="list-style-type: none"> • Although the country continues to experience a high rate of new HIV infections; the trend over the last three years shows a decline, from an estimated 162,294 in 2011 and 154,589 in 2012, to 140,908 in 2013 [101]. The decline in incidence has been more pronounced among children. This is largely attributed to efforts on prevention of mother-to-child transmission (PMTCT) of HIV [101]. • The main drivers of HIV incidence in the country include [101]: <ul style="list-style-type: none"> ○ Levels of knowledge and understanding of HIV, and especially its relationship to perceived personal risk of HIV infection. ○ Knowledge of one's HIV status, as established through HIV Counselling and Testing (HCT); and associated willingness for mutual disclosure of that status between sexual partners. ○ Risky sexual behaviour - including adolescent sex, multiple and concurrent sexual relationships, transactional and trans-generational sex, and unprotected sex. ○ Level of male circumcision (lowers the risk of HIV infection). ○ Alcohol abuse - closely associated with high risk sexual activity. <p>d) <u>HIV knowledge, attitude and practices</u></p> <ul style="list-style-type: none"> • Findings from the 2011 UAIS showed that [23]: <ul style="list-style-type: none"> • Nearly 75% of women and 80% of men age 15-49 know that HIV can be prevented by using condoms, and by limiting sexual intercourse to one uninfected partner. Men | <p>to be the translation of this knowledge into actual practice. This was important in women where cultural and social standing limited the ability to negotiate safe sex practices or meaningfully influence it.</p> <ul style="list-style-type: none"> • HIV-related stigma was an issue among the fishing communities in the Buhuka Flats. It was less of an issue in the escarpment communities where majority expressed a positive attitude towards PLHIV. • An NGO, Meeting Point was recognised to have conducted sensitisation and free HCT in the communities around the Project area, in 2014. The outreach was well received and the communities hoped that this could be done more regularly. The communities in the pipeline route (Kyarushesha and Kyarujumba) said they did not benefit from this initiative. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> • HIV was considered to be a significant public health concern in all of the KIIs conducted as part of this assessment. • Although perceived rates were not considered to be high, an increase in both opportunistic and more formally structured commercial sex work (CSW) was described in the study area, specifically in the Kyangwali and Buhuka Flats areas. • Increased commercial activities and the resultant influx resulted in a more noticeable CSW activity in the above mentioned area. • Despite free condom distribution, uptake on this initiative was generally poor. This was especially evident in the fishing communities where inappropriate risk behaviour was reported by the HCW. • Anecdotally, the risk from dying while fishing was considered to be much higher than dying from HIV |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | <p>are slightly more likely than women to know about the different HIV prevention methods.</p> <ul style="list-style-type: none"> • Common misconceptions about HIV still persist, and general acceptance of PLHIV remains low. • Overall, only 43% of men and 36% of women nationally have comprehensive knowledge³ about HIV. <p>e) <u>High-risk sexual behaviour</u></p> <ul style="list-style-type: none"> • HIV transmission is largely through heterosexual contact, information on sexual behaviour is important in designing and monitoring intervention programmes to control the spread of HIV. Main parameters of high-risk sexual behaviour include multiple partnerships, transactional sex and condom use. • Findings from the 2011 UAIS showed that [23]: <ul style="list-style-type: none"> ○ 19% of men and 3% of women had multiple sexual partners. ○ Multiple sexual partnerships were most common in <u>Western</u> (25%) and <u>East Central</u> (31%) regions. ○ Condom use was generally low - only 16% of women and 15% of men who had multiple sexual partners reported using a condom at last sexual intercourse. • A recent newspaper article 'the impact of oil discovery in Hoima District' has highlighted an increase in commercial sex work in the area, with clients coming from far and wide, supported by an improved road network [102]. | <p>and therefore, fishermen did not see the need to use condoms. It was also reported that they would still continue to visit certain CSW, even if it was well known that they were HIV positive.</p> <ul style="list-style-type: none"> • In addition to this, the comment was made that people are aware of antiretroviral treatment (ART) and that they could lead a 'normal life' despite been HIV+. • HIV rates were perceived to be much higher in CSW and higher risk professions such as bar maids and waitresses. • HIV related stigma was prominent with most of the interviewees noting that HIV patients would not disclose their status for fear of segregation. • Transactional sex was also noted to be a major concern, with a steady increasing trend. An improved economic situation could possibly lead to more transactional sex, with girls/women from poorer communities more vulnerable. <p><u>RHMIS data:</u></p> <ul style="list-style-type: none"> • Uptake on HCT services varied between HCs. • Prevalence of HIV in the voluntary HCT group during the 2013/2014 period was reported as: <ul style="list-style-type: none"> ○ Buhuka – 3.34% ○ Kyangwali – 5.30% ○ Kaseeta – 6.48% ○ Kabaale – 4.44% ○ Hoima District average – 4.27% • It is important to note that uptake on the HCT services was reported to be low and that these percentages do not necessarily accurately reflects all spheres of the |

³ Comprehensive knowledge of HIV means knowing that consistent use of condom during sexual intercourse and having just one uninfected faithful partner can reduce the chance of getting HIV, knowing that a healthy-looking person can have HIV, and rejecting the two most common local misconceptions about HIV transmission or prevention.

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | | <p>community. In addition to this, both Kaseeta and Kyangwali have ART clinics, a factor that may provide bias to the percentages reflected above.</p> <ul style="list-style-type: none"> • Pregnant women who attend antenatal care (ANC) at the HCs, also receive HCT (unofficially mandated) as part of their care program. • The prevalence reported from ANC included: <ul style="list-style-type: none"> ○ Buhuka – 5.56% ○ Kyangwali – 2.98% ○ Kaseeta – 1% ○ Kabaale – 2.44% ○ Hoima District average – 3.96% • Again, it must be noted that the percentages above, reflects a certain section of the communities and should not be interpreted as a true community prevalence. Access to services and acceptance will play a role in interpreting actual prevalence. • Out of the four rural HC in the study area, only Kyangwali HC was able to perform safe male circumcision (SMC). During the 2013/2014 period, a total of 2001 SMC procedures were performed at this HC. |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | Sexually transmitted infections (STIs) and Hepatitis B virus | <ul style="list-style-type: none"> • STIs such as gonorrhoea, syphilis and chlamydia are an important global health priority. Infection with certain STIs can increase the risk of acquiring and transmitting HIV and can alter the course of HIV disease progression. STI control is therefore an important strategy in the control of HIV/AIDS epidemic. • Hepatitis B Virus (HBV) is transmitted in the same way as HIV and is a lot more virulent with an estimated 30% of the world's population infected with the disease. A safe and effective vaccine is available. • National and regional statistics include: <ul style="list-style-type: none"> ○ Syphilis prevalence among pregnant women attending antenatal care has been reported at 2.0% [101]. ○ In the 2011 UAIS [23]: <ul style="list-style-type: none"> ▪ The prevalence of syphilis was found to be 1.8% nationally (at an equal proportion among men and women). ▪ Syphilis prevalence was highest in North East (3.3%) and lowest in Mid-Eastern (1.0%) region. Mid-Western region recorded a prevalence of 1.7% among men and 1.8% among women. ○ The country's RHMIS reported ~73,000 cases of urethral discharge and ~125,000 cases of genital ulcers in 2013 [101]. ○ Alongside other hepatitis viruses, HBV infection is highly endemic nationally, with transmission occurring both in childhood and adulthood. A recent study indicates a seroprevalence of 10.3% in the general population, with 40% of the population infected by the ages of 15-19 years of age. Further, it is estimated that more than 1.4 million adults are chronically infected with the virus [103]. ○ In 2002, Uganda introduced HBV vaccine in its EPI programme [103]. National coverage of the vaccine (among 1 year olds) is currently reported at 78% [34]. | <p><u>Findings from FGDs:</u></p> <ul style="list-style-type: none"> • STIs was listed among the top five ailments in adults in the study area. • Syphilis was particularly mentioned as a huge problem with the male youths reporting that nearly all of them had suffered from the illness. Majority felt that the disease is acquired at birth while others felt that the disease is largely sexual transmitted. • High risk sexual behaviour emerged as a major theme in all the communities Polygamy was considered a social and cultural norm. Informal multiple sexual partnerships was a common practice especially in the Buhuka Flats where males referred to this as a "side dish". Women also engaged in multiple partnerships to "revenge" on their cheating spouses. • Transactional sex work was common. This was supported by the presence and increasing number of lodges at the village centres. The commercial sex clients, mostly females come from within and outside the area. The high risk sexual behaviours is fuelled by: <ul style="list-style-type: none"> ○ Availability of disposable income, especially among the fishing communities. ○ Increased accessibility of the area as a result of improvement in road network and the oil developments. ○ Alcohol and drug abuse. • It was reported that project associated workers (males) also engage in the transactional sex and this has led to competition and an increase in asking price for sex. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> • STIs were considered to be common in the study area. In Kyangwali, Kaseeta and Kabaale HCs, the perception was expressed that syphilis was the most |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | | <p>prevalent STI, while HCW at Buhuka HC reported urethral discharge disease to be the most prevalent STI.</p> <ul style="list-style-type: none"> As noted above, all HCs distributed condoms free of charge but uptake of condom use was considered to be low. <p><u>RHMIS data:</u></p> <ul style="list-style-type: none"> Despite syphilis testing forming part of the routine ANC care at HCs, only Kyangwali HC reported syphilis prevalence out of the four HCs evaluated, with the following results: <ul style="list-style-type: none"> 2012/2013 period – 14.7% 2013/2014 period – 5.5% These figures shows a dramatic increase compared to the national prevalence of 2% for pregnant women attending ANC. <p><u>Direct observation:</u></p> <ul style="list-style-type: none"> A number of small guest-houses and taverns were noted in Buhuka Flats. These had apparently developed recently in response to CNOOCs activities. These were cited as establishments where high-risk sexual encounters were initiated, with reports that staff or contractors from CNOOC as patrons. An example of a new hotel is shown in Figure 31 (the picture does not insinuate that this establishment is a definite site where high risk sexual encounters occur). |

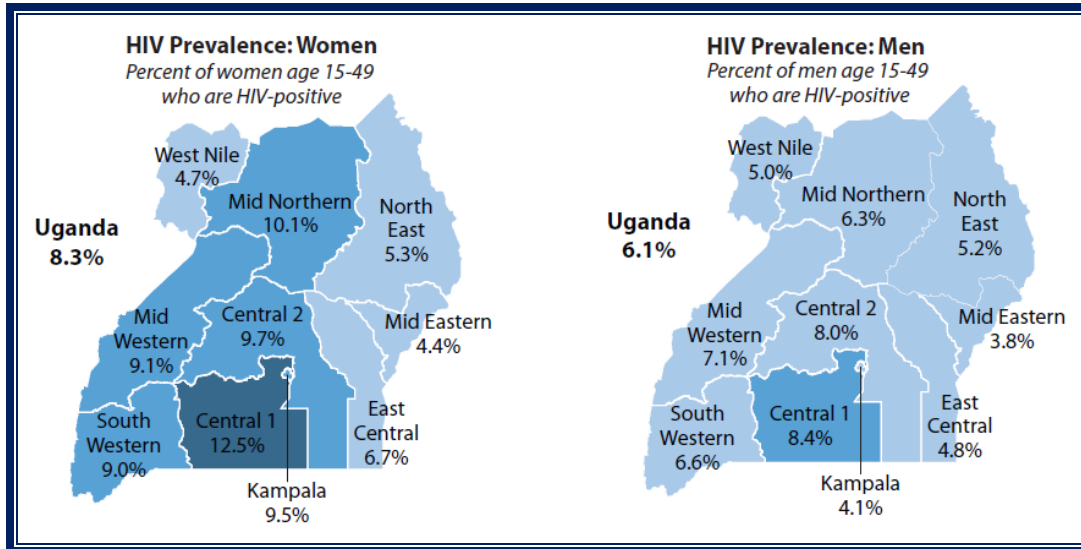


Figure 30: Regional HIV prevalence among adults (15-49 years) in Uganda, 2011



Figure 31: New hotel in Nsonga

7.2.5 EHA #5 – Food- and Nutrition-related Issues

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
|---|--------------------------------|---|---|
| EHA #5 – Food- and Nutrition-related Issues | Food security and Malnutrition | <ul style="list-style-type: none"> Uganda faces a wide range of development challenges, among them regional and seasonal food insecurity and varying degrees of adult and child malnutrition. However, the country has made significant progress over the past two decades in terms of macro-economic growth and human development. The proportion of people living in poverty declined from 38.8% in 2002/2003 to 24.5% in 2009/2010. Recent discovery of significant oil reserves is expected to boost economic growth in the years to come [104]. The Western region experiences minimal food insecurity [104, 105]. <p><u>Malnutrition</u></p> <ul style="list-style-type: none"> Malnutrition is one of the largest contributing factors to child mortality in less developed countries. It is an important indicator for monitoring a given population's health status and gives a reliable snapshot on community BOD [106]. Even in the absence of a specific food crisis, many communities struggle with chronic malnutrition, especially among children under-5 years. Nevertheless, the overall trend in underweight (low weight for age) and stunting (low height for age) among children has been downward in recent years, as shown in Figure 32. The prevalence of stunting among children under-5 years of age is about 33% nationally [21, 105]. The level of wasting (low weight for height), a measure of acute malnutrition is much lower at 5%-6% [21]. Statistics also show that: <ul style="list-style-type: none"> The immediate causes of malnutrition are high disease burden resulting from malaria, diarrhoeal disease and ARIs, as well as inadequate dietary intake. Child breastfeeding in the country is almost universal. The median duration of exclusive breastfeeding is 3.4 months [21]. | <p><u>Findings from FGDs:</u></p> <ul style="list-style-type: none"> The study area is largely food secure. The land in the escarpment areas is fertile and a variety of food crops are grown. These include maize, sorghum, cassava, bananas, potatoes, beans, kales and other types of vegetables. The farming communities also grew cash crops such as coffee and tobacco at a smaller scale. Livestock rearing (cattle, goats, pigs, poultry) was quite evident. The fishing communities in Buhuka Flats reported a reliance on fish meals due to lack of money to purchase a variety of food from the farmers. Access to the escarpment also limited the purchase of vegetables. In general, malnutrition did not emerge as a concern in the study area. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> Malnutrition was noted to be present in the study area, but was not raised as a major concern by any HCW key informants. The area was considered to be food secure with enough food available throughout the year. The only HC that had a functional malnutrition clinic, was Kyangwali HC. The clinic served both the national population as well as the refugees hosted at a nearby refugee camp, and thus was supported by UNHCR. Malnutrition in the Kyangwali area was reported to be more prevalent in the national population, being especially predominant in the migrant agricultural populations. Despite being planned for, none of the HCs |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | <ul style="list-style-type: none"> ○ The 2011 UDHS found that 44% of children under-5 years in the Western region were stunted (19% severely) and 15% underweight (5% severely). The level of wasting was much lower at 3% [21]. ○ There was no data available at the district level, or stratified between parishes. | <p>performed nutritional outreaches in the communities.</p> <ul style="list-style-type: none"> • Except for Kyangwali HC, nutritional monitoring was confined to EPI activities with underweight (under 2SD line on growth chart) being the only indicator that was reliably tracked and reported. • Main contributors to the majority of malnutrition cases were noted to be: <ul style="list-style-type: none"> ○ Poor feeding practices; ○ Poor economic management by migrant agricultural communities, selling the entire crop with associated poor control of expenditure; and ○ Malnutrition associated with immunosuppression. • A list of prices of commodities at the main Hoima market is attached in Appendix D. <p><u>RHMIS data:</u></p> <ul style="list-style-type: none"> • Very scanty data was available.. • Only two of the HCs (Kyangwali and submitted any data on underweight children in their annual reports. Both reported 1 child each. • The absolute paucity of information on malnutrition and the deficiency in reporting on reliable indicators raises serious concerns regarding the recognition of malnutrition. This is important as even moderate malnutrition has significant health concerns for children and chronic malnutrition is known to affect the cognitive development of children. |
| | <p>Anaemia and micro-nutrient deficiencies</p> | <ul style="list-style-type: none"> • Anaemia is an important health consideration as it can retard mental and physical development in children. It can also lead to poor outcome of pregnancies including neonatal deaths. • The cause of anaemia is multi-factorial and includes malaria, nutritional deficiencies and parasitic infections, and hereditary conditions such as sickle cell disease. Due to its broad range of variables (in causality), anaemia is also a very good indicator of the general status of health in a community. • Micronutrient malnutrition remains widespread in the country, | <p><u>Findings from FGDs:</u></p> <ul style="list-style-type: none"> • Anaemia was not specifically mentioned among common ailments in the study area. However, with the high occurrence of malaria and worm infections, the condition is likely to be prevalent. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> • Anaemia was noted as being common in the study area with malaria identified as the primary |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
|---------------------------|--------------------|---|---|
| | | <p>specifically deficiencies in vitamin A and iron-deficiency anaemia. In 2012/2013 anaemia was the 3rd leading cause of death among children under-5 years (after malaria and pneumonia) and was responsible for 11.6% of the deaths in this age-group [22].</p> <ul style="list-style-type: none"> • The 2011 UDHS measured anaemia levels in children aged 6-59 months and women aged 15-49 years and found that [21]: <ul style="list-style-type: none"> ○ Nationally, about half of children 6-59 months (49%) were anaemic. The prevalence was highest (69%) among children age 9-11 months. ○ Regional variation of anaemia in children ranged from 25% in Southwest to 70% in Karamoja region. The prevalence among children in Western region was measured at 39%. ○ About 23% of women age 15-49 nationally were anaemic. Again, women in Karamoja were found to have the highest prevalence of anaemia (43%) while women in Southwest had the lowest (11%). Anaemia prevalence among women in the Western region was found at 17%. | <p>contributor in Buhuka, Kyangwali and Kabaale and intestinal parasites (specifically hookworm) noted as the major contributor in Kaseeta.</p> |

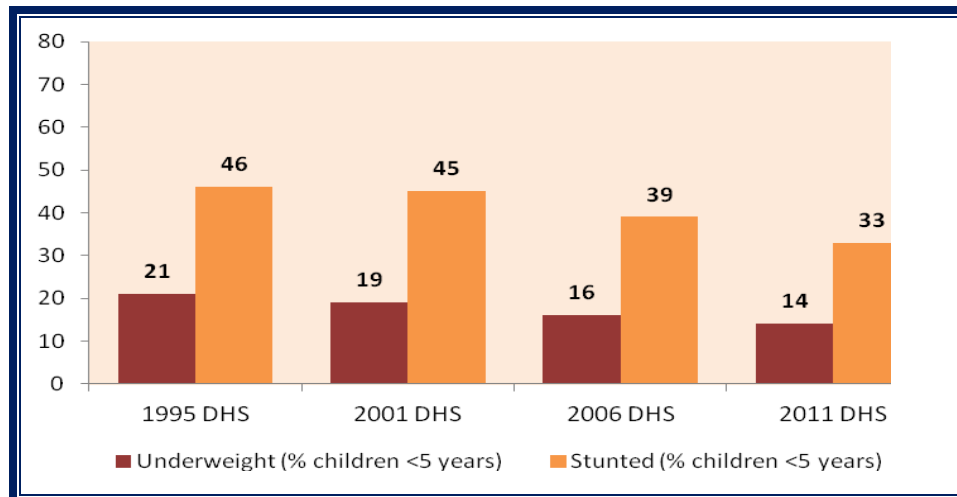


Figure 32: Trend in prevalence of underweight and stunting among children in Uganda



Figure 33: Fish drying in Kyakapere



Figure 34: Road side produce sales

7.2.6 EHA #6 – Non-communicable Diseases

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
|------------------------------------|---|---|--|
| EHA #6 – Non-communicable diseases | General profile of non-communicable disease (NCD) | <ul style="list-style-type: none"> • Current global health trends clearly show that the disease burden attributable to NCDs is on the increase. In SSA, it is predicted that NCDs and injuries may cause up to 60% of morbidity and 65% of mortality by 2020 and that the increasing burden may overwhelm already over-stretched health services [107]. • The main NCD considered are cardiovascular diseases (CVD), diabetes, cancer and chronic respiratory conditions. The risk factors underlying the major chronic NCDs include; unhealthy diet, physical inactivity, alcohol consumption and smoking [108]. • NCDs are estimated to account for 27% of all deaths in Uganda [109]. | <p><u>Findings from FGDs:</u></p> <ul style="list-style-type: none"> • Due to limited awareness and access to health care, the occurrence or importance of NCDs in the study area could not be easily determined. • However, risk factors such as alcohol consumption and cigarette smoking were common. Sedentary lifestyle and a diet high in refined carbohydrates was however uncommon. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> • NCDs were, in general, poorly recognised in the study area with the inability to reliably diagnose Diabetes Mellitus (DM) was noted as a concern. • Only Kyangwali HC had access to a glucometer, enabling the HCW to diagnose and treat DM. All of the other HC reported that they had to refer patients if DM was clinically suspected. • Smoking and alcohol abuse were reported to be very common in the area. • Hypertension was not noted as an issue, which is surprising given its propensity to affect the middle aged African population. |
| | CVD and DM | <ul style="list-style-type: none"> • CVD is the most prevalent NCD nationally, accounting for 9% of deaths in 2012 [109]. • The Uganda Heart Institute records have demonstrated a 500% increase in outpatient attendance due to CVD over the past 7 years [110]. • A recent community based survey found that about a quarter (27%) of the adult population had hypertension, but awareness and control were very low [111]. Hypertension generally has no symptoms, until complications such as heart failure or stroke manifest. • Data indicate that about 5-7% of the country's population is diabetic [112, 113]. Regional referral hospitals have reported | <p><u>Findings from FGDs:</u></p> <ul style="list-style-type: none"> • DM and hypertension were mentioned only a few times by FGD participants. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> • CVD was not well recognised in the area with only Buhuka HC reporting eight cases in the 2013/2014 period. The exact nature of disease was not recorded in the system. • No other HC reported any cases of CVD (including hypertension) in either the 2012/2013 or 2013/2014 periods. |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | <p>an increasing number of cases of DM [110].</p> <ul style="list-style-type: none"> Limited awareness and negative perceptions of DM in this setting further hinders its control. A recent study in rural Uganda found that only 34% of the population had adequate knowledge about lifestyle diseases, including DM [113]. | <p><u>RHMIS data:</u></p> <ul style="list-style-type: none"> Despite diagnostic challenges, DM was reported in the following facilities: <ul style="list-style-type: none"> Buhuka HC – 1 case (2013/2014) and 3 cases 2012/2013 Kyangwali HC – 100 cases (2013/2014) and 83 cases (2012/2013) Kabaale HC – 2 cases (2012/2013) Kaseeta – no cases |
| | Chronic respiratory diseases | <ul style="list-style-type: none"> The most common non-infectious chronic respiratory diseases are asthma and chronic obstructive pulmonary disease, which includes emphysema, chronic bronchitis, etc. Risk factors for chronic respiratory diseases include tobacco smoking, indoor air pollution, outdoor pollution, allergens and occupational exposure (asbestos, silica, certain gasses). Reports indicate an increasing burden of these nationally, particularly asthma [110]. Current daily smoking of tobacco is estimated at 10% (16% among males and 3% among females), nationally [109]. The population's risk of exposure to indoor residual smoke is significantly high due to a reliance (at 96%) on solid biomass fuels for cooking and heating [21]. | <p><u>Findings from FGDs:</u></p> <ul style="list-style-type: none"> Cough illnesses were said to be common. Majority of these were attributed to acute infectious conditions. Asthma was not specifically mentioned. Due to the high prevalence of tobacco smoking in the area and the use of solid fuels for cooking, chronic respiratory conditions are a potential concern. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> As noted before, smoking was deemed to be very common and was seen as a major contributor to both ARI and chronic respiratory conditions. In addition to this, biomass fuels (in the form of charcoal and wood) was common in the study area. <p><u>RHMIS data:</u></p> <ul style="list-style-type: none"> Asthma cases were reported by every HC in the study area. Cases seem to remain relatively stable over the reported time periods and did not reliably reflect any significant increase in numbers. |
| | Cancers | <ul style="list-style-type: none"> In Africa, it is estimated that infectious agents cause 40% and 29% of cancers affecting men and women, respectively. Effective preventive measures for liver (from Hepatitis B) and cervical cancers (from human papilloma virus and HIV), for example, are available through immunisation and general prevention of STIs, respectively [114]. Statistics on the burden of cancers in Uganda are scarce. The | <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> Cancers were very poorly described during the assessment, with only the HCW at Buhuka HC noting one case of breast cancer in Nsonga community. Cases were generally referred no clear data is available. They were however, rare. Cases generally present late when hopes of effective |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | <p>WHO estimates that cancers account for about 5% of all deaths in the country [109].</p> <ul style="list-style-type: none"> • The Uganda Cancer Institute has reported an upward trend in cancer incidence in recent years [110]. The overall lifetime risk of getting cancer is approximately 18% [115]. • In 2012, there were an estimated 29,380 new cases of cancers in the country [115]. • Nationally, cancer of the prostate is the commonest among men, followed by cancer of the oesophagus, Kaposi's sarcoma and liver cancer, respectively. The top four cancers affecting women are cervical, breast, oesophagus and Kaposi's sarcoma, respectively [115]. | <p>treatment or cure is not possible</p> |

7.2.7 EHA #7 – Accidents/ Injuries

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
|------------------------------|------------------------|--|--|
| EHA #7 – Accidents/ Injuries | Road traffic accidents | <ul style="list-style-type: none"> • Road traffic accidents (RTAs) are a significant cause of injuries and deaths nationally. • The road sector is the most important mode of transportation in the country, as it carries 97% of freight cargo and 99% of the passenger traffic. • National statistics show that: <ul style="list-style-type: none"> ○ Between 2000 and 2010, the number of vehicles in the country increased from 300,000 to 800,000, along with the number of deaths due to traffic accidents [116]. ○ Uganda has the second highest rate of road accidents in the world after Ethiopia, with the WHO's Global Status Report on Road Safety (2013) listing Uganda among countries with alarmingly high RTA rates [116]. ○ Annual statistics indicate that most of the RTAs are severe, with about 13% fatal [35]. • Due to the ongoing improvements in road network [102] coupled with increased human and vehicle traffic, road accidents are likely to increase in the broader Western Region | <p><u>Findings from the FGDs:</u></p> <ul style="list-style-type: none"> • Road safety emerged as a concern for the communities in the study area. Concern was shown that the improvements in roads would bring about increased numbers of accidents, especially along major routes • Children were identified as a vulnerable group. • Participants called for road safety awareness campaigns, speed controllers such as bumps and low speed limits at the village residential areas. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> • RTA were a significant concern to all respondents. • Without exception, an increased incidence in RTA was noted every area where interviews were conducted. Motorcycles were cited as commonly involved in accidents • Poor driving skills, poor adherence to traffic regulations and alcohol intoxication were reported to be amongst the most significant contributors to the increase in rates. • Ironically, the improved tar road in close proximity to Kabaale HCs was noted as promoting speeding and subsequently, an increase in RTA. • All informants uniformly expressed the opinion that a further rise in RTA was expected in the area. • There was no prehospital ambulance service in the district and trauma facilities in all HC in the study area were very limited. <p><u>RHMIS data:</u></p> <ul style="list-style-type: none"> • With the exception of Kaseeta HC, all rural HCs in the region reported a dramatic increase in RTA between the 2012/2013 and 2013/2014 periods, as |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
|---------------------------|-------------------------------------|--|--|
| | Interpersonal and domestic violence | <ul style="list-style-type: none"> Studies have shown that interpersonal and domestic violence is common, especially among the communities in the north. The violence has been linked to armed conflict, poverty, alcohol abuse and negative cultural attitudes and practices. The commonest form of domestic violence in the country is physical abuse and child abuse, including beating and torture, followed by psychological abuse. Some incidents have resulted in loss of life. | <p>follows.</p> <ul style="list-style-type: none"> Buhuka HC – 213% increase. Kyangwali HC – 125% increase. Kabaale HC – 124% increase. <p><u>Findings from FGDs:</u></p> <ul style="list-style-type: none"> Interpersonal violence was reported to occur in the study area. This was more common among the youths and was linked to alcohol, drug abuse and lack of community cohesion. Domestic violence was said to be relatively common, though most were regarded as “normal misunderstandings” that can occur in a family. In the farming communities, it was reported that domestic violence mostly occurred during the harvest season when men sell produce, take away all the money, and abuse alcohol. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> Interviewees reported domestic violence to be very common and routinely associated with alcohol and, more rarely, drug abuse. Indiscriminate spending of money by men was identified as one of the significant triggers, with infidelity and intercultural friction mentioned as other factors. Despite the common occurrence of this phenomenon, it was noted that most cases were never reported to authorities. There is the possibility that domestic violence is tolerated or even accepted in certain communities. |

7.2.8 EHA #8 – Veterinary Medicine and Zoonotic Diseases

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
|--|--|---|---|
| EHA #8 – Veterinary Medicine and Zoonotic Diseases | Zoonotic diseases including, pandemic influenza (SARS, H5N1 (Avian Flu) and H1N1 (Swine Flu) | <ul style="list-style-type: none"> • Zoonotic diseases are caused by infectious agents that can be transmitted between animals and humans. • Environmental changes, human and animal demography, pathogen changes and changes in farming practice as well as social and cultural factors such as food habits and religious beliefs all play an important role in emergence of zoonotic diseases. • Influenza is a viral infection that affects mainly the nose, throat, bronchi and, occasionally, lungs. The virus responsible for influenza (Influenza virus A, B and C) has a very high level of mutation and therefore people develop only partial immunity for influenza. • In recent times, there has been a concern related to spread of highly pathogenic viruses that have mutated to pose transmission risk to humans, from animal hosts, with the potential to cause pandemics. These include SARS, H5N1 (avian flu) and H1N1 (swine flu) viruses. • Pandemic influenza remains a general threat in Uganda, due to increased mobility and mixing of populations. Active surveillance is conducted especially in Kampala. Plans are underway to extend surveillance to Western and Eastern Uganda [117]. | <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> • No pandemic influenza cases have been recognised in the district. • There is no advanced influenza surveillance or early warning system in the district to detect potential outbreaks. • There is not an advanced veterinary public health system in the district and interaction between the human and veterinary health departments on potential zoonosis was weak. |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | Viral haemorrhagic fevers | <ul style="list-style-type: none"> Viral haemorrhagic fevers (VHF) is a general term for a severe illness, sometimes associated with bleeding and that may be caused by a number of viruses especially Lassa fever, Crimean-Congo, Marburg and Ebola viruses. Since the year 2000, Uganda has experienced repeated outbreaks of VHFs, particularly Ebola, Marburg and more recently Crimean-Congo [118]. Ebola and Marburg viruses belong to the Filovirus family, which are among the most virulent pathogens known to infect humans [119]. <p><u>Marburg virus disease</u></p> <ul style="list-style-type: none"> The Marburg virus is transmitted by direct contact with the blood, body fluids and tissues of infected persons. Transmission of the virus also occurs by handling ill or dead infected wild animals (e.g., monkeys, fruit bats) [119]. Case fatality rates vary from 25% to 80%. The predominant treatment is general supportive therapy [119]. Two outbreaks of Marburg haemorrhagic fever have occurred in Uganda, the first in Ibanda (2007) and more recently in 2012, affecting the western districts of Kabale, Ibanda, Mbarara, and Kampala. The 2012 outbreak had a case fatality rate of 50% (9 deaths out of 18 confirmed cases) [118, 120]. Another isolated case was confirmed in October 2014 [121]. Marburg virus poses a potential threat the study area. <p><u>Ebola virus disease</u></p> <ul style="list-style-type: none"> Ebola virus disease (EVD) is a severe, often fatal illness in humans, caused by Ebola virus. Ebola first appeared in 1976 in two simultaneous outbreaks, in Nzara (Sudan) and in Yambuku (DRC). The outbreaks have a case fatality rate of up to 90%. The natural reservoir for the virus is not well known; fruit bats have been considered among the likely hosts [122]. Initial transmission occurs from wild animals to human, and subsequently sustained through person-to-person spread. This disease is highly contagious and spreads through direct | <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> VHF were not recognized in the study area. Most HCW were aware of the diseases and the associated risks but none remembered any diseases being diagnosed in the area. <p><u>RHMIS data:</u></p> <ul style="list-style-type: none"> No cases of VHF were reported by any of the rural HC in the region during either the 2012/2013 period or the 2013/2014 period. During the same periods, the Hoima District reported 4 cases (2013/2014) and 5 cases (2012/2013) respectively. |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | <p>contact with the blood, body fluids and tissues of infected persons. Significant transmission has occurred in the health care setting mainly because of poor infection control practices and unavailability of personal protective equipment [122].</p> <ul style="list-style-type: none"> • The largest outbreak to date is the ongoing 2014 West Africa Ebola outbreak, which is occurring in Guinea, Sierra Leone, and Liberia. Mali, Nigeria and Senegal also recorded cases but has managed to stop the outbreak. A few imported cases have been reported in the United States of America, United Kingdom and Spain [123]. • There are currently no licensed Ebola vaccines but potential candidates are undergoing evaluation and a safe and effective vaccine is hoped for by the end of 2015. No specific treatment is available [124]. • Since the year 2000, Uganda has documented a total of five Ebola outbreaks. The latest outbreak occurred in Kibaale (2012) in western Uganda [118]. • Ebola virus poses a significant potential risk in the study area. <p><u>Crimean-Congo haemorrhagic fever</u></p> <ul style="list-style-type: none"> • Crimean-Congo haemorrhagic fever (CCHF) is a severe viral disease caused by a tick-borne virus of the Bunyaviridae family. The virus causes severe viral haemorrhagic fever outbreaks, with a case fatality rate of 10-40%. The virus is primarily transmitted to people from ticks and livestock animals. Human-to-human transmission can occur resulting from close contact with the blood, secretions, organs or other bodily fluids of infected persons. CCHF is endemic in Africa and is a risk in Uganda [120, 125]. • No vaccine against the virus is currently available, treatment with ribavirin has been found to be beneficial [125]. • The disease is a potential threat in the study area. | |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | <p>Brucellosis and other domestic animal borne zoonosis (Q-fever, leptospirosis etc.)</p> | <ul style="list-style-type: none"> Brucellosis in a contagious bacteria zoonotic disease caused by the ingestion of unpasteurized milk, undercooked meat or close contact with secretions of infected animals (through broken skin or mucous membranes). There is a risk that inhalation of the bacteria may pose a risk but this generally limited to slaughterhouse workers or meat packers. Person to person spread is extremely rare. Four species cause disease in humans with the most invasive species affecting goats and sheep, and a less virulent form affecting cattle. <p>Symptoms are generally non-specific and can mimic other febrile diseases (such as malaria). To confirm the diagnosis requires specialised blood tests (not available in the study area). There is very little known about the disease at the level of the study area but in a study completed amongst abattoir workers in Kampala and Mbarara districts in 2007, 10% of workers were tested seropositive for brucella. The plateau areas of western Uganda are regarded as zone of hyper-endemic disease, but with a paucity on actual human prevalence [139].</p> <ul style="list-style-type: none"> Leptospirosis is a bacterial disease that affects humans and animals. The disease is transmitted by both wild and domestic animals (cattle, pigs, dogs), with rodents the most common cause. Transmission is through animal urine or water/soil contaminated by animal urine that comes in contact with broken skin or mucous membranes (eyes, nose, mouth). The bacteria can persist for weeks/months in water and soil media. <p>The disease is more common in farmers who have contact with cattle and in areas of poverty where rodents may be in close contact with household residents (especially in slums or other make-shift settlements. The risk of acquiring the disease is higher in people exposed to water bodies, as prolonged immersion/exposure to water promotes exposure to water. Drinking contaminated water also poses a risk.</p> | <p><u>Direct observation:</u></p> <ul style="list-style-type: none"> Animal husbandry was common in all parts of the study area, with cattle herding clearly the most common. Large herds of cows were noted on Buhuka flats and the escarpment areas along the pipeline route. A few ducks were noted in Buhuka flats, with chickens and some goats on the escarpment. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> There is no formal veterinary health system and diseases such as brucellosis occurred in cattle. There was no vaccination programmes in cattle and milk consumed in the community (from local cattle) was not pasteurised. HC staff and community members mentioned that Brucellosis was relative common in the area and regularly considered as a cause of fever. Other conditions such as leptospirosis and rickettsial diseases were not recognised. |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
|---------------------------|--------------------|--|--|
| | | <p>The disease presents with non-specific symptoms and diagnosis is often incorrect (often considered to be malaria). Diagnosis requires specialised laboratory testing, and thus the real BOD is often unknown in setting such as rural Uganda. No statistics or information on the disease was available at a national or local level.</p> <ul style="list-style-type: none"> • Q fever is a bacterial disease spread by cattle, sheep and goats with organisms excreted in milk, urine and faeces of infected animals. The organism is spread in high concentration in the placenta and amniotic (birth) fluid, so birthing and dried placental/product of birth materials poses a risk from a direct contact and inhalation route Tick bites are also a risk. Humans are very susceptible to the disease. • Other tick-borne diseases include rickettsial disease (typhus) but these are poorly described in Uganda. | |
| | Rabies | <ul style="list-style-type: none"> • Rabies is a viral infection, which causes at least 55,000 deaths per year (mainly in Asia and Africa). The disease is very likely to be under-reported due to limited diagnostic capability [126]. • Most human rabies cases are caused by a bite from an infected dog or close contact with the saliva. Once symptoms of the disease develop, rabies is fatal. The most cost-effective mode of rabies prevention is vaccination of domestic dogs. Timely post exposure vaccination of humans is often effective. • Rabies is endemic in Uganda and most cases are secondary to infected dog bites [127]. Majority of the domestic dogs are unvaccinated against rabies. Projections indicate that nearly 600 rabies deaths would occur in the country annually in the absence of post exposure prophylaxis [127]. | <p><u>Direct observation:</u></p> <ul style="list-style-type: none"> • Dogs and cats were not seen commonly in either Buhuka flats or the escarpment areas. These numbers are likely to increase with economic liftment. <p><u>Findings from FGDs:</u></p> <ul style="list-style-type: none"> • Rabies is a risk in the study area and isolated cases of dog bites were reported. Majority of the domestic dogs are not vaccinated against rabies. It was reported that dog bite victims often receive post-exposure medication from Kyangwali health centre. Use of some herbal medicine was also reported. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> • Each sub-county is supposed to have a veterinary officer that interacts with the HCs but all of the HCW noted that this interaction did not take place. • Rabies was noted to crop up sporadically, but was never formally diagnosed. • Buhuka HCW noted a suspected case in the week |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | | <p>preceding the assessment, while the HCW at Kyangwali noted a case in 2014 where several family members died after being attacked by a jackal.</p> <ul style="list-style-type: none"> • Kyangwali HC was the only unit in the area that had rabies post exposure vaccine available. • Vaccination of dogs was not known to ever occur. <p><u>RHMIS data:</u></p> <ul style="list-style-type: none"> • Due to diagnostic difficulties, confirmed rabies cases were poorly reported on the annual HC reports. The only HC that reported suspected rabies cases, was Kabaale HC that reported 4 cases in the 2013/2014 period. |



Figure 35: Hippo grazing near Kacunde

7.2.9 EHA #9 – Potentially Hazardous Materials, Noise and Malodours

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
|---|--------------------|--|--|
| EHA #9 – Potentially Hazardous Materials, Noise and Malodours | | <p>These may also be listed as environmental health determinants and include pollution of air, soil and water, as well as possible exposure to pesticides or other organic or inorganic pollutants, noise and malodours. The pathway of human exposure to pollutants can be complex and may be the result of a variety of sources including air, soil, water, plants and animals.</p> <p>The review completed consisted of a review of determinants related to the Project and associated specialist studies, as discussed below.</p> <p><u>Air quality:</u> Baseline air quality will be assessed as part of the EIA process, but findings have shown a pristine environment devoid of any industrial sources of air pollution [3]. The air quality impact assessment describes the baseline conditions in detail with important facts [150]:</p> <ul style="list-style-type: none"> • Uganda has a bi-modal rainfall with ‘short rains’ from October to December and ‘long rains’ from March to May. Peak rainfall in the study area was from September to November and lowest in January. • Based on regional data, winds generally blow in a north-east to south-west, or vice versa, direction. On the escarpment, winds can be multi-directional. For most of the year the area experiences moderate to strong winds with gusts, increasing in velocity in the afternoon. • Wind roses developed based on modelled site data from Buhuka Flats showed a predominant wind from the south-east to south-west (53%) and north-west (10%). The average wind speed was 2.9m/s with 10% calms. <p><u>Water quality and quantity:</u> A number of rivers/stream, drainage lines and wetlands cut across Buhuka flats. Drainage lines near some villages have</p> | <p><u>Findings from FGDs:</u></p> <ul style="list-style-type: none"> • The communities had perceptions in regards to air and water pollution as a result of the Project activities. The fishing communities feared that oil mining in the area may interfere with the normal condition of the lake water and lead to disappearance of fish and loss of livelihood. The farming communities in the escarpment attributed the delay of the rains this year to “environmental effects” of the Project. • The communities closer to the roads reported some noise related to the ongoing road construction as a result of blasting of rocks. • In Buhuka Flats majority were not satisfied with the general cleanliness of their environment citing bad smells from rotten fish and other waste. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> • Most of the respondents noted that both air and water pollution was on the increase. • Some forms of pollution, like air pollution due to increased dust and perceived “air pollution from drilling”, was directly attributed to the presence of the project, while water pollution was mainly attributed to the influx of people into the region and the increase pressure this placed on resources that were already under pressure. • Water sources were noted to be polluted by more people using this resource indiscriminately for ablutions and washing of clothing and vehicles. • The fear of an oil spill in Lake Albert itself and the resultant impact of that on both the fish stocks and general health of lake-shore communities were also raised on more than one occasion. |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | <p>been blocked resulting in ponding and development of localised wetland of putrid water.</p> <p>Surface water quality in this area is affected by animals (particularly cattle), fish cleaning, sedimentation, and human waste. Larger villages near the lake are supplied with untreated water fed by way of a gravitational pipeline from the escarpment. Direct observation from the EIA consideration that surface water sources would be contaminated by i) animal and human faecal due to poor sanitation and unrestricted access to animals to human water supplies, domestic use such as washing clothes/ dishes/ people and poor waste management [3].</p> <p>There are a number of shallow hand pump wells that provide residents with groundwater. These were either provided by government or NGOs and were not widespread (only in 5 villages). Wells were non-functional as pumps were not working, as water is corrosive and the equipment fails. Residents reported that groundwater quality was poor (saline) and that wells don't yield enough water [3].</p> <p>A detailed groundwater specialist study was completed as part of the EIA, at both Buhuka flats and the pipeline route. This found that the groundwater level was very high (less than 1m below surface) in Buhuka flats and relatively unprotected from surface infiltration of contaminants due to the presence of a shallow perched aquifer. Groundwater sources were more common along the pipeline route (with 15 wells recorded in total), which was the main source of water for residents. The deep well provided a better quality and reliable source of water, with shallower ones (less common) providing poorer quality water and variable yields [140]. Ground water quality studies show that:</p> <ul style="list-style-type: none"> • The pH of well along the lake front in Buhuka were alkaline, had high levels of salinity and hardness, and not suitable for domestic use. • Water quality on the escarpment was good and suitable for | <p><u>Findings from direct observation:</u></p> <ul style="list-style-type: none"> • The environment in Buhuka flats was extremely dirty with domestic waste scattered over a wide area. Evidence of indiscriminate human defecation was noted, and animal dung was widespread amongst the human settlements. Potential hazardous materials such as used batteries were noted in the waste. • The communities along the pipeline were less polluted, but it was evident that there was no formal waste system. • Containers that previously stored other products (such as cooking oil) were used to collect and store water. No obvious containers that previously stored hazardous material were noted but the potential use cannot be excluded. • In one small store pesticides were available for general household use as well as for pest control on domestic animals. It was anecdotally reported that cattle were dipped on the lake shore using these products. Only products containing a pyrethroid class of insecticide were noted in the local stores in Nsunzu and Nsonga. These are extremely toxic to fish, birds, amphibians and aquatic invertebrates. Small concentrations (diluted in lake water) are harmless to humans with the product readily broken down by the sun. • Stores with veterinary medications (antibiotics) as well as pesticides were noted along the pipeline route • Air pollution from domestic sources include smoke from charcoal production, and wood/charcoal based fires for heating and cooking. Dust is less common on Buhuka flats as there is less vehicle traffic but it was evident along roads in the pipeline routing and other access roads. |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
|---------------------------|--------------------|---|---|
| | | <p>domestic use. Several trace metals exceed established guidelines and probably have a natural occurrence due to leaching of the surrounding bedrock. Some of the metals may pose a long term health risk to users, with lead and mercury of concern.</p> <ul style="list-style-type: none"> • No hydrocarbons were detected in any samples. • Microbial water quality was tested using a presence/absence indicator for total and faecal coliforms with the following results: <ul style="list-style-type: none"> ○ All surface water samples and 71% of ground water samples tested positive for total and faecal coliform contamination on Buhuka flats. ○ 72% of samples along the pipeline were contaminated. <p>Similarly, a specialist surface water study was also completed as part of the EIA. Samples (22 sites) were taken along the pipeline, on the escarpment and on Buhuka flats, with findings [141]:</p> <ul style="list-style-type: none"> • Overall inorganic water quality was good. • The pH fall in the upper limits of water standards, with five having alkaline samples and one acidic sample near pad 5. • Some areas what high levels of total dissolved solids. <p><u>Noise:</u> Buhuka flats is deeply rural with no electricity. Noise is generally restricted to animal or human noise, with boats and some generator powered equipment also contributing to local noise. Noise levels are low at night [3]. A specialist noise impact assessment report was completed as part of the EIA with the following baseline findings [142]:</p> <ul style="list-style-type: none"> • Measured noise levels were similar in all locations. • Noise sources in the study area were typically wildlife, livestock, people and motorcycles. • A typical peak in ambient noise was noted at dusk, followed by a gradual decrease through the night, to a second peak at sunrise. | |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
|---------------------------|--------------------|---|---|
| | | <ul style="list-style-type: none"> • In some sampled communities night time levels were above day time values, with ambient day values below the Ugandan and IFC standards and some night values above pure residential standards for Uganda (<30 dB LAeq) but below IFC standards (<45 dB LAeq). <p><u>Visual intrusion:</u> A visual aesthetics baseline report was conducted as part of the EIA specialist studies with key findings [143]:</p> <ul style="list-style-type: none"> • The topographical character and sense of place of the study area is defined by the contrast of the flat peninsula and vertical escarpment. This was considered to have a high visual resource value. • Lake Albert is also considered to have a high visual resource value, but existing vegetation of moderate value. • The existing exploration and early works Project infrastructure is intrusive and in visual conflict with the pre-existing sense of place. • While the area is rural and remote and relatively sparsely populated, the local residents are expected to attach a high level of value to the landscape and be sensitive towards the Project. | |



Figure 36: Pyrethroid based pesticide

7.2.10 EHA #10 – Social Determinants of Health

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
|---|----------------------------------|--|---|
| EHA #10 – Social Determinants of Health | Mental health | <ul style="list-style-type: none"> The health status of a population is affected by factors known as health determinants. These are varied and include natural and biological factors (age, gender and ethnicity); behaviour and lifestyles, such as smoking, alcohol consumption, diet and physical exercise; the physical and social environment, including housing quality, the workplace and the wider urban and rural environment; and institutional factors such as the access to medical care. A number of these factors have been described in other EHAs. Mental illnesses are often a neglected major public health problem in many countries. The scarcity of information and research has hindered policymaking and investment in mental health. Uganda recognises mental health as a serious public health and development concern, and has of recent implemented a number of reforms aimed at strengthening the country's mental health system. However, the mental health legislation is still outdated. Services are still significantly underfunded and skewed towards urban areas. In 2010, per 100,000 population, there were only 1.8 beds in mental hospitals (only one national referral hospital), 1.4 beds in community based psychiatric inpatient units, and 0.4 beds in forensic facilities. The total personnel working in mental health facilities were 1.1 per 100,000 population [128]. Reliable data on the prevalence of mental illness in the country is very limited. Estimates from the 2010 GBD show that major depressive disorder is the commonest. Epilepsy is also a major cause of neuropsychiatric illness nationally [36]. | <p><u>Findings from FGDs:</u></p> <ul style="list-style-type: none"> A few cases of mental illness were reported in the communities. In Kyakapere, participants were aware of at least 3 children who were mentally retarded as from birth. In Nsonga and Kacunde village, cases of mental confusion and irrational behaviour linked to drug abuse was reported. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> Mental illness was reported to be quite common in the study area with depression and anxiety disorder being noted as the two most common mental diseases. Suicide was very rare but the HCW at Buhuka HC did note three cases that took place within the last two years. <p><u>RHMIS data:</u></p> <ul style="list-style-type: none"> Epilepsy was the most common neuropsychiatric condition reported is part of the RHMIS, ranging from 25% to 98% of all reported psychiatric conditions. |
| | Substance abuse and crime/safety | <ul style="list-style-type: none"> Abuse of substances such as alcohol, tobacco or other drugs is not only an important health determinant but also closely linked to mental health [129]. It is further associated with crime, violence and CSW. Drug and substance abuse has become a public health concern in the country. Tobacco for instance, is widely grown | <p><u>Findings from FGDs:</u></p> <ul style="list-style-type: none"> Substance abuse was reported as a huge problem in the study area. Alcohol abuse was said to be an issue in all the communities. At the village centres bars/pubs were quite evident. Consumption ranged from cheap local |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
|---------------------------|--------------------|---|---|
| | | <p>and easily accessible [35]. The National Drug Authority recognises that drug abuse has reached alarming levels and has recently initiated campaigns to fight the problem, which has also infiltrated into schools and universities.</p> <ul style="list-style-type: none"> • A recent study has shown that 20% of students have at some point abused drugs. The commonly abused substances are tobacco (cigarettes, <i>shisha</i>, and <i>kuber</i>), weed (marijuana), khat (<i>mairungi</i>), and alcohol. A few of the teens had access to class A drugs such as cocaine and heroin [130]. | <p>brews to strong spirits in plastic sachets (Figure 38) with high alcohol content. These sachets were widely available, reasonably cheap and were found to litter wide areas around settlements underscoring the range of abuse.</p> <ul style="list-style-type: none"> • Abuse was linked to an increase in social vices such as transactional sex, domestic violence and neglect of familial responsibilities. • Cigarette smoking was as common as alcohol abuse. Consumption ranged from locally growth tobacco to modern processed cigarettes and <i>kuber</i> (a form of tobacco). • Other hard drugs such as marijuana/bhang were also commonly abused. Marijuana was said to be easily accessible (sourced locally) and popular with the youth especially in Buhuka Flats. <p><u>Findings from KIIs and direct observation:</u></p> <ul style="list-style-type: none"> • Alcohol abuse was considered to be very common in the area and was considered to be on the increase, specifically during harvest times. • Alcohol abuse was also mentioned as one of the main contributors to RTA and domestic violence in the area. • Smoking was also considered to be a major public health issue. • Drug abuse was reported to be relatively rare and was attributed to younger age groups. • The most common recreational drugs noted were marijuana, <i>khat</i> and <i>kuber</i> (Figure 37). |
| | Education | <ul style="list-style-type: none"> • Education is a key determinant to support and uplift the health status and wellbeing of an individual in a society and, indeed, communities. • The national system of education has a structure of 7 years of primary education, 6 years of secondary education (divided into 4 years of lower secondary and 2 years of upper | <p><u>Findings from the FGDs:</u></p> <ul style="list-style-type: none"> • Levels of education in the study area were quite low. Majority did not complete primary education while some had no formal education. Among the youth, there were a few who had a secondary certificate (O or A level). |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
|---------------------------|--------------------|---|--|
| | | <p>secondary school), and 3 to 5 years of post-secondary education.</p> <ul style="list-style-type: none"> Primary education has been offered tuition-free for over a decade (since 1997) and enrolment is nearly universal (stands at 94%). The main challenge however is the quality of education and retention during or after primary school. The total adult literacy rate in the country stands at 73% [34], and 71% in the Western region - with a disparity between males (77%) and females (65%) [35]. | <ul style="list-style-type: none"> Access to education was a main issue for the communities in Buhuka Flats, with a reliance on Nsonga primary school. Majority of children in Kacunde and Kiina were not attending school due to distance (>5 km) and lack of accessibility – no proper paths linking the villages to Nsonga. Communities in the escarpment had relatively good access to education, including private schools. However, educational attainment was still generally low. |
| | Employment | <ul style="list-style-type: none"> Over half of the country's population derive their livelihood from subsistence agriculture and fishery [21]. The youth unemployment rate (at 83%) is the highest in the African continent. The government is working on policies to expand job opportunities for youth. Programmes such as the Youth Venture Capital Fund have set aside ~\$10 million to assist start-ups in the private sector. The Youth Livelihood Programme has also been instituted to teach vocational and entrepreneurial skills to young people around the country [131]. Recent development in the oil sector has high expectations to create jobs. | <ul style="list-style-type: none"> The majority of people on the Buhuka Flats derived their livelihood from fishing while those in the escarpment mainly derived their livelihood from subsistence crop farming and livestock keeping. There was a general sense of high expectations in terms of employment opportunities in the Project. The farming communities reported an increase in earnings due to high demand for farm produce and were optimistic of a better future and improved socio-economic status. |
| | Migration | <ul style="list-style-type: none"> The Western region is experiencing population influx of migrants looking for opportunities in the emerging oil sector. This is also supported by an improvement in road network. A study by the National Land Alliance in 2011 found that 39% of the participants had migrated into the area in the preceding 5 years [45]. Influx can trigger population growth, increase land pressure, and escalate competition for limited social services such as education, health and access to potable water and sanitation. | <p><u>Findings from FGDs:</u></p> <ul style="list-style-type: none"> Influx was said to be happening at a fast rate in the study area as a result of the project associated activities Land value in the area has gone up as migrants buy land to settle, farms or set up businesses. Immigration was negatively linked to loss of community cohesion and erosion of some cultural values. <p><u>Findings from KIIs and direct observation:</u></p> <ul style="list-style-type: none"> Significant influx was noted by all respondents during the survey. In all cases, the CNOOC project was identified as the |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
|---------------------------|--------------------|-------------------------------|---|
| | | | <p>main attractor (this may have some bias as the assessment was related to CNOOC).</p> <ul style="list-style-type: none"> Existing resources were noted to be under pressure, and the capacity to manage additional burden is limited. There was evidence of dormitory style accommodation under construction on Buhuka Flats, with the owner acknowledging he wanted to rent out the space to new arrivals (Figure 39). |



Figure 37: Drug that is smoked locally on Buhuka flats



Figure 38: Alcohol sachet



Figure 39: Development of housing for incoming migrants- Kiina

7.2.11 EHA #11 – Health Seeking Behaviour and Cultural Health Practices

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
|--|-------------------------------------|---|---|
| EHA #11 – Health Seeking Behaviour and Cultural Health Practices | HSB and use of traditional medicine | <ul style="list-style-type: none"> • HSB, the manner in which people choose which health provider to consult, and when to consult them, depends on a variety of factors. It is essential to understand these factors and identify the community practices to support an understanding of entry into a healthcare system, and how to target interventions. • In circumstances where accessibility and cost is a major determinant to access modern healthcare, it may only serve to further promote the use of traditional medicine (TM) and the informal health sector. • Nationally, 60% of the population use TM for their primary health care (PHC) needs [132]. Although a diversity of materials is used, herbs dominate. Studies have reported the use of TM in treatment of many illnesses including malaria, TB and HIV/AIDS [132, 133]. However, efficacy and safety of most of the TMs have not been documented. | <p><u>Findings from the FGDs:</u></p> <ul style="list-style-type: none"> • HSB the communities was characterised by the use of both modern health care and TM. Use of over-the-counter medicine was also common, purchased from unqualified drug vendors. • Limited access to modern health care in the area was seen as the main driver to the use of TM. • TM was reportedly preferred for treatment of certain conditions during pregnancy, snake bites, syphilis, etc. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> • Most of the interviewees considered HSB to be poor in their areas. It was especially considered to be so in the more remote communities for whom access was a major issue. • Travel costs were reported to be very prohibitive - refer to the HC assessments in Appendix E. • It was therefore noted that the choice to make use of TM was mostly made due to economic restriction, rather than personal choice. • Some instances were, however, mentioned were cultural practices (like Awola / personal bewitching) needed to be completed, prior to modern healthcare. One of the associated believes dictates that a patient will die if injected before the bewitchment has been lifted. • As noted previously, the use of TM significantly delayed diagnosis and treatment of specifically children and was associated with a marked increase in both morbidity and mortality. • In addition to this, the majority of women delivered at home with the assistance of traditional birthing attendants (TBA). TBAs are no longer considered to |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | | be accredited healthcare providers, but the practice still persists, mainly due to the difficulty in accessing HC from more remote communities. |

7.2.12 EHA #12 – Health Programmes, Services and Systems Infrastructure and Capacity

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
|---|----------------------------------|---|--|
| EHA #12 – Health Services and Systems Infrastructure and Capacity | Health system and infrastructure | <ul style="list-style-type: none"> The country has an extensive network of health facilities including national referral hospitals, general hospitals, and health centres as described in section 7.1.2. The local health infrastructure is described in section 7.1.3 of this report. A summary of the HC assessments are attached in Appendix E. This assessment was based on a modified WHO service availability and readiness assessment tool that SHAPE has adapted for use in HIAs (WHO-SARA). | <p><u>Findings from FGDs:</u></p> <ul style="list-style-type: none"> The study area is underserved by health facilities. Communities in Buhuka Flats mainly relied on Nsonga HC. The facility was reported to be understaffed and the level of service was unsatisfactory. Lack of a resident midwife and drug shortages were specifically mentioned as a concern by the community. The communities in escarpment relied on Kyangwali HC as the main facility, but some communities mentioned that access was a challenge as they were over 10 km away from the facility. PHC in these communities was supported by some small private clinics, but these generally lacked equipment, reliable stock of medications and consumables, and personnel. Utilisation of the small private providers seemed to be limited, with some of the respondents reporting to buying drugs from clandestine pharmacies. There is a community health worker volunteer programme (VHT) that act as the first level of care in the communities. In most cases the VHTs lacked medication/supplies and adequate training to discharge their duties. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> All of the HCs that were evaluated as part of the survey, reported an insufficient level of staff for their |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | | <p>HC. According to regulations, the following number of staff should be appointed to the distinct level of HC:</p> <ul style="list-style-type: none"> ○ Level II – 12 personnel ○ Level III – 23 personnel ○ Level IV – 35 personnel. <ul style="list-style-type: none"> • HCs in the study area had the following number of staff: <ul style="list-style-type: none"> ○ Buhuka (level III)-3 personnel ○ Kyangwali (level III) – 16 personnel ○ Kaseeta (level III) – 9 personnel ○ Kabaale (level III) – 11 personnel • In addition to staffing levels, lack of appropriate infrastructure and equipment were noted as significant issues in all HCs. • An additional issue was the target population (TP) of each HC. HCs in the study area were routinely serving significantly larger TPs than intended. TPs were calculated on officially registered communities, but HCW noted that the populations in unofficially registered communities frequently outnumbered the official ones. This presented a major issue with regards to allocation of resources and calculation of coverage rates. • On all levels of interaction (both district and rural HC level) access to healthcare was deemed to be another significant challenge to providing adequate healthcare to communities. • The VHT programme was supported by Malaria Consortium but the funding for the program ended in 2015, leaving a significant gap in communities' access to healthcare. Based on anecdotal evidence, the positive impact of this program was significant. • The VHT teams also played an important role in outreach activities to communities, as outreach programs, when appropriately implemented, were reported to be very effective. |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
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| | | | <ul style="list-style-type: none"> Lack of resources personnel and funding were reported to be major challenges in successfully implementing outreach activities. The proportion of outreaches (executed vs. planned) for each HC is reflected below: <ul style="list-style-type: none"> Buhuka HC – 48% Kyangwali – 62% Kaseeta – 35% Kabaale – 21% The Hoima District only had one ambulance that was used for referral to Kampala and was not available for use in the district. |
| | Reproductive health | <ul style="list-style-type: none"> Achieving universal access to reproductive health by 2015 is one of the two targets of MDG No. 5. Family planning (FP) is an essential component of reproductive health. Nationally, women have an average of 6.2 children in their lifetime. Fertility rate is almost twice as high in rural than in urban areas, and decreases with increasing level of education and household wealth [21]. Childbearing begins early. More than one-third (39%) of women age 20-49 gave birth by age 18, and more than half (63%) by age 20 [21]. Awareness of at least one method of contraception is nearly universal; however, contraceptive use is generally low (only 26% of married women) [21]. | <p><u>Findings from FGDs</u></p> <ul style="list-style-type: none"> Access to reproductive health services in the area was limited. Awareness and uptake of family planning was very low, with a majority of women bearing at least 6 children. Women reported a dislike for the contraceptive medications due to side effects. There was also a perception that contraceptives can lead to infertility. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> Only Kaseeta HC reported good uptake on FP activities while the rest considered it to be poorly supported. In general, women did not share any responsibility in making decisions regarding family size and as a general rule, larger families were considered to be beneficial. |
| | Maternal health | <ul style="list-style-type: none"> Maternal health refers to the health of women during pregnancy, childbirth and the postpartum period. The country launched the Maternal Health Project (MHP) in 2011 which is being implemented in 8 districts including Hoima [22]. The goal is to contribute to reduction of maternal mortality and the implementation model includes community | <p><u>Findings from FGDs:</u></p> <ul style="list-style-type: none"> Maternal health care in the study area was characterised by: <ul style="list-style-type: none"> Limited physical access to a health facility. Delay, incomplete or lack of attendance of ANC. Majority of child births occurring at home. |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
|---------------------------|--------------------------------------|---|---|
| | | <p>dialogues, door to door home visits, media campaigns, drama performances, radio talk shows, etc. VHTs are central to the delivery of the MHP [22].</p> <ul style="list-style-type: none"> • National and regional statistics show that: <ul style="list-style-type: none"> ○ Maternal and perinatal conditions account for approximately 20% of the total disease burden. ○ Conservative estimates put the country's maternal mortality rate/ratio (MMR) at 310 per 100,000 live births. The main direct causes are haemorrhage (34%), hypertension in pregnancy (19%), obstructed labour (13%), unsafe abortion (9%) and sepsis (9%). The lifetime risk of maternal death is 1 in 49 [134]. ○ Approximately 95% of mothers receive ANC from a skilled provider; 48% attend ANC at least four times. More than half (58%) of births in the five years before the 2011 UDHS were assisted by a skilled provider, an increase from 42% in 2006 [21]. ○ 96% of women in the Western region receive ANC from a skilled provider and 56% of child births occur at a health facility [21]. | <ul style="list-style-type: none"> ○ Lack of emergency services. • Those who attended ANC at the health centres reported that they received some tests, medicine to prevent malaria, and blood boosters. <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> • Maternal health care was deemed to be inadequate, primarily due to difficulty in accessing HCs. • The majority of mothers delivered at home with the support of either TBAs or family members. • Based on the modified WHO SARA indices, the majority of HCs scored well on ANC delivery (average of 7.6 out of 9), but scored poorly on basic emergency obstetric care (average of 7.1 out of 13). |
| | <p>Child health and immunisation</p> | <p><u>Child health</u></p> <ul style="list-style-type: none"> • Infant and child mortality rates are basic indicators of a country's socio-economic situation and quality of life. • Uganda has made significant progress in child survival, from an under-5 mortality rate of 178/1000 live births in 1990 to 69/1000 live births in 2012. Current figures indicate that one in every 22 Ugandan children dies before their first birthday, and one in every 14 children dies before the fifth birthday [34]. The country is on track to meet its 2015 MDG for under-5 mortality set at 59/1000 live births [135]. • The leading causes of child mortality in the country are ARIs (15%), malaria (13%), prematurity (12%), birth asphyxia (11%), and diarrhoea (9%) [31, 135]. <p><u>Childhood immunisation</u></p> <ul style="list-style-type: none"> • Child immunisation against common ailments is an important | <p><u>Findings from FGDs:</u></p> <ul style="list-style-type: none"> • Child health and well-being emerged as an issue. • A good proportion of children do not attend child welfare clinics. The main reason was limited physical access to a health facility and inadequate child outreach programmes. • Growth monitoring was hardly done for children over 1 year old. • Child deaths were said to occur, from common ailments such as malaria, measles or unknown causes. • Vaccination coverage was also poor. This was evidenced by the frequent occurrence of conditions such as measles in the area. Vaccination coverage was reportedly much lower for children in Buhuka Flats compared to those in the escarpment |

| Environmental health area | Health determinant | Literature and secondary data | Participatory data, local findings and statistics |
|---------------------------|--------------------|--|---|
| | | <p>factor that ensures proper child growth and development, with implications into adulthood.</p> <ul style="list-style-type: none"> The national childhood EPI schedule is well aligned to the WHO/UNICEF recommendations and available in most areas in the public health service⁴ [21]. Additionally, the EPI schedule includes hepatitis B and <i>Haemophilus influenzae</i> type b (Hib) vaccines and the recently introduced (in 2013) pneumococcal conjugate vaccine [136]. Findings from the 2011 UDHS showed that only 52% of children aged 12-23 months in the country are fully vaccinated. There were significant dropout rates for multi-dose vaccines (e.g., polio) with higher coverage for first compared to last dose [21]. In 2011 and 2012, none of the vaccines met the recommended national coverage target of at least 90% of population at risk [34, 137]. In 2011, only 60% of children in the Western region were reported to be fully vaccinated. EPI vaccine coverage in the region were reported at 95% for BCG, DPT-3rd dose (78%), polio-3rd dose (72%), and measles (82%) [21]. Immunisation coverage for Hoima District is shown in Table 14. | <p>communities.</p> <p><u>Findings from KIIs:</u></p> <ul style="list-style-type: none"> Immunization coverage was considered to be sub optimal due to ineffective outreach programs and significant influx of people into all of the catchment areas. According to RHMIS data, the coverage of the intended targets for immunization coverage reflected as follows in January 2015: <ul style="list-style-type: none"> BCG – 93% DPT1 – 101% DPT3 – 91% Measles – 87% It should be noted, though that actual coverage may be lower due to potential discrepancies in TP calculations as noted above. |

Table 14: Immunisation coverage for Hoima District (%)

| Antigen /Year | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 |
|---------------|---------|---------|---------|---------|---------|
| BCG | 80.0 | 82.0 | 83.0 | 84.2 | 87.2 |
| Polio3 | 80.0 | 85.0 | 85.1 | 87.0 | 92.0 |
| DPT3 | 75.0 | 79.0 | 80.0 | 83.0 | 85.0 |
| Measles | 65.0 | 70.2 | 76.0 | 77.0 | 79.0 |

⁴ World Health Organisation guidelines for childhood immunisation call for all children to receive a BCG vaccination against tuberculosis; three doses of the DPT vaccine to prevent diphtheria; pertussis; and tetanus; three doses of polio vaccine; and a measles vaccination during the first year of life.

8 Impact Definition/Evaluation and Associated Mitigation Measures

This section details the analysis, modelling and ranking of the potential health impacts associated with the Project and considers the analysis of potential negative impacts and their mitigation measures, but also potential positive impacts and measures to enhance these.

As health impacts may vary significantly in the different Project phases, these have been separated, as relevant, into construction and operations, as well as closure. As the final FEED is not available it is challenging to consider detailed mitigation measures especially in early works and no closure. Based on the iterative nature of HIA, these impacts and associated mitigation measures should be considered in a continuous manner as the Project progresses.

As potential impacts are not likely to affect all PACs equally, a short discussion on the distribution of impacts is presented at the end of each impact evaluation section. This will then allow for planning on where the management measures should be focused to effectively mitigate impacts.

The methodology of the impact assessment and modelling has been presented in section 4.2.5, with the categorization matrix described in detail in Appendix A.

As a general principle, the management of potential impacts is more likely to succeed if the following sustainability principles are considered:

- Interventions should be aligned with national strategies and programmes and the Project should engage a management entity (foundation/outsourced) to support community based (i.e. outside the fence line) mitigation and management strategies. However, this should be applied where relevant to achieve the required level of mitigation, and corporate social investment (CSI) opportunities must not be confused with pure impact mitigation. This alignment is to ensure that there is a clear separation between the delivery of public health services, which is a government function, and the role of the private sector.
- Where applicable, CNOOC must avoid becoming entangled in the role of government in planning and developing public health programmes, but rather focus on developing Public-Private Partnerships (PPP) with government departments and engage

- partners (key NGO/agencies) with experience in managing these agreements and associated programmes.
- Lack of human capacity and formal regulations to plan and manage health impacts may result in a stakeholder focus that may not be aligned to priorities, or unlikely to have the desired result due to management and human capital constraints. Thus, interventions that have a focus on health system strengthening (HSS) should be considered as opposed to localized, unsustainable, once-off initiatives. While health infrastructure development may be warranted this should ideally not occur in isolation.
 - There should be a caution against quick fixes that do not have a business interest or a degree of mutual partnership/ownership.
 - Effective and on-going communication with authorities and PACs should be maintained throughout the Project life cycle stages. This should include the development of a commitments register to monitor the stage of delivery, key responsible person, when it is likely to be delivered etc., with the stakeholders continually appraised of progress. A grievance register should be created to record and track any complaints or comments from the community on health related matters. This is important to manage stakeholder expectations and to ensure an effective route of communication.
 - Cultural sensitivity should be displayed in interactions with stakeholders.
 - Contractor management and compliance should (strongly recommended) be enforced from the outset by making provisions in contracts to adhere to certain requirements. An audit and assessment process should be in place to verify this compliance. This is essential as construction contractor companies have a focus to develop the Project as quickly and cheaply as possible, but if due process is not followed then the legacies from this phase will persist into operations.
 - Effective surveillance systems, preferably based on evaluating key indicators, should be developed to monitor for both potential health impacts but also the effectiveness of management measures.

8.1 EHA #1 – Communicable Diseases linked to the Living Environment

Impact Definition:

As discussed in the baseline section, the housing in the PACs on Buhuka Flats and on the immediate escarpment was rudimentary with poor construction techniques. In general, the housing in the communities along the pipeline route was of better quality [2]. It was reported that the communities in Buhuka Flats rarely spent large sums of money on improving their homesteads, and despite migratory communities staying for longer periods than originally intended, improvements to housing structures were not commonly made.

Overcrowding in communities was found to be common, with the number of people per household in Buhuka Flats (estimated at 8), significantly higher than the regional average of 4.9 people per household [2]. On direct observation, ventilation in the majority of households appeared to be poor, with poor indoor air quality likely. The extensive use of biomass fuels (wood and charcoal) for cooking and heating contributes significantly to the poor air quality.

The prevailing low socio-economic status makes the local communities particularly sensitive to changes in their living environment, with limited capacity at either the level of local authority or community, to support housing or the provision of basic services that promote environmental health and hygiene. In-migration and pressure on housing and the environment increases these sensitivities.

ARI in both children under five and all age groups were routinely ranked amongst the top three contributors to local BOD. Measles posed an epidemic outbreak risk with significant outbreaks reported as recently as 2014 in the study area. At the local level there was limited data on the BOD related to TB, but it was reported to be on the increase, with limited disease management capacity and poor knowledge of the disease and HSB. The risk of these and other communicable diseases spread by close contact are important given the weak health system and poor access to health care services in the study area.

The Project has the potential to impact on housing and communicable disease risk in the following direct and indirect pathways, with the bulk of the impacts likely to occur in the construction phase, with a reduction in operations.

Direct:

- **Impacts on communicable disease transmission from the incoming construction workforce**

The incoming construction work has the potential to increase the local transmission of communicable diseases, in the following ways:

- Poor workforce housing/accommodation conditions if associated with overcrowding as diseases are commonly spread by close contact. Contractor temporary work camps are especially important to consider and they have a globally mobile workforce and overcrowding can occur in camps especially in peak staffing periods.
- Introduction of communicable diseases into the study by an incoming migrant workforce, especially if these workers originate from areas where the prevalence of disease is high, or they acquire conditions from their past assignments. While CNOOC has a casual labour policy in place that aims to comply with a 60% local resident employment target for casual job opportunities, and while this is expected to be maintained, the low level of skills in the study area will mean that semi-skilled and skilled workers will need to be sourced from other countries to support the development of both the CPF and the pipeline [2].

Significant risks can include TB, where the external labour force may be sourced where the status of latent and more importantly active TB may be poorly described, or may be significantly higher than in the host communities. This may increase local disease transmission patterns in both the workforce and ultimately the community as people are likely to work and live in close association with one another, especially in temporary work camps. The local health system has poor TB disease management systems and a sudden spike in cases will be challenging to manage. The co-morbid association of TB with HIV is also important to consider as higher caseloads of TB may affect local HIV interventions, especially TB detection and case management, given the weak health services. An additional risk related to the incoming workforce and TB transmission is the potential introduction of multidrug resistant strains as local transmission of these resistant strains may be associated with significant public health implications, as MDR-TB is extremely costly and complicated to manage.

Other than TB, movement of people has the potential to introduce other diseases that may have significant public health implications, especially meningitis, seasonal influenza, potentially pandemic influenza and other novel communicable diseases. Increased movement in and out of the area (including international air travel) has the potential to introduce different circulating virus strains (especially influenza) with the risk for local transmission.

- **Resettlement**

The number of households to be resettled and their potential host sites is yet to be finalized, and it will be important to consider the specific potential health impacts once these are concluded. While the resettlement framework will consider local Ugandan regulations as well as IFC PS5 it will be important that development effective management measures that are sustainably implemented as health impacts can be felt in a positive and negative direction. Important considerations include:

- Migration of extended families into the study area to benefit from the improved social amenities and economic possibilities may result in large families staying in relatively small homesteads with the potential for overcrowding and transmission of communicable diseases. This may also create potential negative impacts associated with in-migration in the host sites, especially the social impacts and impacts associated with increased demands on available basic services including housing.
- The previous point is not limited to families but also to newly arriving migrants who are rented accommodation either in newly developed resettlement houses or make-shift structures developed on the same property. This can result in overcrowding of both the resettled household as they try to maximise their earnings, but also for new arrivals as rental costs may increase (due to supply and demand factors) and whole families or a number of families share small living areas. Dormitory style accommodation may also promote overcrowding (Figure 39).
- Options for compensation should include a requirement that adequate housing should be developed as part of the resettlement agreement. It was reported that financial management was poor, especially in Buhuka Flats and cash compensation may be diverted away from developing appropriate housing for the family unit. This may result in the development of make-shift structure settlements that pose significant risk to communicable disease

spread. The Project can also be blamed for creating this poor housing situation with reputational damage.

- Resettlement planning should be considered so as not to impact on communities that may be selected as host sites (if a site is chosen where communities already live). The existing housing infrastructure in these communities is likely to be limited, and influx into the area to benefit from the improved social infrastructure may create overcrowding with a subsequent risk for transmission of communicable diseases.

As housing space may be at a premium there is the potential that rentals may increase based on supply and demand factors. This may result in the poorer more vulnerable elements of the population not having access to suitable housing as they will not be able to afford it. There is also the risk that homeowners will rent out portions of their existing households to extract rental payments.

There is also the potential to create significant inequalities between the communities who are resettled (and receive new houses) compared to those who are not.

- **Air quality**

Reduced air quality because of Project activities has the potential to increase the risks for acute and chronic respiratory conditions, including secondary infections such as community-acquired pneumonia. Dust from Project activities and emissions from Project vehicles and activities will need to be considered as potential environmental health determinants that can affect human health. These impacts are discussed in section 8.3.9

Indirect:

- **Project induced in-migration**

Due to the limited economic opportunities in the broader area, the Project may be an attractor with subsequent speculative in-migration to look for jobs and secondary benefits. Generally, the demographic situation in EA3A represents a steady population growth, with this extending to the whole district to include Hoima town, attributed to the extended Oil and Gas activities.

Influx is likely to occur in all stages of the Project and signs of early influx were already reported, mainly centred in Hoima City, Kyarushesha and Kyangwali sub-county, and specifically Ngoma and Ikamiro communities as well as those on Buhuka Flats. It is anticipated that Project induced influx will start increasing and peak as the construction phase starts, as this is when the economic and other opportunities linked to the Project are likely to be the greatest. Influx will in all likelihood extend into operations as the Project will remain an attractor, but if not effectively mitigated the impacts of influx will extend into the operational period.

While in-migration can be positive, the movement of people has the potential to introduce disease that local communities may be naïve to, especially if the people originate from areas that have higher prevalence's of these diseases, or introduce resistant strains into the area. Influx may also place strain on the already weak local health system, as there is limited capacity to manage a sudden and significant increase in population numbers. The health services are already overstretched and health prevention/promotion activities to reduce communicable disease transmission as well as case management of diseases will be wholly inadequate. Health impacts related to unplanned development including overcrowding, housing inflation, lack of basic services are all likely to influence environmental health conditions and potentially play a role in increased disease transmission, especially of respiratory or disease transmitted by droplets, including ARI and TB.

Potential “hot-spots” for new settlers will need to be identified or there may be the development of makeshift camps/settlements to accommodate “camp-followers” that migrate into the area looking to benefit from the Project. These settlements will not only promote overcrowding - as often the whole family unit will travel together - but also promote the spread of disease, especially conditions associated with close contact, such as TB, meningitis and measles.

- **Local housing and rentals**

There is inadequate housing in the study area and the development of the Project may place pressure on available accommodation. Supply and demand may increase rental prices, and this pressure may limit access to suitable housing for the poorer and more vulnerable sectors of the community. This may prompt the development of makeshift structures, and lead to increased overcrowding with risk for disease

transmission. Standards of living may decrease and inequalities created, especially in poor and in those who do not benefit from the Project.

- **Local air quality and use of biomass fuels**

Increased pressure on housing and associated increase in use of biomass fuels for heating and cooking may lead to a deterioration of both indoor and outdoor air quality. This can increase the incidence of ARI amongst children and the elderly. In a national study, persons living in households burning biomass fuels were reported to have an odds ratio of 2.58 (1.98-3.37) of developing ARI compared to households using cleaner fuel, with over 50% of cases of ARI attributed to smoke from cooking with biomass fuels in people above 20 years of age [144].

Impact Evaluation and management measures:

| EHA #1 | Communicable disease linked to the living environment | | | | | | | | | | |
|---|---|---------------|------------|--------------------|----------------|---|------------------------|-------------|----------------------|----------------|------|
| Early works through to Construction and Operations | | | | | | | | | | | |
| | Consequence/Effect | | | | | | Probability/Likelihood | Total Score | Overall Significance | Confidence | |
| | Temporal Scale | Spatial Scale | | Severity of Impact | | | | | | | |
| Impact before management | Medium term | 2 | Study area | 2 | Major negative | 8 | Probable | 3 | 15 | Major negative | High |
| Management Measures | | | | | | | | | | | |
| Project impact mitigation: | | | | | | | | | | | |
| <ul style="list-style-type: none"> • Develop Project induced in-migration initiatives so that adequate mitigation measures are established and implemented as soon as possible. In-migration to the study area is already occurring and this will increase as the Project progresses. Ideally, systems should be in place before the finance investment decision (FID) is made as influx may increase significantly after this. Interventions should include: <ul style="list-style-type: none"> ○ The location for recruiting and especially hiring labour will need to be clearly planned to avoid the attraction of job seeking migrants to the front gates of the various Project work areas and into sensitive communities. Possibilities may include the placement of labour offices away from main gates and only allowing employment of local inhabitants from certain recruitment centres. The restriction on hiring outsiders from certain centres will require support from local community leaders and some form of registration. Careful management will be required to prevent corruption on job applicant lists and recruitment. Migrants and outsiders should be considered for hiring (based on skills) from a central area such as Hoima town? ○ Contractor management in supporting the labour recruitment plan will be essential to enforce to prevent hiring at the front gate during construction, as this will reduce settlement in the area to secure jobs and reduce loitering at the front gates. This should include all casual labour and staff requirements along the pipeline. Compliance to, and consistency with, labour recruitment policies is also important for general community relations as expectations for jobs will be high and deviation from agreed policies may create a community dispute. ○ In partnership with the district authorities undertake a regular census in the study area and develop strategic plans to ensure adequate provision of basis services such as housing, water and sanitation, power, education and health care. The Project should not assume the role of providing these services but should support in the planning and support of infrastructure as the Project will be the key attractor to the area. It is acknowledged that there is an overlap between Project mitigation and social development in this recommendation but the limited capacity at the local level means that the Project needs to take some ownership as part of their regional development plans. ○ Support capacity building for town planning in anticipation for Project induced influx and growth in key settlements. If requested based on discussions with the local authorities, the capacity will need to be provided externally to assist the local authorities with urban planning, including housing, roads, basic services and recreational facilities. Adequate urban planning will eliminate a host of environmental health factors that may impact on spread of communicable disease and promote improved quality of life. These initiatives will need to extend into operations and presents an opportunity for the Project to support the authorities in proactively managing planning rather than fixing new challenges. The challenge will be to reduce the attraction to the study area that may overwhelm best laid plans. • Establish a baseline and surveillance system for: <ul style="list-style-type: none"> ○ Knowledge, attitude, practices (KAP) survey on ways TB is transmitted and prevented, BOD from ARIs, and questionnaires on specific environmental hygiene determinants related to housing and influx. ○ The state of housing in the area using techniques such as mapping and review of satellite images. Review this regularly to show change from baseline and to support future interventions with the local or district authorities. ○ House costs or rental costs and surveillance for how these change over time. • Develop programmes to manage inflation and support vulnerable groups as required (elderly, single women or child headed households). • Design and develop appropriate environmental health programs to reduce the potential risk of airborne pollutants such as dust, which may impact on community health. Ideally these should be planned and managed through engineering designs to eliminate risk or to keep it ALARP. Effective monitoring systems will also need to be established to measure potential exposures such as total suspended particles, particulate matter (PM_{2.5} | | | | | | | | | | | |

- and PM₁₀), oxides of sulphur etc. Dust can be a major cause of community aversion from a Project and must thus be effectively managed.
- Support the development of a Community Health Information System (CHIS) to monitor specific key health indicators in a longitudinal fashion. This will require cooperation with the district health authorities and other partners. For example, indicators should include demographic indicators as well as TB incidence, as well as acute and chronic respiratory infections. If possible, this system should be integrated into the ESMP dashboard system.
 - Develop and maintain epidemic preparedness policies and programmes to reduce the impact of any suspected or confirmed outbreak of a communicable disease at the local level. This will require a formal hazard identification of potential infectious diseases so likely risks are identified and prioritised. Business resilience and recovery plans should be developed so safeguard business continuity. Plans and actions should include workplace and community activities.
 - Outbreak control risk assessments and planning should occur regularly by keeping abreast of pandemic alerts through WHO notifications; especially concerning circulating influenza strains and novel infectious disease.
 - Strong relationships with local health authorities should be developed/maintained to receive local disease outbreak reports. Project outbreak management plans should align and be integrated with local government outbreak response systems (where relevant and applicable).

Occupational health, safety and environmental management:

- Develop a site based TB management policy and program for the workforce (including contractors and short term labourers) that incorporates screening as well as education campaigns. These programs should be integrated into the Project's HIV policy (see below in section 8.3.4) and should be developed with clear objectives and measurable indicators so effectiveness can be established. These programs should be (strongly recommended) in place prior to construction.
- Screen local employees/contractors for TB at recruitment (as provided for in the Ugandan Employment Act) and provide adequate care and treatment programs from the Projects workplace medical service while complying with the requirements of the national TB program. Discussions will need to be held with the health authorities to effectively support TB treatment by either providing treatment and care at site (using medication from the national program), with the completion of required notifications and documents, or referring patients to the public health service and supporting with follow up care. This screening should (strongly recommended) form part of the contractor management plan and medical surveillance should include screening based on risk of exposure and exposing others (for example health centre and catering staff).
- Evaluate the origin of any incoming contracted construction workforce (especially from high burden TB countries) and understand TB and MDR risks in this group. Ensure effective TB screening in external contracted workforce prior to final appointment and mobilization as part of the Project's Fitness to Work (FTW) procedures to ensure that diseases are not introduced in the study area. This FTW program should be managed through a central human resource system and no employee or contractor should be allowed to mobilize before potentially infectious conditions such as TB have been excluded.
- Ensure adequate housing is available in the accommodation camps so that overcrowding does not occur. The IFC and European Bank for Reconstruction and Development have guidance on this that can be used as a reference for the development of construction camps, especially in construction [145].
- Ensure that employees/contractors have suitable housing if they reside in the local community to ensure appropriate environmental health conditions (noting impacts on the local rental market).
- Develop a vaccine preventable disease programme for all employees, contractors and visitors based on risk for travellers and at risk occupations. As a minimum a primary or booster measles, diphtheria/tetanus and polio vaccine, as well as seasonal influenza vaccines should be provided to all temporary work camp residents. Even though Uganda is not located in the seasonal meningitis belt it is further recommended that all employees and contractors residing in close contact in camps receive the quadrivalent meningococcal meningitis vaccine. Ensure effective contractor management with these programmes.
- Develop and/or maintain pandemic preparedness policies and programmes to reduce the impact of any suspected or confirmed outbreak of disease at the local level. These need to include effective surveillance mechanisms.

Social development mitigation and management:

- Evaluate opportunities for health systems strengthening (HSS) with government and key partners to specifically focus on:
 - Improved case detection and treatment of TB especially from Buhuka Flats and the immediate escarpment area.
 - Support training and capacity building in health centre staff in the case detection, treatment and follow up of suspected and confirmed TB cases as well as training on the management of integrated management of childhood illness (IMCI) to support care for ARIs.
 - Consider upgrading the diagnostic capability of TB and ability to detect MDR-TB in the district by supporting the use procurement and use of the GeneXpert diagnosis system in the public health system. Hoima RRH and Kyangwali HC would be target areas for a pilot project
- Support the introduction of efficient stoves so that heating and cooking using charcoal requires less fuel. This will reduce the local reliance on biomass fuels for cooking and lighting, which will reduce the potential environmental impact of in-migration placing pressure on local vegetation as a source of fuel, but also reduce the potential for improved air quality and reduction in acute and chronic respiratory conditions.
- Support community based information, education and communication (IEC) campaigns to promote improved knowledge and awareness of TB, other infectious diseases and their associated determinants, through:
 - Extending VHTs programmes as these can effectively provide acceptable and peer based messaging within communities.
 - Evaluating the potential to use mobile edutainment. A 'cinemobile' that moves from community to community may be an effective method to deliver messaging on health, social and general Project related information. This can be supported from either a dedicated unit (or even as part of a mobile health unit) that then travels to communities on different days and delivers health messaging. Pre-recorded messaging (developed specifically for the Project) can then be delivered to the community through an external screen with a powerful sound system.

| | | | | | | | | | | | |
|--------------------------------|------------|---|------------|---|-------------------|---|----------|---|----|-------------------|--------|
| Impact after management | Short term | 2 | Study area | 2 | Moderate negative | 4 | Possible | 2 | 10 | Moderate negative | Medium |
|--------------------------------|------------|---|------------|---|-------------------|---|----------|---|----|-------------------|--------|

Vulnerabilities and Spatial Effects of Impacts:

There is limited capacity to detect and manage an increase in communicable diseases and their introduction may pose a major risk to vulnerable sectors of the local population (young

children, elderly and those with a weak immune system). The poor socio-economic and local living conditions compound the risk. No specific gender risks are anticipated.

The impacts associated with communicable diseases linked to the living environment are more likely to occur where in-migration is likely to occur. The communities on Buhuka Flats, on the immediate escarpment (PAC 2 and PAC5) are likely to experience the bulk of in-migration and associated influences. However, the other PACs are likely to experience the influences of influx, but in varying degrees. Communities in proximity to temporary work camps (PAC 1-2, PAC 5 and PAC6, 7) may be more vulnerable to introduction of communicable disease.

8.2 EHA #2 – Vector Related Diseases

8.2.1 Malaria and Associated Determinants

Impact Definition:

Malaria was cited as the most important public health concern in the broad study area, with the disease accounting for 35-54% of all outpatient visits in the study area HCs. Malaria case rates are also on the increase but this may be due to improve diagnostics and reporting. Misconceptions and poor prevention behaviours were common, with the morbidity exacerbated by poor HSB and access to health facilities. Vector and malaria control initiatives were limited in the study area, with LLINs the most common form of prevention, albeit limited by poor utilisation. There is limited capacity to support other malaria and vector control initiatives.

Malaria is well described to limit economic growth and stifle development in communities that have a high burden of disease. The poverty in the area is almost certainly exacerbated by the effects of malaria. The environment in the study area is conducive for high rates of malaria transmission as the habitat is ideal with poor environmental hygiene supporting numerous breeding sites conducive to promote the transmission of disease.

There is a paucity of accurate data at the level of the study area on vector typology and behaviour, prevalence of malaria and indicators related to knowledge, practices and behaviours. This limits the ability to monitor impacts or interventions from a clear point of departure.

The Project has the potential to influence and sustain malaria transmission in the PACs in the following direct and indirect ways:

Direct:

- **Modification of the environment**

Modification of the environment may increase the available breeding habitats for mosquitoes to breed in. The most efficient vectors in sub-Saharan Africa, *An. gambiae* s.s. and *An. funestus*, are likely to occur widely in the Project area as a conducive habitat is present. *An. gambiae* (likely the most common species) is able to utilize very small bodies of water to breed in, such as hoof or footprints, or well-ruts, around water stand-pipes and prefers sunlit habitats, and while not restricted to such temporary sites, but it is these which often bring this species into close contact with humans. *An. funestus* prefers more shaded and permanent habitats such as swamps,

marshes, edges of streams and ditches. In the dry season the river courses and wetlands in the study area may be ideal breeding grounds.

With this understanding, modification of the environment during early works and construction through general clearing of ground, development of borrow pits, development of roads with drainage furrows, rutting on access roads, construction yards etc. may potentially increase the number of suitable breeding sites and promote vector propagation.

The causal diagram in Figure 40 describes the risk of vector proliferation associated with water resource projects and the development of water bodies. Alteration of the environment associated with the Project will have similar effects and if effective malaria and vector control programmes are developed simultaneously, negative impacts should be limited [146].

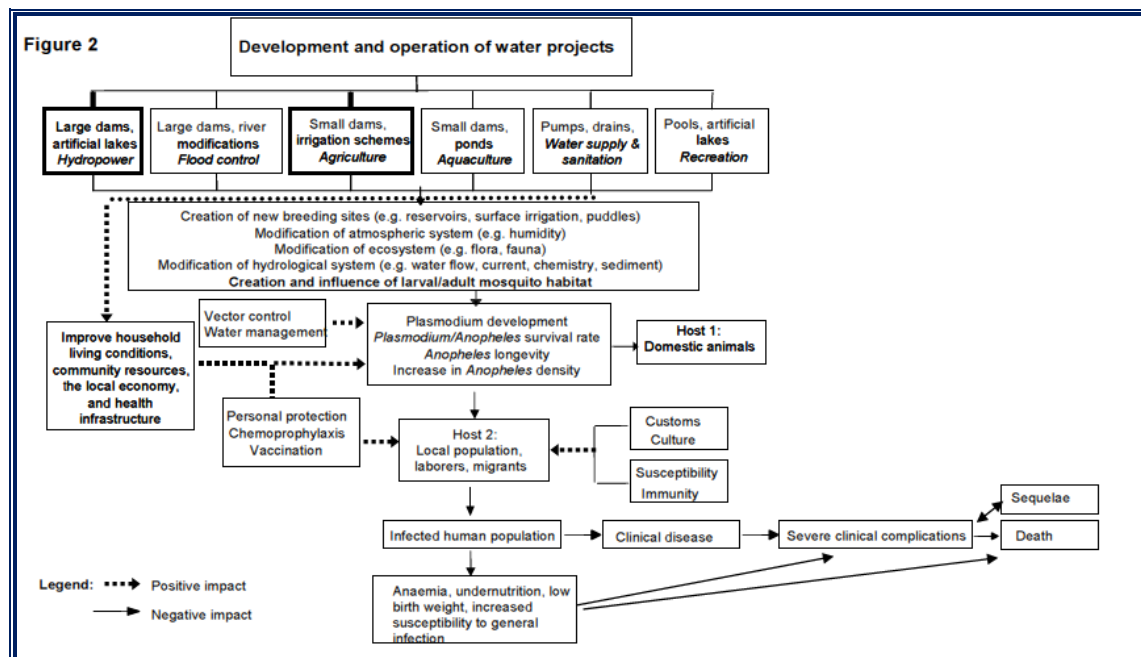


Figure 40: Relationship between malaria and water/extractive industry projects

- **Resettlement**

Resettlement will be very important to manage so as not to negatively impact on communities or host sites, including:

- Location of the resettlement sites

Site selection must include due consideration for environmental factors that may increase the risk of malaria transmission. For example, relocating a community near to a wetland area or close to an area with unmediated environmental modification may increase human vector interaction.

- Appropriate housing and town planning

Construct housing that respects the local norms and culture, but designed in a way to limit the ability for mosquitoes to gain entry into the dwelling. These can include closing eaves where the roof connects with the wall or providing ceilings, screens on windows etc. The town planning of the resettlement sites should include provision for effective drainage and waste management so as to reduce the number of potential breeding sites.

- **Health of the workforce**

The risk of the disease could have significant health and economic impacts to the Project workforce if not mitigated effectively. Design elements and development of integrated malaria and vector control programmes:

- Absenteeism through repeated infections will have a significant impact on productivity and increased costs. It is estimated that an expatriate non-immune employee will take at least 5-7 days to reach optimal productivity after an uncomplicated case of malaria and a semi-immune local employee 2-3 days.
- Health and safety risks: Patients with malaria who still work may pose a risk to fellow employees and themselves. The effects of the disease and the treatment drugs may reduce alertness and some medications may reduce hearing sensitivity.
- Increased cost of overall health care: The cost of malaria management through large caseloads can become significant. An uncomplicated case of malaria may cost about US\$15-\$20 to manage, without considering human resource and initial capital expenses. The impact of a complicated case of malaria, that may require medical evacuation and extended hospitalization in an ICU setting, can be very costly, and may run into tens of thousands of dollars.
- Increased burden on the workplace medical service: High case-loads of malaria will take a significant amount of time in the medical service and limit the effectiveness of other health programs, such as health promotion and prevention activities.
- Employee turnover and attractiveness: Exposure to risk may decrease the ability to attract skilled staff to work in the Project area. Repeat infections and decreased

morale from the risks related to the disease may also increase employee turnover.

- Employer liability: The risk exists for an employer to be held liable for complications that may arise from an infection, especially if mitigation measures have not been put in place.

Indirect:

- **Accessibility and Project induced in-migration**

The development of the Project will alter accessibility and may promote influx into the study area, which may have both positive and negative impacts on the risk of malaria transmission:

- **Positive:**
 - Improved access to HCs in the study area and especially the one on Buhuka Flats should improve the ability of the public health authorities to support the supply chain of medications, consumables and commodities such as LLINs.
 - The improved access road from Buhuka Flats to services on the escarpment (and especially Kyangwali HC) will enable better access to health care services and a wider referral network. It is likely that the public transport system will also improve, which (as long as it is affordable) will also promote access to these improved services.
 - Improved communications and access to information may improve HSB and practices through improved awareness and knowledge.
- **Negative:**
 - Continuous movement and an increased concentration of people may introduce higher circulating malaria parasite loads into the community, which may in turn increase transmission of the disease. This movement may also reduce the efficacy of control programmes as the parasite is continually introduced into the area (by infected humans) from other areas.
 - Unchecked development with no planning for drainage or general domestic garbage/waste management may also alter the environment and create improved vector breeding sites, which may increase vector densities and risk for disease transmission.
 - Make-shift settlements with associated poor housing (if it occurs) will reduce natural protection against mosquitoes entering houses.

- Increasing the burden on already limited basic services including adequate housing, waste management and health services (including care and effects of programmes such as ITN distribution).

In summary, the way malaria transmission will be influenced by the Project will depend on determinants such as the epidemiological setting, local vector behaviour and management, change in land use related to vector activity, socio-economic conditions and HSB. The highly endemic nature of the disease means that the Project is unlikely to significantly add to the already high disease burden of the community during the wet season. In fact, the potential for economic development and enhanced access may improve indicators. However, during the dry season, and particularly in construction, the alteration of the environment may give rise to increased vector density and prolong the peak malaria transmission season. The development of the pipeline will also increase risk along this route due to an altered environment.

Therefore, mitigation measures are warranted and are likely to play a significant beneficial role to the community if well planned and executed. Extension of interventions as part of CSI initiatives will be of significant benefit to the community as it will not only support a reduction in burden of disease but also support economic development as malaria plays a co-morbid role in many other conditions, reduces the economic abilities of households and perpetuates poverty. It will also influence the ability to recruit from the local population in the short to medium term as it effects educational attainment and ability to work effectively.

Impact Evaluation and management measures:

| EHA #2 | Malaria and associated determinants | | | | | | | | | | |
|--|-------------------------------------|---------------|------------|--------------------|-------------------|---|------------------------|-------------|----------------------|----------------|--------|
| Early works through to Construction and Operations | | | | | | | | | | | |
| | Consequence/Effect | | | | | | Probability/Likelihood | Total Score | Overall Significance | Confidence | |
| | Temporal Scale | Spatial Scale | | Severity of Impact | | | | | | | |
| Impact before management | Long term | 3 | Study area | 2 | Moderate negative | 4 | Probable | 3 | 12 | Major negative | Medium |
| Management Measures | | | | | | | | | | | |
| Project impact mitigation: | | | | | | | | | | | |
| <ul style="list-style-type: none"> • In the early works and construction phase, maintain strict environmental controls around earth works and related construction activities, to avoid the development of suitable vector breeding sites. This may involve backfilling, draining and management of any area that may, or has collected water, and that may increase the vector densities in the area. A permitting system should be developed for ground disturbance, with a process to ensure minimal disturbance and effective remediation near any settlements. This process should continue into operations and include any offsite activity, such as road construction. • Labour Recruitment and Influx Management Plans as per the social management plans. • Plan the resettlement host sites to include specific design criteria, including: <ul style="list-style-type: none"> ○ Location of the host site to avoid a location in proximity to a potential breeding area (wetland). ○ Planning and maintenance of effective water drainage and waste management to limit the development of breeding sites. ○ Resettlement housing should have sealed eaves, ceilings, and screens on windows to limit the potential for mosquitoes to enter dwellings. The designs should consider cultural requirements in terms of housing, and be adequately ventilated. ○ Support programs (clean community campaigns) that promote good environmental hygiene such as removal of garbage and limiting standing | | | | | | | | | | | |

- o water.
- o Prioritize the host sites in community based malaria interventions.
- Collect data to define a robust baseline to describe the BOD and specific malaria indicators to serve as a point of departure to monitor impact mitigation and programme interventions. This should include conducting a baseline malaria parasite prevalence and anaemia survey as well as determining local knowledge, attitude and practices (including LLIN ownership and utilisation). Surveillance of these indicators should be included in the design but should include considerations for a follow up at a minimum of three yearly intervals or a transition between Project activities (construction to operations).
- Undertake a baseline entomology studies with a dry and wet season sample to determine the main vector species present in the study area, its biting and resting behaviour and susceptibility to different insecticides. Based on this, develop a vector control strategy at both the workplace and community level, including specific entomological surveillance to determine the effectiveness of interventions as well as the seasonal behaviours of different vectors to determine what species is most common at different times of the year and what feeding/resting patterns the vectors exhibit. This will ensure interventions are appropriately targeted and allow a pro-active management of disease risk during construction and operations rather than reacting to an increased number of cases retrospectively.
- Evaluate opportunities to develop an effective CHIS to monitor the BOD from malaria in partnership with the district health authorities. These need to include, longitudinal data sets as well as monitoring of specific indicators collected at baseline and linked to mitigation activities. The surveillance activities should have thresholds for response in the event of a spike in case numbers.

Occupational health, safety and environmental management:

- Pre-design controls are essential to reduce potential human vector contact and control of breeding sites. The FEED design should be reviewed to consider these risks and include:
 - o Locate any accommodation or temporary work camps as far away as possible from communities (or where communities may settle) to create a buffer zone (a 'cordon sanitaire' of 1.6km is suggested) and reduce the risk of human vector contact in mosquito populations that are more likely to harbour the parasite.
 - o Adequate drainage and management of storm water to limit the amount of standing water on site (for e.g. construct down-pipes on roofing structures to feed into underground channels that then discharge the water into an existing water channel some distance from the site, or into the Lake).
 - o Provision of appropriate accommodation units to promote bite prevention including i) screened windows and doors; ii) doors that close with a self-closing mechanism; iii) air conditioners or fans; and iv) provision of LLIN that fits the bed appropriately and promotes actual use (suggest to use oversized LLINs that mount on a square frame to limit close contact to the bed).
- Evaluate the opportunity to develop an integrated workplace malaria and vector control programme in the based on the principles described in Figure 41 and to reflect the Ugandan Public Health Law. This should have a focus on environmental management, vector control, behaviour management and effective case management:
 - o Source reduction and environmental management should form the mainstay of the interventions as this has been shown to reduce the risks from malaria transmission by up to 95% if effectively executed. Actions should include; i) maintaining good housekeeping on site to prevent the creation of breeding sites and limit the amount of vegetation around accommodation units as these can serve as resting areas for vectors; ii) avoid, reduce or remove standing water onsite and offsite by ensuring adequate drainage, back-filling and run-of; and iii) if warranted consider larvaciding with biological or chemical larvicides, but this requires skilled staff.
 - o Routine inspections should be undertaken to check accommodation units to ensure that screens etc. are in place. An effective camp maintenance programme will need to support this.
 - o Vector control measures should include IRS and larval source management, with space spraying (fogging) reserved for outbreaks and emergency controls based on the entomological surveillance and caseloads. Skilled personnel will be required to establish and maintain the programme.
 - o Develop appropriate IEC programmes for the workforce/contractors prior to secondment and for use in country. These programmes should be designed based on risk and not simply generic messaging. They should be supported by serial KAP or qualitative studies to measure effectiveness of interventions and to support effective behaviour change communication.
 - o Develop policies and programmes related to use of protective clothing (long sleeves and long pants) and use of malaria chemoprophylaxis (for non-immune individuals).
 - o Develop effective case surveillance programs between the workplace medical service and vector control team to determine the likely origin of, and root cause of malaria cases. All cases should be recorded on a database so basic demographic profile, their job, their residence (in past three weeks) and behavioural elements can be evaluated. This information will allow a trend analysis to profile high risk groups, the likely areas where malaria is transmitted and the behaviour of employees/contractors that contract the disease.
 - o Include malaria risk as criteria for FTW (based on immune status and other underlying medical conditions) in pre-assignment medical examinations in non-immune employees.

Social development mitigation and management:

- Any community based interventions should be performed in partnership with the Ugandan National Malaria Control Programme (NMCP) and related national strategies. The USAID funded Presidents Malaria Initiative (PMI) is currently the biggest programme running in Uganda, but there are a number of other bilateral agencies working on malaria, and there may be the opportunity to extend the scope of these interventions to the study area. Other partners (UNHCR, Chinese development) may also be interested and the Project could support elements of these as part of a clear agreement defining roles and responsibilities including sustainability considerations. The opportunity would be to introduce comprehensive malaria and vector control interventions, with the focus initially at Buhuka Flats and communities located on the edge of the escarpment, with a slow extension to the pipeline area and communities. The real opportunity may be in developing a district wide programme in partnership with the other Project partners to extend malaria control efforts over a broader area. The latter would be the most efficient from a disease control perspective.
- Support IEC programmes in the communities, schools, and even with through the health centres. This can be supported through the VHT and district health authorities. This will reduce the misconceptions related to malaria and prevention efforts. The proposed 'cinemobile' or associated edutainment activities will be a good medium to deliver messaging to surrounding communities.
- Encourage source reduction in communities through environmental control mechanisms based on community work groups. These groups can support source reduction efforts. The company can consider sponsoring "Clean Community Campaigns" as part of this initiative as this will address a host of environmental health issues.

| | | | | | | | | | | | |
|--------------------------------|-------------|---|------------|---|---------------|---|----------|---|---|------------------|--------|
| Impact after management | Medium term | 2 | Study area | 2 | Minor benefit | 2 | Possible | 2 | 8 | Moderate benefit | Medium |
|--------------------------------|-------------|---|------------|---|---------------|---|----------|---|---|------------------|--------|

Vulnerabilities and Spatial Effects of Impacts:

Communities in the immediate study area (PAC1-3), at the top of the escarpment (PAC 5) will be affected in the medium to long term. The communities along the pipeline route will be affected during the environmental manipulation stages of early works and construction, and after environmental remediation should return to the baseline situation.

Children, pregnant women and people with a lowered immune system are particularly vulnerable to malaria. No specific gender risks are anticipated.

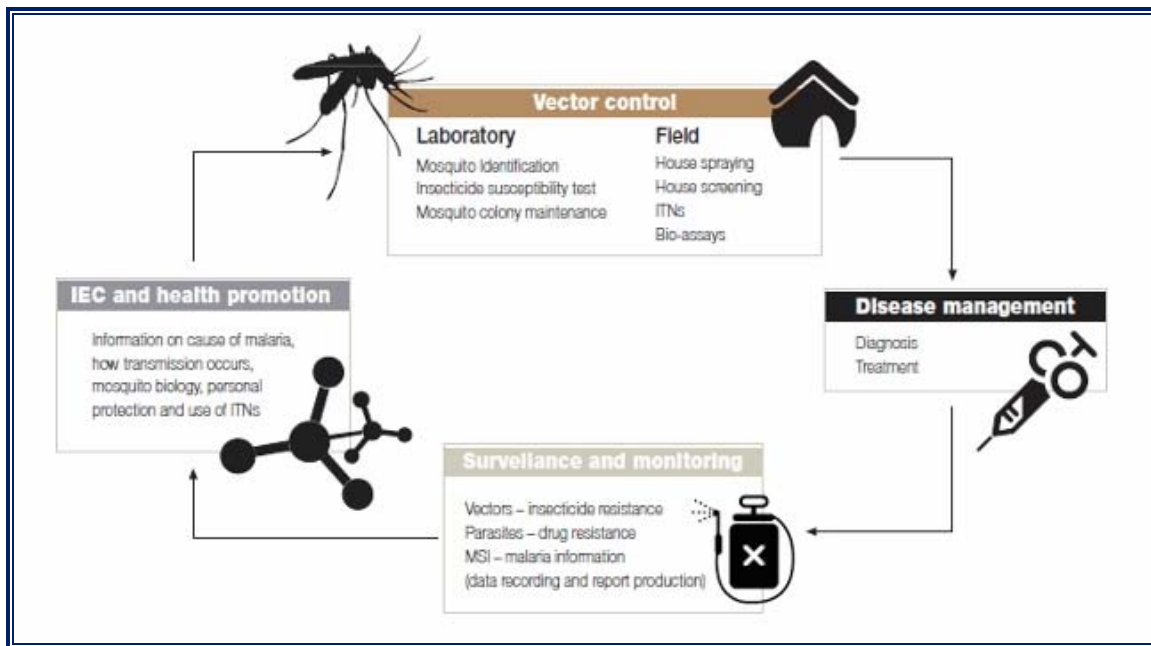


Figure 41: Integrated workplace malaria control programme

8.2.2 Arboviral and other Vector Related Diseases

Impact Definition:

Arboviruses have not recently been described in the study area but this is likely to reflect weak surveillance mechanisms rather than absence of the diseases. Yellow fever is a threat with sporadic outbreaks nationally and in the region (DRC and Southern Sudan). Dengue and chikungunya fever are likely risks but have not been described in the district. It is highly likely that the mosquito vector (*Aedes* group) is widely distributed in the area, with the local environment conducive to its distribution, especially in association with human settlements (where it has a propensity to breed in man-made containers holding water).

Other vector related diseases occur in the area but as described in section 7.2.2 are not common or are subject to large-scale eradication programmes. Onchocerciasis and LF may occur sporadically, but the mass treatment programmes have reduced the prevalence of the disease locally, although there were still significant foci in Hoima and surrounding districts. Unfortunately, no specific prevalence data exists on either disease at the level of the study area. As LF is a mosquito borne disease, an increase in poor sanitary conditions and environmental change may create a proliferation of mosquitoes, with a risk for increase in disease transmission. HAT, was not widely recognised in the study area and unlikely to be of major concern as an emerging threat.

The Project has the ability to influence the transmission of arboviruses and other vector related diseases in the following ways:

Direct:

- **Conducive vector environment**

The development of the Project, especially in construction, is likely to increase the number of potential mosquito breeding sites for various mosquito species. Areas such as construction sites or lay-down construction yards will increase the number of receptacles available for collection of water, which may promote the proliferation of *Aedes* group mosquitoes. Environmental manipulation related to construction may promote pooling of water (as with malaria) and increase mosquito densities.

- **Transport of products**

There is a risk that shipping of products and equipment into the area may introduce infected vectors from destinations where diseases like dengue fever are endemic or outbreaks of disease are known to occur, such as Mombasa. The supply chain of

equipment, material and other goods will be predominantly supported via shipping of products via Mombasa. This can include products that are shipped from highly endemic areas such as South America or Asia as mosquitoes that transmit dengue and chikungunya fever do not have to acquire it from a human host before they can transmit it to other humans; eggs or larva can emerge with the virus with resultant transmission. Thus, the movement of vehicles/trucks into the study area to deliver goods and construction material may introduce these conditions into the study area. Tyres and other receptacles that can collect and hold water are often implicated as potential sources.

The peak risk period will be construction as this is when most of the material will be shipped from ports, but it will persist into operations, although the risk will decrease.

Indirect:

- **Project induced in-migration**

As mosquitoes that transmit LF and arboviruses are associated with human development the degradation of the environment in local communities as a result of unplanned development and poor waste management may influence the risk of transmission of these diseases.

- **Weak health system**

The limited local health surveillance systems related to these conditions has the potential to increase their potential impact as detection and thus effective management may be inadequate.

Impact Evaluation and management measures:

| Arboviral and other vector related diseases | | | | | | | | | | | |
|---|--------------------|---------------|------------|--------------------|-------------------|---|-------------|-------------|----------------------|-------------------|--------|
| Early works through to Construction and Operations | | | | | | | | | | | |
| EHA #2 | Consequence/Effect | | | | | | Probability | Total Score | Overall Significance | Confidence | |
| | Temporal Scale | Spatial Scale | | Severity of Impact | | | | | | | |
| Impact before management | Medium term | 2 | Study area | 2 | Moderate negative | 4 | Unlikely | 1 | 9 | Moderate negative | Low |
| Management Measures | | | | | | | | | | | |
| Project impact mitigation: | | | | | | | | | | | |
| <ul style="list-style-type: none"> Labour Recruitment and Influx Management Plans as per the social management plans. Include vector control measures for <i>Aedes spp.</i> and other relevant mosquitoes in the broader integrated vector program with a large emphasis on source reduction at the site. Tyres, general lay-down yards, accommodation areas are important areas to avoid water collections. Develop vector control capacity to reduce vector populations in the event of vector proliferation or suspected/confirmed arbo-viral outbreak. | | | | | | | | | | | |
| Occupational health, safety and environmental management: | | | | | | | | | | | |
| <ul style="list-style-type: none"> Project designs to avoid standing water in man-made containers. This must be planned in the FEED for example storing tyres, equipment in sheltered areas so water does not collect in them, direction of shovels in heavy equipment etc. Effective drainage, waste management and general housekeeping to reduce risk of increased numbers of <i>Culex spp.</i> and <i>Aedes spp.</i> mosquitoes. Develop appropriate medical protocols to screen for suspected arboviral diseases. These should include initial medical management and establishment of a laboratory network that can rapidly diagnose any suspected case. | | | | | | | | | | | |
| Social development mitigation and management: | | | | | | | | | | | |
| <ul style="list-style-type: none"> Improve case detection and outbreak response capabilities for suspected arboviral diseases in the local health services. Control of <i>Culex spp.</i> mosquitoes to reduce the potential for transmission of LF, including maintenance of a clean environment and reducing foul standing water. If risk dictates then place polystyrene balls in pit latrines to reduce the number of <i>Culex spp.</i> Support the authorities as required with LF and onchocerciasis eradication programmes to ensure adequate coverage of target areas, especially with potential influx. | | | | | | | | | | | |
| Impact after management | Medium term | 2 | Localized | 1 | Moderate negative | 2 | Unlikely | 1 | 6 | Minor negative | Medium |

Vulnerabilities and Spatial Effects of Impacts:

Risks will be higher in construction and may extend to the operations phase. PACs located in proximity to construction camps are at an increased theoretical risk, as are those who may be impacted through influx. Foci of LF may occur and arboviruses may extend into the broader area if they emerge. There are no specific vulnerable groups and no specific gender risks are anticipated.

8.3 EHA #3 – Soil-, Water- and Waste-related Diseases

Impact Definition:

The lack of access to safe water and adequate sanitation was described as one of the major local health challenges, with diarrheal and diseases associated with poor water and sanitation reported to be the third most common cause of OPD visits in the study area. Cholera outbreaks were reported seasonally, with cases of typhoid reported commonly. High rates of STIs and intestinal schistosomiasis is reported although no accurate data is available. Fungal skin disease was also reported as common citing poor local hygiene conditions.

Data at a district and local level shows that access to improved (safe) sources of water is limited. This was confirmed in participatory discussions with key informants and the community, with the majority of people collecting water from unimproved sources, including Lake Albert. Protected water sources were often in a state of disrepair or had poor quality water and it was rare for the community to treat their water in any way before use. Data on surface and ground water quality showed extensive faecal contamination of sources, and while no data was available on water quality at the level of the household (end user), general hygiene and storage capabilities was poor so the expectation that drinking water would be contaminated. This supports reports that open defaecation was common, especially on Buhuka Flats and migratory communities on the escarpment, but less so in the pipeline communities. It was reported that it was challenging to construct latrines on the sandy soil near the lake-shore as they collapsed.

Seasonal availability of water was also an issue with the communities on the escarpment and pipeline route especially reporting challenges in the dry season. This was less of a challenge in Buhuka Flats as the community simply used Lake Albert, but water quality was of concern as a multitude of activities were conducted in the water body including personal ablutions, open defecation and cleaning of cooking utensils and clothing, cleaning of motorcycles, drinking water for cattle. Cattle were also treated (with pesticides) for ticks and fleas on the Lake shore.

The local authorities have limited institutional capacity in addressing existing challenges related to access to both adequate sanitation and safe drinking water, especially to a growing population. While no accurate data was available on the communities knowledge and

practices on hygiene and general sanitation practices it was deemed to be poor by all HCW that were interviewed.

Given this profile the community is likely to be extremely sensitive to changes in water access and quality, which warrants careful consideration of measures to manage any impacts. Considering this, the following direct and indirect impacts related to water quality and waste/sanitation related disease may occur as a result of the Project.

Direct:

- **Improved access**

Improved access to Buhuka Flats with the development of the escarpment road should support the delivery of healthcare services to the local communities. Outreach programmes are a current challenge due to either funding shortages and human resource constraints, but improved logistics may make mass treatment campaigns (for STH and schistosomiasis) and IEC easier to deliver.

- **Pollution of surface and ground water sources**

There is the potential to contaminate surface and superficial ground water sources that occur in the surrounding environment including wetlands, surface water bodies and soil by:

- Poor human and domestic waste management including lack of provision of toilets for construction field crews and poor camp facilities management.
- The discharge of water from the sewerage treatment plant (STP) developed to cater for the various accommodation and temporary construction work camps (including contractors), offices, CPF and other work areas. The STP will need to be of adequate capacity to minimize the potential consequence of nutrient loading and eutrophication and/or oxygen depletion in receiving water bodies if there is a plan to discharge wastewater in a water body or stream. The general water quality, post treatment, will also need to be monitored to meet Ugandan and International standards
- Domestic waste water from the construction camp kitchen, bathrooms, residential block, and administration areas (grey water).
- Contamination of surface and ground water sources as a result of the Project's activities during construction and operations are discussed in section 8.3.9.

- **Resettlement**

Resettlement of communities will need to include effective planning for the provision of adequate water and sanitation services to ensure that the resettled communities have the same or better water supply than before they were relocated; and that there is adequate capacity in the supply of water and sanitation services in any host community (if applicable) to support any increased requirements. The potential for influx of extended families or new arrivals into the resettlement host site will need to be considered when planning for the provision of these basic services so that they are not over-stretched leaving the resettled communities worse off than before they were relocated. It is recommended to over-design the anticipated capacity for the provision of basic services to allow for this expansion and to ensure that the positive impacts are maintained in these resettled communities. Water quality is determined by a number of factors as shown in Table 15 and this will be important to monitor in terms of quality of access.

Resettlement of communities will also need to be considered in terms of adequate provision of sanitation services so that negative impacts do not occur in the communities who are physically relocated, or the existing communities at the resettlement host sites. It will be important to ensure that the resettled communities have improved sanitation services that have capacity to expand as these areas are likely to be an attractor for potential influx.

Table 15: Water and levels of service

| Service level | Distance/time measure | Likely quantities collected | Level of health concern |
|---------------------|--|---|---|
| No access | More than 1000m or 30 minutes total collection time. | Very low (often less than 5 liters per consumer per day (l/c/d)). | Very high as hygiene not assured and consumption needs may be at risk. Quality difficult to assure; emphasis on effective use and water handling hygiene. |
| Basic access | Between 100 and 1000m (5 to 30 minutes total collection time). | Low. Average is unlikely to exceed 20 l/c/d; laundry and/or bathing may occur at water source with additional volumes of water. | Medium. Not all requirements may be met. Quality difficult to assure. |
| Intermediate access | On-plot, (e.g. single tap in house or yard). | Medium, likely to be around 50 l/c/d, higher volumes unlikely as energy/time requirements still significant. | Low. Most basic hygiene and consumption needs met. Bathing and laundry possible on-site, which may increase frequency of laundering. Issues of effective use still important. Quality more readily assured. |
| Optimal access | Water is piped into the home through multiple taps. | Varies significantly but likely above 100 l/c/d and may be up to 300l/c/d. | Very low. All uses can be met, quality readily assured. |

- **Reduced access to water supply and quality**

The Ecosystems review and assessment found that water abstraction from Lake Albert is unlikely to impact on availability and quality of water for communities who access this source for their personal use [147].

The other important source for communities located on Buhuka Flats is the gravity fed scheme. At the time of the survey it was only working in one community and the system had been damaged during the construction of the escarpment road. While a commitment has been made to repair this system once the road construction is complete it will be essential that direct and indirect Project activities do not disrupt this supply as it is likely to represent a safer supply than the Lake water.

The escarpment communities rely on the use of surface water and shallow hand dug wells for their domestic water needs. As the seasonal availability of water was highlighted as a significant challenge, serious consideration should be given to the supply of water to temporary work camps, disruption to surface water bodies or shallow wells during construction of the pipeline, and waste (water and solid) management, so that pipeline construction crews do not impact negatively on water availability and quality in these communities.

Indirect:

- **Project induced in-migration**

In-migration into the area will place increased pressure on the limited existing water sources (both improved and non-improved sources) and sanitation services in the PACs due to an increased demand. This especially includes the communities in the immediate escarpment area and along the pipeline as water available in more tenuous in these communities. Reduced supply of water may be a sourced of community dispute as there is limited capacity in the district or local authorities to plan for, or to develop the infrastructure required to support these potential increased needs.

Poor sanitation and environmental health conditions that may accompany any unplanned development may also impact on water quality by further contaminating surface and superficial ground water bodies. As the sanitation system is currently

limited, any improvements to the sanitation situation would be likely to have major beneficial impacts in the communities and improve their overall quality of life.

- **Pollution and disruption of gravity fed water supply**

An increased population in the immediate escarpment communities may reduce the amount of water available to that community and to the communities on Buhuka Flats due to reduced flows. An increased number of people with poor hygiene and sanitation conditions may potentially pollute water sources, and as the water in the gravity fed scheme is not treated, posing a disease risk to communities downstream.

Impact Evaluation and management measures:

| EHA #3 | Soil, water and waste related disease | | | | | | | | | | |
|---|---------------------------------------|---|---------------|---|--------------------|---|------------------------|---|-------------|----------------------|------------|
| Constructions through to Operations, and initial closure | | | | | | | | | | | |
| | Consequence/Effect | | | | | | Probability/Likelihood | | Total Score | Overall Significance | Confidence |
| | Temporal Scale | | Spatial Scale | | Severity of Impact | | | | | | |
| Impact before management | Medium term | 2 | Study area | 2 | Moderate negative | 4 | Possible | 2 | 10 | Moderate negative | Medium |
| Management Measures | | | | | | | | | | | |
| Project impact mitigation: | | | | | | | | | | | |
| <ul style="list-style-type: none"> • Water management plans as part of the ESMP to avoid and manage the potential contamination of surface water and soil which can potentially pollute superficial ground water sources. • Influx management • Monitor community water sources closely in terms of flows, availability of water and quality to ensure that unexpected negative impacts do not occur. Ensure open and transparent communication with the community on water quality and water availability as reduced water supply and pollution of water sources can be a major source of conflict. It may be worthwhile creating water user representative/groups in each community that supports this and becomes the focal point in each community. • Develop an adequate baseline (based on specific indicators) to describe the water and sanitation conditions in the community prior to the Project development, in especially the resettlement areas and areas where influx is likely to occur. These indicators should include: <ul style="list-style-type: none"> ○ Proportion of households that have access to improved water and sanitation services based on WHO/UNICEF guidelines. ○ Surveys in school aged children (9-14 years of age) to determine the prevalence of schistosomiasis and STH as an indicator of the BOD from sanitation conditions. ○ Water quality assessment (using thermo-tolerant coliforms (E.coli) total coliform as the contamination indicator) at community collection points as well as at the end-user level in households. This will determine water quality across the collection- to use- chain. • Effective resettlement planning and execution that include effective water and sanitation programmes in the resettled communities and host sites. These will need to be supported by IEC programmes to support sustained improvements in general hygiene, sanitation and potable water use. • Evaluate opportunities to develop an effective CHIS to monitor the impacts of water and sanitation conditions. These should be conducted in partnership with the district health as well as the district water/sanitation utility authorities and should include monitoring of longitudinal data sets as well as specific indicators collected at baseline and linked to mitigation activities. | | | | | | | | | | | |
| Occupational health, safety and environmental management: | | | | | | | | | | | |
| <ul style="list-style-type: none"> • Ensure proper disposal of human waste that is generated from all Project sources, including contractor camps and work areas. There must be a proper wastewater and STP with the capacity to manage the expected throughput with required contingencies. The design should be such that if there is a failure that the risk of direct exposure to communities and their water sources is minimized. • Mobile toilets should be provided in different work areas (where formal toilets are not available) to prevent open defecation/urination from occurring in elements of the workforce. These should be properly handled when full and waste disposed of in the STP or other suitable area. • Develop and implement a code of conduct that prohibits open defecation/urination. Support this with a IEC campaigns in the workforce on proper water use and water conservation, as well as on hygiene and sanitation to prevent pollution of community water sources. • Ensure that there is good management of water resources to avoid wastage and leakage of water. • Ensure that there is adequate treatment facilities for the management of sewerage and waste water generated from any accommodation, temporary work camp, office or work area. • Effective domestic waste management. • Water management programs and plans as outlined in the EIA to prevent pollution or deterioration of water quality as a direct consequence of the Projects activities. | | | | | | | | | | | |
| Social development mitigation and management: | | | | | | | | | | | |
| <ul style="list-style-type: none"> • Develop institutional capacity in the local health and water/sanitation authorities so support the long term planning, development and maintenance of infrastructure in the district. This is essential to prevent the long term reliance on the Project and initiatives like these must be done in partnership with local authorities to ensure that local standards are met and there is an agreement for the government to manage the long term | | | | | | | | | | | |

functionality of services.

- Consider developing a community led total sanitation (CLTS) programme in partnership with potential local partners
- Support integrated water, hygiene and sanitation programmes in the study area. This can be performed either as part of the CLTS initiative or other interventions such as the establishment of water user groups in each community. Sustainability principles will need to be included when planning these interventions, which can include:
 - o IEC programmes on water, sanitation and hygiene to schools and the general community.
 - o Supporting the district health and education authorities with school and early childhood deworming programmes focused on STH as per the WHO guidelines. These should be managed by the local authorities with support of the Project so as to promote sustainability and so as not to assume the role of government. This should include screening for, and treatment of schistosomiasis, based on risk and local exposure patterns.
 - o Support provision of latrines, shoes and hand-washing programmes at schools. Hand washing has been shown to reduce the risk of acquiring disease that is transmitted by the faecal oral route by as much as 50%. Work with the local and district educational authorities to integrate hygiene and sanitation education into the school curriculum or support this locally.
 - o Support waste management in the community through community based work groups (or VHTs) and developing 'clean village campaigns'.
 - o Support with improving end user water quality by supporting the provision of products that make it suitable for drinking (such as WaterGuard®).
- Support with the expansion and planning of food and general markets so that appropriate levels of hygiene and cleanliness are promoted. This will promote food hygiene.

| | | | | | | | | | | | |
|--------------------------------|-------------|---|------------|---|------------------|---|----------|---|----|------------------|--------|
| Impact after management | Medium term | 2 | Study area | 2 | Moderate benefit | 4 | Probable | 3 | 11 | Moderate benefit | Medium |
|--------------------------------|-------------|---|------------|---|------------------|---|----------|---|----|------------------|--------|

Vulnerabilities and Spatial Effects of Impacts:

Communities in the immediate study area (PAC1-3), at the top of the escarpment (PAC 5) and the communities along the pipeline (PAC6, 7) will be impacted. PAC6 and 7 will only be impacted during construction and for a short period into operations while the other communities will be affected in the medium to long term.

Children, the elderly and chronically unwell may be disproportionately affected by water and sanitation related conditions. No specific gender risks are anticipated.

8.4 EHA #4 – Sexually-transmitted Infections and High Risk Sexual Practices, including HIV/AIDS

Impact Definition:

HIV/AIDS is a major public health challenge, with a national prevalence rate of 7.3% in 2011. Some of the gains made in reducing the HIV prevalence rates in the 1990's have been reversed, with high risk groups including female sex workers (33%), their male partners (18%), gay men (13%) and fishing communities (37%). HIV was disproportionately higher in women compared to men, underscoring specific vulnerabilities.

District prevalence rates were lower than national rates at 6.7%. No disaggregated data specific to the study area could be obtained but data suggests that the incidence of both HIV and STIs is on the increase. This was confirmed in data from Buhuka and Kyangwali HC statistics where the incidence of STIs had increased by 68% and 20% from 2012-2013, respectively. Women attending ANC at Buhuka (5.6%) and Kyangwali HC (3%) had HIV rates higher than other HC in the study area, but lower than Hoima district (4%). There was no data available on prevalence of key indicators such as syphilis and no actual KAP studies have been done in the study area to support behaviour change communication and education interventions.

Services to promote awareness and behaviour change were limited but despite this the communities had good knowledge on HIV transmission and prevention. However, misconceptions did occur, especially in older people, but the common theme that emerged was the translation of knowledge into actual practice. It was especially challenging for women to negotiate on safe sex practices and as there were high rates of infidelity in men, women felt that there was very little they could do to protect themselves. Condoms are available for free from HC, but utilization rates were low.

Behaviours and practices in the lake-shore communities were reported as poor. Polygamy and infidelity is common and complex sexual networks occur in the area, especially in the fishing communities as men are relatively mobile and often have more disposable income. Stigma and discrimination was reported as high in the fishing communities, with men readily moving to other communities if their HIV status was known, but not necessarily changing his practice.

It was reported that formal commercial sex was on the increase in the area given the perceived and potential economic developments. Opportunistic transactional sex was also increasing with young girls, bar maids and other workers in the hospitality trade identified as risk groups. There appeared to be a degree of social acceptance of these practices. Substance abuse was also recognized as a factor that promoted high risk sexual behaviours.

Access to HIV care and treatment services from the public health services was limited. In the study area, only Kyangwali and Kaseeta HC provided ART. Uptake of HCT appeared to be low with access and stigma major hurdles.

The Project has the potential to impact on the transmission patterns of STIs, including HIV, in the study area (including the Buhuka Flats and pipeline route) and along the various transport corridors. Women and young girls are especially vulnerable groups and influences on social ills may increase high risk sexual behaviour. Impacts related to STIs will extend from the current study phase, peak in construction, and extend into operations. Some STIs such as HIV and Hepatitis B are chronic diseases that may cause long term impacts to the health of the individual, family unit and community; but also contribute to social challenges such as orphaned children and loss of traditional values.

The development of the Project has the potential to exacerbate the already high burden of disease from STIs, including HIV, in an indirect manner. These contributing factors are summarised using the four M acronym, with distinct overlaps, including:

- **Mobility**

- There is the potential for increased high-risk sexual encounters along the transport corridors to/from, and in, the study area. The development and subsequent operation of the Project will increase traffic along access roads, pipeline roads and within the study area. Transport workers are a well-described high-risk group, known to have multi sexual partners and to develop sexual networks along transport corridors - so called “core-spreaders”.

Different scenarios include:

- Long distance truck drivers will operate from the port site in Mombasa and important supply centres such as Kampala and Hoima. Long distance transport drivers well known to engage in casual sexual practices with the development of a sexual network along the whole transport corridor, but also in truck stops in the study area.

- Employee transport (busses) and light duty vehicles operating between various operational areas may offer lifts to members of the community as public transport options are limited and relatively expensive. These lifts may be in exchange for sexual favours.
 - Improved access into the area and economic development will increase the supply of goods and services based on demand. This positive development may also be associated with increased high risk sexual activity amongst businessmen travelling to the area, as well as transport workers.
- The in-migration of people is also an important factor related to mobility and the introduction of new strains of the HI virus and other STIs, and mixing of people with higher STI prevalence rates may promote the increased transmission of disease. Migrant population may include the incoming workforce and also speculative migrants not associated, but looking to benefit from the Project.

There is the potential that influx could be associated with the development of unplanned or “camp followers” settlements. Ikamiro/Ngoma and Nsonga are likely to be ‘hot-spots’ for influx, with these areas often giving rise to social ills due to a mix of cultures and lack of traditional leadership or structure. Substance abuse is generally a clear contributing factor with high risk sexual behaviours commonly place including forms of transactional sex.

- The semi-skilled and skilled incoming workforce who will construct the Project may originate from areas where there are higher prevalence rates of STIs and HIV and they pose a risk for increased local disease transmission. In general, semi-skilled construction workers are mobile and move from project to project, away from their family unit, which increases their potential to engage in high risk and multiple casual sexual relationships. This group often has higher levels of disposable income and thus may engage in transactional sexual relationships with the community and even local employees, as discussed below. This phenomenon is well described in development Projects in Southern and East Africa [148].
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This risk will peak in the construction with origins from the temporary contractor work camps as well as from local workers who reside in guesthouses in the local communities. Proximity of work camps and workers residing in local communities is likely to promote fraternization between the various groups, with transactional sexual relations probably. It is thus essential that mitigation measures are developed as soon as possible so that they are in place when construction initiates.

- **Money**

- Transactional sex

The high levels of poverty in the study area render local women and young girls vulnerable to advances from men with money. The development of the Project and associated economic benefits means there is likely to be an increase in the levels of disposable income in the study area. Men are likely to benefit the most economically and weak financial planning or practice may mean that they are likely to spend any disposable income on personal effects or entertainment. This can be to the detriment of the household, especially if the male partner used to contribute to the families livelihood through subsistence farming or fishing. Women may thus be forced into forms of transactional sex to support the needs of the household.

Young girls may also be vulnerable to a “sugar daddy phenomenon”, where they are given payment, or payment in kind in the form of material goods, for sexual favours and companionship (food, clothes, airtime and other gifts). Cultural norms may also make it difficult for a young woman to refuse sexual advances and this vulnerability will make it challenging to negotiate safe sex practices such as the use of condoms. Transactional arrangements may also differ, with less benefit paid for sex with a condom. This is a real potential given the high reported rates of poverty, teenage pregnancy and transactional sex.

- Temporary construction workforce

This is an especially high-risk group as discussed above, as they often have no means to spend the cash they earn, with the potential of using disposable cash for sexual favours. The local community will be extremely vulnerable and even naïve to these approaches. This cohort also tends to have higher rates

of HIV and STIs due to these practices and vulnerable groups in the community may have limited ability to negotiate safe sex practices.

- Bars/Lodging

With economic development more bars and guesthouses are likely to open. This has already been observed in Nsonga near the lake-shore, with marketing aimed at oil workers or contractors. While these facilities can provide for accommodation and meals they generally have recreational facilities including bars and pool. These may be areas where high risk sexual encounters develop, with girls working in the facilities vulnerable to transactional sexual advances. In addition, the facilities may attract commercial sex workers

- **Men and Gender**

The bulk of the workforce is likely to be men, especially construction and transport workers. The sections on migration and money have described some related high-risk traits but based on literature and from precedence in similar studies, men are more likely to engage in high risk sexual encounters, especially in a society where women are vulnerable. Due to cultural and poverty factors, women and young girls are a vulnerable group in the study area and will be especially at risk for high risk sexual encounters. As risk for transmission of STIs and HIV is higher in women than in men, the risk for transmission to this group is further compounded.

- **Mixing**

This is strongly associated with mobility and influx as discussed earlier. In-migration of outsiders, the construction workforce and the transport workers (as discussed in mobility) are all different groups that may mix with the host population and increased risk of transmitting STIs as a result of mixing of people with higher disease prevalence with those with low prevalence of disease.

- **Increased burden on health care services**

In-migration and an increased incidence of STIs are likely to place an increased burden on the already over-stretched health services. While access to health services may improve for residents in Buhuka Flats, an increased demand may limit ability to deliver services to these and other communities. As HIV is a relatively expensive

disease to manage with ART, an increased demand may limit the ability of health care services to provide care and treatment to all.

- **Workplace Risk**

The workplace health risk related to HIV/AIDS and the impact on business have been well described in literature and will require planning and mitigation both from the community health perspective as described above, but also for workplace health, productivity and business resilience.

- **Reputational Risk**

There is a significant reputational risk for the Project as extractive industry projects have an unfortunate legacy of increasing rates of STIs and HIV as an indirect result of their activities. In addition to the health impacts, there is the potential that the Project can be accused of human rights abuses to vulnerable groups in the study area, either directly or as a result of corporate inaction. These reputational risks extend to criticisms from shareholders, local communities, government and general civil society.

Impact Evaluation and management measures:

| EHA #4 | Sexually transmitted infections including HIV/AIDS | | | | | | | | | | |
|---|--|---|---------------|---|--------------------|---|------------------------|---|-------------|----------------------|------------|
| Constructions, Operations with impacts into closure | | | | | | | | | | | |
| | Consequence/Effect | | | | | | Probability/Likelihood | | Total Score | Overall Significance | Confidence |
| | Temporal Scale | | Spatial Scale | | Severity of Impact | | | | | | |
| Impact before management | Long term | 3 | Study area | 2 | Major negative | 8 | Probable | 3 | 16 | Critical negative | High |
| Management Measures | | | | | | | | | | | |
| Project impact mitigation: | | | | | | | | | | | |
| <ul style="list-style-type: none"> • Develop a clear HIV policy and programme in the workplace and community. It is important that this framework be established at an early stage so these interventions are functional <u>prior to construction</u>. This should be incorporated as part of the occupational health and safety management plan (OHSMP) for workplace activities. • Maintain a <u>closed camp status for all temporary construction accommodation camps</u> to reduce mixing of the incoming workforce with the local population. This provision should be part of all contractor management plans (CMP) included in the FEED. • Ensure that there is adequate capacity in the temporary work camps to eliminate the need for contractors or visitors to seek accommodation in guesthouses in the local community. This should again be part of the FEED and CMPs, which are in turn enforced on sub-contractors. • Develop a code of conduct that actively discourages the external fraternization of the workforce with the local community as well as within the workforce and especially towards female employees that originate from the local community, as this group (especially cleaners and catering staff) may be vulnerable to advances from the male dominated workforce who may have disposal income. The risk for internal fraternization will increase with the closed camp status and while this cannot be prohibited, it should be discouraged. The code should be signed off as policy and be included in CMPs, including sanction at an individual and company level for serious non-compliance (scope and definitions to be determined). • Influx management plans and labour recruitment plans that limits in-migration to the study area and prevents the mushrooming of "camp followers" settlements near the accommodation or work areas of the Project (especially near the permanent operators camp and two temporary construction camps near the CPF, but also on the escarpment near the current roads camp). • Develop HIV and STI prevention programmes for long distance truck drivers and drivers of light duty vehicles (include in CMPs). Procedures must be put in place to restrict the ability for Project related vehicles (including contractors and service providers) from providing lifts to the local community. This will restrict contact with the local community but will also reduce the public liability risk in the event of an accident or accusation of sexual assault. • Consider the placement of Project specific truck stops (near the CPF) in the immediate study area as part of FEED. Ideally, these should be removed from local communities with accommodation, meals and recreation (at subsidised prices) provided in the rest area so that drivers do not need to enter the communities for these services. The local authorities will need to support the management of the truck stops where possible. • Work with the village and traditional leaders, as well as district authorities to report any increase in high-risk sexual behaviour from elements of the | | | | | | | | | | | |

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|---|-----------|---|------------|---|-------------------|---|----------|---|----|-------------------|--------|
| <p>workforce (specific contractors etc.) or the development/expansion of CSW activities in communities.</p> <ul style="list-style-type: none"> • Evaluate opportunities to collect baseline indicator data associated with HIV, STIs and related determinants/ behavioural elements. This may include household KAP questionnaires and syphilis prevalence studies. Collecting HIV data in a cross sectional survey has ethical and treatment challenges and should not be considered unless conducted by the district health authorities. These studies should be repeated every three to five years to determine the effectiveness of interventions and if these need to be adjusted. • Develop a CHIS on key HIV /STI indicators from the local health care facilities as well as qualitative data from community observations and stakeholder communications. <p>Occupational health, safety and environmental management:</p> <ul style="list-style-type: none"> • Develop a HIV and STI management programme in the workforce. This should include awareness and education as well as care and treatment services that link to the public health service. This programme can be extended into operations as part of the companies wellness programme. • Screen for STIs and hepatitis B/C virus as part of pre-employment fitness to work process. Treatable causes should be managed and chronic carriers excluded from employment until managed. Individuals who test positive for STIs should be referred for HIV counselling and testing (HCT), with an opt-out option. • Support a HBV vaccination campaign/ or antibody testing on employee who may have not been vaccinated as a child. • Support widespread availability and social marketing of condoms in the workplace • Ensure the Project medical service can effectively perform HIV counselling and testing HCT as well as referral for care and treatment of employees as defined by the company's benefits. This must extend into the closure period given the chronic nature of HIV. • Develop a blood borne pathogen control programme in the workplace, including post exposure prophylaxis for accidental exposure. • Ensure that contractors are addressed under the workplace management programmes with full access to IEC and care and treatment services. • Support adequate entertainment and recreational facilities in camps to prevent the need for the workforce to seek entertainment in the community. This should extend to contractor camps. • Support family friendly accommodation in the operations phase for the local workforce. <p>Social development mitigation and management:</p> <ul style="list-style-type: none"> • Develop specific interventions in partnership with government and other partners (there are numerous active health NGOs in Uganda) to limit the risks related to HIV/AIDS and STI with an approach to educating and empowering the communities, including: <ul style="list-style-type: none"> ○ Women and young girl support programs. The key will be to support the decision making capacity of local women so that transactional sex is limited as a means of livelihood and ability to negotiate when to have sex or safe sex. This can include interventions such as "One Man Can", Girls Leading Our World' and others that may have local relevance. ○ IEC programs on HIV transmission and high risk sex through consideration of various interventions including strengthening the VHTs programmes as they can act as community based peer health educators. The proposed 'cinemobile' or edutainment will be a good medium to deliver the IEC messaging. • If groups of CSWs are identified, then encourage and assist the formation of CSW support groups including access to reproductive health services and options for alternative livelihoods. These programs should be managed by local authorities or NGOs. • Improve antenatal care programs to promote the effective detection and treatment of STIs in pregnancy, including syphilis and HIV. Support with PMTCT programs should also be considered. • Promote condom distribution through different delivery points that target high risk groups or areas. This should include bars/taverns, guesthouses and other identified key risk areas. • Support ways to improve uptake of HIV testing services so that more people are enrolled on the national ART programme and promote HSS to increase ability to deliver STI and HIV care and treatment services in the study area. | | | | | | | | | | | |
| Impact after management | Long term | 3 | Study area | 2 | Moderate negative | 4 | Possible | 2 | 11 | Moderate negative | Medium |

Vulnerabilities and Spatial Effects of Impacts:

The impacts associated with transmission of STIs and HIV will be experienced in all PACs in some form. These will however vary with the communities in the immediate study area on Buhuka Flats (PAC 1-3) and escarpment the most likely to be affected in the short term (construction) and long term (operations). Communities along the pipeline route and transport corridors will be more impacted during construction (PAC6-8), with some residual impacts extending into operations. The communities along the transport corridor (PAC8) and those located near the proposed oil refinery will experience more cumulative impacts as a result of the broader development of the oil fields in the Lake Albert area. Other PACs may also experience a measure of cumulative impact, but this will be less than the indirect Project associated impacts described above.

Women and young girls are specific vulnerable groups.

8.5 EHA #5 – Food- and Nutrition-related Issues

Impact Definition:

Malnutrition was noted to be present in the study area but not a major concern as the study area was regarded as food secure. Migrant agricultural communities were more vulnerable to food insecurity and this group recorded the highest incidence of severe acute malnutrition. This was confirmed in KII and FGD, but the reasons cited related to poor feeding practices and poor financial management (i.e. selling off entire crops followed by indiscriminate spending by men) rather than an absolute lack of food. The refugees near Kyangwali were reported not to have much malnutrition as UNHCR supported their requirements.

Following a balanced diet was not common with communities on Buhuka flats having limited vegetables or fruit in their mainly fish diet and escarpment communities having limited access to fish and other sources of protein. Food was reported as expensive that could restrict access to certain vulnerable populations.

However, food security was highlighted as a significant social challenge in the study area and future potential impact. Lake-shore communities were dependent on fish as both a food source, but also as a source of income generation, with an estimated 75% of households on Buhuka Flats directly dependent on subsistence fishing activities [147]. There were perceptions of declining fish catches due to the Project's activities, and although unfounded, this highlights the high level of dependency on fishing.

The only HC that had an active malnutrition surveillance centre was Kyangwali, but this was focussed solely on children that attended the HC, and not on any outreach programmes. With the weak health system, no information on key nutritional indicators was available in the study area and as malnutrition is the largest contributing factor to child mortality but also undermines socio-economic growth it may be an important indicator to collect at baseline. In this setting, stunting will be a valuable indicator to consider as it looks at long term nutrition and is associated with diminished educational attainment and long term cognitive ability. Thus chronic malnutrition will have a major role to play in local development in the study area and will be an important component in any local development initiatives.

Micro-nutrient deficiencies are an important indicator of nutrition status and are also implicated in lack of a balanced diet and ill health. Anaemia was highlighted as a major issue in the study area, specifically mentioned by key informants in the escarpment communities of

Kaseeta, Kabaale and Kyangwali. No specific data was available on the prevalence of anaemia and with its multifactorial basis linked to acute disease and nutrition it can be a powerful indicator of socio-economic development and should be considered for collection at baseline.

The Project development has the potential to impact on malnutrition in the following direct and indirect ways:

Direct:

- **Loss of or altered ecosystem**

- The Project land take of natural grassland as cattle grazing areas on Buhuka flats, will increase pressure on an already overextended and over-utilized resource, resulting in a negative impact on cattle rearing. This may have a negative impact on local livelihoods as approximately 80% of households on the Buhuka Flats rear livestock. Project induced population influx will add to this impact, as discussed under indirect impacts below.
- The loss of land along the pipeline route will primarily affect subsistence croplands (estimated at 46 Ha). The impact will be larger in construction of the pipeline but will persist into operations as the pipeline servitude will remain. Some of the farmers who will be impacted form part of the vulnerable migrant population that are heavily dependent on subsistence farming, with no obvious alternate livelihoods, incomes or even food sources [147].
- It is unlikely that the Project will directly affected fishing through altered ecosystem, with the exception of pollution (discussed in section 8.9.3).

- **Improved access and economic development**

Before the development of the escarpment road most of the fish caught and processed in the lake-shore communities was transported to the DRC and to trading posts to the north. Markets and communities on the escarpment and beyond (inland) will become more accessible to fish sellers and buyers, with potential positive and negative consequences:

- Positive:
 - Increased access to markets with potential to generate more income and stimulate local economic growth from this key sector.

- Improved provision of fish to escarpment communities and vegetables/fruit to lake-shore communities promoting a more balanced diet.
- Negative:
 - Increased fishing to maximise the benefits of improved market access, depleting fishing reserves and posing a major threat to the long term viability of fishing in Lake Albert.
 - Increased generation of cash with poor financial management skills leading to a host of challenges (as discussed in section 8.3.10)
 - Attraction of more people (migrants) to participate in fishing, with overfishing.

It is anticipated that these positive and negative socio-economic impacts will be addressed in more detail by the livelihood management plan.

- **Resettlement**

Physical and economic resettlement/relocation may reduce access to land. Access to fertile land should also consider access to water for irrigation. Resettlement needs to consider the loss of both food and cash crops as this can impact on the ability for the family units to both feeds themselves and support their general livelihood.

It is anticipated that this will be adequately addressed in the RAP but consideration of access to adequate amounts of fertile land in host sites should be provided for in any compensation/restitution actions due to the dependency on agriculture to sustain livelihoods, especially in the communities along the pipeline.

Indirect:

- **Project induced in-migration**

- Supply and demand

As population numbers in the study area continue to increase, there will be an increased demand for food products. As fish is the most common and accessible source of protein, there may be an increased competition for what is a scarce and overexploited resource. This may give rise to further overfishing and an increase in the cost of fish due to supply and demand economics. The increase price of fish may be a positive (if short-lived) economic benefit for fishermen, but

communities that on fish as subsistence food may be vulnerable to negative impacts.

Supply and demand of other foodstuffs (on the escarpment and lake-shore) may increase food inflation and expose vulnerable groups to escalating food prices that were already described as expensive. There is not an advanced local currency and changing economics in the area may impact on vulnerable sectors of the population who may have less access to cash, thus limiting their ability to procure food products.

- Availability of arable land

There is a dependency on subsistence farming in the area and this is linked to access to land. Migrants settling in different areas may not have access to land that is suitable to cultivate and this may influence food security, this vulnerable group.

Unplanned and rapid development in different areas may limit the land available (both for the indigenous community and migrants) for agricultural purposes. Close spacing of houses will limit the available space to develop small home gardens and available land may not be arable to support subsistence requirements. Poor environmental controls in make-shift settlements may lead to degradation and erosion of soil, with reduced crop yields resulting from poor quality soil.

Theft of crops may become an issue in the area if there is competing interests for land and availability of food. Other than the social challenges this may lead to early harvesting of crops to avoid theft with associated impacts on food security and nutrition.

Access to, and availability of arable land is thus a significant social determinant and relates to food security, livelihoods and even a sense of place. This can be a source of conflict in the community with Project potentially considered as an indirect contributor.

- **Infectious diseases**

Infectious diseases (such as malaria, intestinal parasites and HIV) are major contributory factors towards malnutrition and sustainable improvements in nutritional

indicators will not be realized without supplementary interventions in these areas. Therefore, impacts and mitigation measures relevant to these determinants are important to consider collectively with nutrition.

- **Employment**

Both men and women have a role to play in providing for household food requirements and to support livelihoods. Direct employment of members of the household will support economic liftment as a Project benefit, but the social dynamic within the household will need to be considered so inadvertent negative health impacts are avoided, including:

- A reduced role of one of the parents (e.g. man fishing or women farming) may mean that these tasks are then performed by children, who leave school to support the family's traditional livelihood. This is likely to be the girl child who will then not benefit from an education.
- Fields are not tended properly, effectively reducing yields and the amount of food for household consumption or money as supplemental income. This is important if the wage earned working on the Project is not redirected back to serve the needs of the household, including buying food. It was reported that local financial management was poor, and especially men may waste disposable income to the detriment of the family.

- **Change of livelihoods and practices**

- Employment on the Project or in some secondary activity related to the Project may result in sections of the community abandoning farming/fishing as a source of livelihood. When employment opportunities (especially lower skilled roles) decline after the initial construction phase is completed it may be challenging for portions of the community to return to a subsistence form of lifestyle after having experienced formal employment and receiving a formal wage. This may affect food security in this cohort.
- Changes in practices from growing food to procuring food products may alter dietary preferences to a more western diet of refined food with an increased risk of NCDs as discussed in 8.1.6.

Impact Evaluation and management measures:

| EHA #5 | Food and nutrition related issues | | | | | | | | | | |
|---|-----------------------------------|---|---------------|---|--------------------|---|------------------------|---|-------------|----------------------|------------|
| Early works, construction and operations with impacts into closure | | | | | | | | | | | |
| | Consequence/Effect | | | | | | Probability/Likelihood | | Total Score | Overall Significance | Confidence |
| | Temporal Scale | | Spatial Scale | | Severity of Impact | | | | | | |
| Impact before management | Medium term | 2 | Study area | 2 | Major negative | 8 | Possible | 2 | 14 | Major negative | High |
| Management Measures | | | | | | | | | | | |
| Project impact mitigation: | | | | | | | | | | | |
| <ul style="list-style-type: none"> Influx management, including: <ul style="list-style-type: none"> If not done for the influx management plan, conduct a market survey on costs of essential foodstuffs (similar to Appendix D) and plan serial food inflation surveys to monitor change. Support sustainable fishing practices through education, assisting with enforcement of fishing laws and economic interventions to manage demand so that significant inflation and overfishing is managed. Pisciculture initiatives may also be considered. Support conservation agricultural techniques following the Food and Agriculture Organisation of the United Nations principles [149]. Promotion and implementation of alternative livelihoods and stimulation of economic opportunities. This is especially important for migrants, women and vulnerable groups in the area so equitable benefits are realised. These should be developed in alignment with a broader economic development plan for the district (developed by Government and partners) to address development related to Oil exploration and production. Integrating efforts across the district will be more powerful than isolated once off interventions. This is discussed in more detail in 8.3.10 Perform a baseline nutritional and micronutrient deficiency (anaemia) survey in the study area to effectively monitor changes in nutritional status. Stunting will be a key indicator to evaluate together with anaemia in children under 5 years. Body mass index should be measured in adults. Support the development of a CHIS to monitor the nutritional status in the PACs and broader study area. Ideally a longitudinal system should be followed, which will require specific HSS and development of systems. A variety of modalities can be used including surveillance from HCs or the use of trained VHTs. These will generally focus on acute malnutrition as an early warning for food insecurity in the area. In addition to the longitudinal nutritional surveillance repeat surveys based in the same methodology used in the baseline survey as a means to evaluate nutritional status in the community in the medium term. This should include surveillance of anaemia either with malaria indicator surveys or part of the nutritional assessments. This will require collaboration with the district health management team and include VHTs as a means to collect valuable data on both wasting (as an early warning system for acute malnutrition) and stunting (as surveillance means for chronic malnutrition). Consider the impacts on nutrition and food security as part of the RAP, final resettlement process and social management plan, including: <ul style="list-style-type: none"> Minimize economic resettlement though limiting agricultural land loss where this is possible. Support with transitional food packages in those communities whose livelihoods will be influenced physical/ economic resettlement with support from the local authorities to ensure equitable distribution and prevention of corruption. Effective compensation processes. Support farmers in re-developing their lands after the pipeline has been developed and improve local yields. Monitor vulnerable groups closely to ensure that food insecurity does not occur as part of direct or indirect Project activities and support as required, in partnership with local authorities and NGOs. | | | | | | | | | | | |
| Occupational health, safety and environmental management: | | | | | | | | | | | |
| <ul style="list-style-type: none"> IEC and nutritional programmes that promote proper feeding practices at workplace to prevent obesity and related NCDs. Education programmes in the workforce on financial management and support of the household units in employees that have traditionally followed a subsistence lifestyle. This may require specific education of men/women who may earn a wage from the Project and the need to support the family unit. This will need to be part of contractor management as workers employed by contractors are likely to only have short term work. | | | | | | | | | | | |
| Social development mitigation and management: | | | | | | | | | | | |
| <ul style="list-style-type: none"> With the local authorities support the development of local co-operations so that agricultural supplies can get to market and be cheaper than supplies that are imported from outside the area. This is will reduce food inflation and support economic development, as long as tangible benefits are passed onto the farmer or fisherman. Consider supporting IEC programs in the local communities as part of an agreement with the district health authorities and VHTs, including: <ul style="list-style-type: none"> Water, sanitation and malaria programmes as well as pre-school/school deworming programmes to support nutritional interventions. Promotion of proper feeding practices at relevant age groups including improved complementary feeding. This can include maternal and child health programs with the promotion of antenatal care, breastfeeding practices, food preparation/hygiene, and family planning. Support educational attainment in women as this will promote better child care and nutrition. Support livelihood practices and economic development in women, and especially in young girls to prevent them dropping out of school. Support nutritional programs in pre-school and school aged children to promote better educational attainment. HSS for recognition and management of nutritional disorders in HC and with VHTs. This should include training on This can include training of CHA on IMCI. | | | | | | | | | | | |
| Impact after management | Medium term | 2 | Study area | 2 | Moderate benefit | 4 | Possible | 2 | 10 | Moderate benefit | Medium |

Vulnerabilities and Spatial Effects of Impacts:

The indirect impacts associated with food and nutrition in the will be experienced in all communities, with the exception of those along the transport corridor (PAC8). However,

direct impacts will be experienced in those who will be physically resettled and economically displaced (PAC1 and PAC6). There are no specific gender risks are anticipated. Vulnerable groups will include those who are exposed to food inflation (poor, elderly, women and child headed households) and those without access to land or an alternative livelihood.

8.6 EHA #6 – Non-communicable Diseases

Impact Definition:

Despite evidence that the incidence of NCDs are on the increase in Uganda, these conditions are poorly described in the study area and as such, remains largely unrecognized. This is most likely due to poor awareness of the conditions and the prioritization of resources to maternal and child health as well as the high BOD from communicable diseases such as malaria, ARIs and infectious gastro-intestinal disorders.

According to key informants, the current lifestyle of community members was not conducive to the development of NCDs. A major concern, however, was the relative scarcity of basic medical equipment in HCs to reliably diagnose NCD and the low index of suspicion by HCWs in actively looking for and diagnosing these conditions. It was further reported that it was challenging to manage these conditions as the community struggle to adhere to the follow up requirements, and thus treatment was poorly managed with patients often presenting with advanced or complicated disease. Cancers were extremely rare and usually detected at a late stage with appropriate treatment dependent on the means of the individual to travel to Hoima for further care.

While the NCDs are certainly less of a priority at present, their chronic and complicated nature means that they will in all likelihood play a significant public health role in the future. Models developed by the WHO predict that the incidence of NCD will increase significantly in Africa over the next 2-3 decades, with these chronic conditions placing a significant burden on the health systems. NCD may play a major role in the economics of the country as it is well recognised that poor adult health negatively effects economic well-being at an individual and household level, but also at a macro level. Labour productivity will fall, and the social and medical costs of managing chronic diseases, but also an ageing population, will escalate.

The Project may impact NCDs in the following ways:

- **Workforce health risks**

Diet and lifestyle will need to be monitored in the workforce as they will have access to increased incomes and meals on the Project site, with the following potential outcomes:

- High costs associated with absenteeism due to ill health.
- Loss of trained or skilled people from the workforce, with higher cost due to the need to retrain or recruit replacement staff.

- Impact on the family unit with potential social and behavioural impacts.

- **Increased disposable income with altered lifestyle practices**

The Project will in all likelihood enhance the socio-economic conditions in the area (in both Buhuka Flats and escarpment communities), which may lead to an increase in life expectancy and a transition to an “urbanized” setting and an adoption of a more sedentary western lifestyle and diet. A change in values and behaviour may also occur, which may pre-dispose the community to an increase in lifestyle related diseases such as obesity, hypertension, diabetes, dental caries and some forms of cancer. This will be particularly evident in the operational workforce in the short term, but applies equally to the community.

As noted in the SIA, approximately 97% of all households on the Buhuka flats purchased their main foodstuffs (other than fish) from markets and shops on the escarpment [2]. The closest markets and shops were located in Ngoma, but improved access provided by the construction of the escarpment road is likely to stimulate trade and increase socio-economic opportunity in the broader area but specifically to the lake-shore communities. This will enable easier transport of various products from (fish), and to (fruit, vegetables and others (salt, sugar, alcohol etc.) the lake-shore communities. This may improve access to a balanced diet, which is positive, but may also have a negative impact, as access to refined foodstuffs high in carbohydrates and/or fat and other food products often associated with a westernized diet (processed foods) may increase. There may also be a transition from current dietary behaviours to buying food produced from outside of the area.

These dietary factors may be compounded by other modifiable lifestyle factors including smoking and alcohol use, which may become more common with improved socio-economic conditions. Social and environmental factors may increase stress and support unhealthy behaviours.

- **Increased burden on local health care services**

- Increased pressure on the overburdened and under-capacitated HC facilities.
- Increased potential for mental illness due to altered lifestyle and as well as general perceptions of well-being.

Impact Evaluation and management measures:

| EHA #6 | Non-communicable diseases | | | | | | | | | | |
|---|---------------------------|---|---------------|---|--------------------|---|------------------------|---|-------------|----------------------|------------|
| Construction, operations with impacts into closure | | | | | | | | | | | |
| | Consequence/Effect | | | | | | Probability/Likelihood | | Total Score | Overall Significance | Confidence |
| | Temporal Scale | | Spatial Scale | | Severity of Impact | | | | | | |
| Impact before management | Long term | 3 | Study area | 2 | Major negative | 8 | Possible | 2 | 15 | Major negative | Medium |
| Management Measures | | | | | | | | | | | |
| <p>Project impact mitigation:</p> <ul style="list-style-type: none"> Support IEC programmes as part of community based outreach programmes in partnership with the district health authorities. These should focus on lifestyle risk factors such as diet, exercise, smoking, oral health and alcohol consumption, with the VHTs the ideal delivery mechanisms for these preventative programmes. Schools should be a focus of IEC programmes as they are the generation who are most likely to be affected by these diseases in the medium to long term. Work with the local educational authorities to incorporate IEC programmes into the local curriculum and support sporting and other interventions that encourages exercise and a healthy lifestyle. These sporting activities are ideal opportunities to support IEC activities, but should equitably focus on activities for boys and girls and focus on an extension into adult life. Support the surveillance of key NCDs in the proposed CHIS in collaboration with the district health authorities. These should include hypertension, diabetes, non-infectious chronic lung disease and cancers. These interventions may require specific HSS. | | | | | | | | | | | |
| <p>Occupational health, safety and environmental management:</p> <ul style="list-style-type: none"> The following management measures can be considered with a focus on operational staff: <ul style="list-style-type: none"> IEC programmes and nutritional programmes in the workplace that promote proper feeding practices to prevent obesity and NCD. Manage the onsite catering facilities in the type of food and the size of portions that are provided. Seek guidance from dieticians to support the design of menus in the canteens. If the catering of camp facilities management is outsourced, make the type of menus a provision of the on-going service level agreement. Healthier eating options (range and quantity), restricted access to soft drinks, availability of desserts and healthier lunch packs etc. As part of the medical surveillance activities in the workforce screen for NCDs (including oral health). This is an important fitness for work requirement and should be incorporated into the OHSMP as an essential health promotion intervention. Surveillance of weight or BMI as a predictor for NCDs can be used and supported by aggressive routine screening for hypertension, cholesterol and diabetes in higher risk groups. Ensure the workplace medical service is able to recognize, manage and effectively follow up chronic diseases. This will require specialized diagnostics including the use of Hb1Ac surveillance in diabetics and screening for early kidney, eye and heart disease. Initiate wellness programmes in the workplace for the prevention of chronic diseases through management of modifiable risk factors. These should include behaviour change strategies aimed at diet, exercise, smoking and alcohol consumption strategies. These programmes are well known to be very cost effective and can reduce absenteeism, promote increased work effectiveness and increase staff retention. | | | | | | | | | | | |
| <p>Social development mitigation and management:</p> <ul style="list-style-type: none"> Promote well-being and healthy lifestyle programmes in the communities through different planned interventions. These can include programmes (mainly IEC related) designed to support the prevention of and cessation of smoking, balanced diet, reduced use of alcohol etc. Support the local health authorities to implement an integrated NCD intervention programmes based on national or WHO programmes with the intent to reduce risk factors in the community. This may need to be a strategy that develops over time or in phases due to local policy priorities focused on communicable diseases. Prevention aspects would be a good initial strategy. If supported this should occur in a staged approach and will require specific HSS. Ideally, this should be developed as a district wide strategy to consider the broader impacts of the Oil development. | | | | | | | | | | | |
| Impact after management | Long term | 3 | Study area | 2 | Moderate negative | 4 | Possible | 2 | 12 | Moderate negative | Low |

Vulnerabilities and Spatial Effects of Impacts:

The impacts associated with NCDs will be experienced in the broader district with the exception of the communities along the transport corridor (PAC8). People who benefit directly and indirectly from the Project may in theory be more vulnerable to develop NCDs. There are not likely to be specific gender impacts.

8.7 EHA #7 – Accidents, Injuries and Violence

8.7.1 Accidental and Non-Accidental Injuries

Road traffic accidents (RTAs) remain a significant cause of injuries and deaths nationally. The road sector is the most important mode of transportation in the country as it carries 97% of freight cargo and 99% of the passenger traffic.

With the exception of communities located on the Buhuka Flats, RTAs, both motor vehicle accidents and pedestrian vehicle accidents, were identified as the most common form of injury in the study area. Alcohol misuse, poor driving skills, and poor adherence to driving regulations were noted as some of the major contributors to this high prevalence. The incidence of RTA was reported to have dramatically increased as a result of improved roads and the resultant increase in vehicles, specifically motorcycles. There was generally poor awareness of road safety as historically, vehicle traffic was limited, especially in the communities away from the main roads and on Buhuka Flats.

Gender-based violence (GBV) is reported to be common in the study area, and based on information from the FGD and KII, especially common in the Buhuka Flats where it was closely linked to alcohol abuse. An increase in alcohol abuse has been reported as a concern in the study area and, in conjunction with influx, is likely to worsen the incidence of GBV [2]. The health services reported that not all cases of domestic violence were reported to the HCs, either highlighting the stigma of GBV, or that incidents do not routinely result in serious injuries.

In addition to GBV, fights and assault was noted to be the most common criminal activity in the area, resulting in 55% of all arrests [2]. Where incidents did occur, they were often (50% of the cases) associated with alcohol abuse. Policing and related law enforcement is weak in the district through lack of capacity, equipment and proactive policing and as a result, most of the disputes are resolved through the local council system.

There is minimal capacity in the local HCs to manage the current, let alone an increased, trauma caseload effectively. The referral system is hampered by distance, poor referral networks, lack of skilled staff, diagnostic equipment and surgical capacity. There is no ambulance that serves this area of the district and no pre-hospital or emergency (fire and rescue service).

The Project has the potential to influence accidents and injuries in the following direct and indirect manners:

Direct:

- **RTAs from Project related vehicles**

The early works and construction phase will involve the use of mobile machinery and an increased movement of vehicles in and around the study area. This will include newly developed roads around the lake-shore communities, up the escarpment road, development along the pipeline and general access roads along the bigger routes to Hoima, Kampala and even port import sites.

It is likely that the development of the Project and other oil developments will improve access and bypass roads into the broader area. The improved transportation network will offer numerous benefits and support economic development but the improved network and surface will allow for poor driving practices such as over-speeding with the risk for increased RTAs.

The Project specific risks will be from heavy vehicles, mobile earth moving equipment and light duty vehicles. There will be an increased risk for motor vehicle accidents but children are an especially vulnerable group for pedestrian vehicle accidents, as they are likely to be relatively naïve to the risks of road and pedestrian safety.

- **Security and community safety**

The Project's security force need to be considered in this section due to the link to potential injury associated with their actions. The Voluntary Principles of Security and Human Rights (VPSHR) will be important to consider and these are addressed in separate studies and management plans.

Indirect:

These can relate to RTAs as well as non-accidental injuries due to social pathologies and include:

- **Increased ownership of motorized transport**

Improved socio-economic conditions in the area may increase ownership of motorized transport, especially motorcycles as they are relatively cheaper. This will result in an increased numbers of cars and motorcycles on the roads in both lake-shore, pipeline and broad study area, and with the poor adherence to common road

rules and lack of proper enforcement increases the potential for increased accidents and injuries. Use of safety devices such as seatbelts was reported as poor so accidents often result in severe injuries and death, and as overloading is common, this can lead to multiple causalities.

Increased road use on unsealed roads will decrease visibility through dust generated by vehicles, which can in-turn increase the risk of injuries.

- **Non-accidental injuries due to social pathologies**

- Crime and domestic violence

A number of factors may impact on the traditional values and social harmony in the study area. These include:

- Project induced in-migration;
- Stress on already limited resources, including healthcare, food, water, housing and schools;
- Erosion of traditional authority and cultural practices;
- Altered economy with potential inequalities between those who benefit from the Project and those who do not; and
- Altered lifestyle practices and possible development of increased levels of social ills such as alcoholism and substance abuse.

All these and other factors have the potential to increase levels of criminality and crime, which may be associated with violence and injuries

- Substance abuse

Increased levels of alcohol and substance abuse may occur in the area which is likely to increase the risk of general and domestic violence and RTAs.

- **Risk of fire in unplanned settlements**

As mentioned, with Project induced in-migration, there is the potential for unplanned settlements to mushroom. These settlements are generally unplanned, and due to limited land availability structures are often developed close to one another, limiting access especially to vehicles. These structures are generally seen as temporary and as result constructed from make-shift materials, with roofing generally from traditional sources such as grass. These factors pose a significant risk for the development of

uncontrolled fires that can easily spread to large sections of the settlement. There is no formal fire brigade in the area, and reduced access in these settlements will make any fire management activities challenging. This was noted as a significant challenge in the communities who developed make-shift settlements in the Chad-Cameroon pipeline project.

- **Cumulative impacts**

This assessment has not considered potential impacts that may occur if other operators start working in the district, but the added pressure on roads and altered social dynamic is likely to increase both RTA and incidents of non-accidental injury.

Impact Evaluation and management measures:

| EHA #7 | Accidents, Injuries and Violence | | | | | | | | | | |
|---|----------------------------------|---|---------------|---|--------------------|---|------------------------|-------------|----------------------|-------------------|------|
| Early works through to Construction and Operations | | | | | | | | | | | |
| | Consequence/Effect | | | | | | Probability/Likelihood | Total Score | Overall Significance | Confidence | |
| | Temporal Scale | | Spatial Scale | | Severity of Impact | | | | | | |
| Impact before management | Long term | 3 | Regional | 3 | Major negative | 8 | Probable | 3 | 17 | Critical negative | High |
| Management Measures | | | | | | | | | | | |
| Project impact mitigation: | | | | | | | | | | | |
| <ul style="list-style-type: none"> • Mitigation measures as described in the relevant traffic/ transport section in the ESIA. • Develop community security and safety management plan for the Project related to the different activities. This should include emergency response plans for both community related accidents, and also for the workplace. This must include a fire, rescue and chemical spill response capability, as well as medical emergency response strategies. This will need to include primary response as well as carriage to health facilities and policies on on-going management of cases. • Develop a clear policy for the management of emergencies or accidents in the community unrelated to the Project's activities as part of the community security and safety management plans. This will need to include primary response as well as carriage to health facilities and policies on on-going management of cases. • Develop specific traffic calming measures on the escarpment road, pipeline roads and Project related roads on Buhuka Flats. These should focus on avoiding and reducing the risk of motor and pedestrian vehicle accidents including speed bumps, use of circles to slow traffic, pedestrian walkways, overpass bridges for pedestrians to use in busy areas and improved lighting along roads (solar powered) in key communities. • Plan the alignment of roads on Buhuka Flats (where possible) and along the pipeline development in the FEED, so that these bypass communities where possible • Ensure dust suppression generated by vehicles in key areas including communities so that risk of accidents is reduced through poor visibility. This can also be achieved by speed controls. • Support road safety campaigns in the study area, targeting both roads users and pedestrians. Support the extension of road safety education into the local school curriculum, but extend IEC messaging to the broader study area so that current users are educated. • Develop relationships with and support law enforcement authorities and traditional authorities in the area to support road safety and crime prevention activities in accordance with the VPSHR. This should be proactive to reduce the potential for crime related to the influx into the area as well as enforcement of road traffic laws and to inform public road users of legal speed limits. • Labour Recruitment and Influx Management Plans and protection of social structures, traditional authorities and social cohesion where possible. • Support the surveillance of RTA and non-accidental injuries (assault) in the proposed CHIS using data from police records as well as records from HCs and VHTs. The use of the VHTs as a source of information will be useful in tracking the incidence of criminality and domestic violence in their communities and comparing to what was actually reported to authorities. This surveillance will need to support further interventions based on trends. | | | | | | | | | | | |
| Occupational health, safety and environmental management: | | | | | | | | | | | |
| <ul style="list-style-type: none"> • Management of mobile equipment and machinery within the framework of the Project's OHSMP. This must include fitness to work of drivers, supported by specific medical surveillance programmes. These programmes must include contractor personnel and be part of CMPs. • Maintain appropriate emergency preparedness and response capabilities at the Project. • Develop and strictly enforce a drug and alcohol policy for all work related vehicles- including contractor transport vehicles. • Employee and contractor management for Project transport vehicles. These need to include specific requirements for driver training, fatigue management, vehicle roadworthiness, over-speeding (electronic speed governors) etc. This includes driving around the study area but also related to the transport of goods and products from other areas. These should be part of CMPs. • Implement a social code of conduct policy for all employees to ensure that violence and other threatening behaviour is not tolerated on the site or within the broader community. • Training of the security department on the VPSHR. | | | | | | | | | | | |

| | | | | | | | | | | | |
|--|-----------|---|------------|---|-------------------|---|----------|---|----|-------------------|--------|
| Social development mitigation and management: | | | | | | | | | | | |
| <ul style="list-style-type: none"> Support the local authorities with the planning of new settlements and existing settlements so that unplanned development does not increase the risk of fire that will be challenging to control. As required create capacity to support future town planning. In partnership with the local authorities and police, coordinate IEC campaigns about responsible driving including speed management, vehicle safety and pedestrian safety. Educational efforts on road safety should also be supported through the school system. Support HSS in the district to support a pre-hospital emergency service as well as increase capacity in HC to manage injuries and trauma. | | | | | | | | | | | |
| Impact after management | Long term | 3 | Study area | 2 | Moderate negative | 4 | Unlikely | 1 | 10 | Moderate negative | Medium |

Spatial Effects of Impacts:

The impacts associated with accidents and injuries will be experienced in all the listed PACs, including those in the broader transport corridor, with the exception of PAC4 who currently have vehicle access. Children are a specific vulnerable group.

8.7.2 Work related Illness and Injury

Impact Definition:

The occupational health and safety (OHS) requirements of the employed and contracted workforce will be addressed in a separate OHSMP and the ESMP (as part of IFC PS 2).

While workplace OHS is out of scope for the HIA, the fact that a significant component of the workforce will be sourced from the local communities is important as activities in the workplace at the individual level can impact on community health, with the following important to consider:

- The Project will employ a significant proportion of the workforce from a relatively low skill labour pool. This labour force will not be aware of modern health and safety requirements and will thus be more prone to high risk behaviour and accidents. This will be most evident during the construction phase and as this is inherently the most dangerous aspect of the Project appropriate health and safety standards will need to be introduced to reduce incidents and accidents to a minimum.
- Labour Laws in Uganda and specifically the enforcement of health and safety regulations are not advanced compared to international best practice standards. This includes occupational health and safety legislation/standards and practices as well as compensation for occupational injuries and disease. Disability management and appropriate compensation standards and regulations are limited.
- There is a limited emergency response system in the broader study area and indeed district.
- The Project will have a range of OHS risks which will include physical (injuries, UV radiation, heat, noise and vibration), chemical, biological and psychosocial risk factors. These may lead to occupationally acquired illness/disease which may be

chronic in nature and may render the individual unable to continue with normal activities. The capacity of the individual to be supported by the family unit will be reduced.

Impact Evaluation and management measures:

| EHA #7 | Work related illness and injuries | | | | | | | | | | |
|--|-----------------------------------|---|---------------|---|--------------------|---|------------------------|---|-------------|----------------------|------------|
| Early works through to Construction and Operations | | | | | | | | | | | |
| | Consequence/Effect | | | | | | Probability/Likelihood | | Total Score | Overall Significance | Confidence |
| | Temporal Scale | | Spatial Scale | | Severity of Impact | | | | | | |
| Impact before management | Long term | 3 | Study area | 2 | Major negative | 8 | Possible | 3 | 16 | Critical negative | High |
| Management Measures | | | | | | | | | | | |
| Project impact mitigation: <ul style="list-style-type: none"> Develop appropriate OHS plans that are integrated into the Project ESIA and Project ESMP. Ensure that OHS plans consider the community exposure from different exposure groups. For example ensuring employees do not return home with soiled work clothes, that workers (e.g. handling chemicals) adhere to appropriate hygiene principles etc. | | | | | | | | | | | |
| Occupational health and safety: <ul style="list-style-type: none"> Follow the OHSMP as defined in the ESIA. Develop an OHSMP based on risk. This should include workplace and geographical location, and thus have a broad occupational health and travel medicine focus. Develop an adequate workplace illness/injuries compensation fund in accordance to the national laws and GIIP. Develop an effective emergency response disaster management plan and system that caters for workplace health. | | | | | | | | | | | |
| Impact after management | Long term | 3 | Localized | 1 | Minor negative | 1 | Unlikely | 1 | 6 | Minor negative | Medium |

Spatial Effects of Impacts:

The impacts associated with workplace accidents and injuries will be limited to the workforce.

8.8 EHA #8– Veterinary Medicine and Zoonotic Diseases

Impact Definition:

Zoonotic diseases are poorly recognized and described in the study area as there are limited local veterinary public health services available. The local health services also have limited capacity to recognize or manage zoonotic diseases.

Uganda has been subject to a number of outbreaks of VHFs, but none have been reported in the study area. At a national level they have good vigilance and effective outbreak response teams to deal with these potentially severe diseases. Brucellosis is likely to occur in the study area given the common practice of animal husbandry. There is the potential that leptospirosis occurs, but this is not confirmed.

While zoonotic conditions have a significant outbreak potential as they can be unpredictable, the development and operation of the Project is unlikely to influence or create health impacts related to these conditions. A recent publication, titled 'Emerging Infectious Diseases and HIAs' was commissioned by USAID in 2012, address the potential threats from wildlife and the fact that nearly 75% of emerging infectious disease have an animal origin. The report summarizes that industrial activity can contribute to disease emergence and activities that are congruent with the Project include:

- Altered environment that may increase human: animal contact.
- Road and corridor development
- Temporary work camps
- Expansion of local communities
- Project induced influx.

Some relevant potential impacts that may be associated with Project include:

Direct:

- **Garbage and camp facilities management from the Project site**
Poor hygienic conditions and ineffective management of especially food waste from construction camps, temporary work camps and along transport corridors may attract rodents and other wild animals to the camp or to the waste management facility/landfill. This attraction may increase the number of rodents in the study area with the potential to transmit disease associated with poor sanitation. The increased number of rodents may also attract snakes into the area with the increased potential for snake bite in both the workforce and community.

- **Disturbed habit or environment**

Clearing of bush and movement of earth in early works may increase contact with different species of snakes and other wild animals in both the workforce and to the community in proximity to these activities. This may increase the risk for bites or injury. However, other than the protected forest (along the transport corridor) the study area is relatively disturbed with subsistence agricultural activities common along the bulk of the pipeline route. The only relatively undisturbed area would be the development of the escarpment road, but given its topography will only support small wildlife.

Other than a few hippopotamus in Lake Albert, there are very few large mammals in the study area. Crocodiles do occur but are reported to avoid populated areas, but remain a threat. Snake bites (a recognised NTD) probably pose the biggest threat to morbidity and mortality.

Indirect:

- **Animal husbandry**

This may increase with improved socio-economic circumstances in the study area. Due to limited public veterinary health programs, there is the potential for diseases such as brucellosis to increase. This is at best an indirect impact from the Project but does not require any specific management measures.

- **Dogs**

There are currently not a lot of dogs in the area, but with improved socio-economic circumstances the ownership of pets may increase, especially in areas of unplanned development. There is no effective local veterinary public health service and therefore the number of dogs is likely to increase dramatically as no reproductive management measures are available (such as sterilizing female dogs), and vaccines to prevent diseases in dogs will similarly not be available. This may pose a risk for the transmission of rabies in the study area.

- **Project-induced influx and unplanned settlements**

In-migration and movement of animals with incoming migrants may pose a risk for the introduction of zoonotic diseases locally (that can affect other animals and potentially humans). Unplanned developments with poor sanitation and domestic waste

management may be associated with a consequential deterioration in health and sanitary conditions, with an increase in the numbers of the rodents and pests and therefore increase the risk of disease.

Impact Evaluation and management measures:

| EHA #8 | Zoonotic diseases | | | | | | | | | | |
|--|-----------------------------|---------------|------------|--------------------|-------------------|---|------------------------|-------------|----------------------|-------------------|--------|
| | Construction and Operations | | | | | | | | | | |
| | Consequence/Effect | | | | | | Probability/Likelihood | Total Score | Overall Significance | Confidence | |
| | Temporal Scale | Spatial Scale | | Severity of Impact | | | | | | | |
| Impact before management | Medium term | 2 | Study area | 2 | Moderate negative | 4 | Possible | 2 | 10 | Moderate negative | Medium |
| Management Measures | | | | | | | | | | | |
| Project impact mitigation: | | | | | | | | | | | |
| <ul style="list-style-type: none"> Influx management including effective waste management in communities Ensure that the workforce and community are cognizant of snakes and other animals with the clearing of bush in early works and construction. Management measures need to be developed in this period to reduce risks of animal/snake bite. Develop IEC interventions on snakes and wild animals in the community to avoid incidents. Develop the capacity from the workforce where skilled (trained) personnel from the Project can respond to and remove a snake or wild animal from a community and safely relocate it. This will require interaction with local authorities if a larger wild animal. | | | | | | | | | | | |
| Occupational health, safety and environmental management: | | | | | | | | | | | |
| <ul style="list-style-type: none"> Develop effective waste management practices in all accommodation and work areas to reduce the risk for pests being attracted or proliferating in these areas. This will require effective camp facilities management with controls on general camp cleanliness and hygiene. Consideration should be given to incineration of all foodstuffs and items that may attract rodents. Rodent control (biologically friendly) should occur in landfill sites. Design, build and manage accommodation and camp facilities to prevent rodents from gaining access to accommodation, kitchens and food/water storage areas. Prohibit employees from keeping pets on the Project site. Develop effective protocols and procedures for managing wild animal and snake bites from the Project's workplace medical service. IEC programs in the workforce on preventing snake bites and immediate first aid care in the field. Develop specific epidemic disease preparedness and response plans that include business resilience and recovery plans | | | | | | | | | | | |
| Social development mitigation and management: | | | | | | | | | | | |
| <ul style="list-style-type: none"> Work with the local wildlife authorities as required to manage movement of wild animals into the study area. Work with local authorities to prevent the development of a bush-meat trade in the study area. Support the improvement of veterinary public health services in study area. This can include IEC program in the community on animal husbandry and support to the local authorities in providing animal health services, especially preventive programs such as vaccinating and sterilizing dogs and vaccination/managing cattle disease such as brucellosis. Support with the local markets for animals where animals are sold or slaughtered, to prevent transmission of disease. This is especially important for poultry and domestic cattle (cows and goats), and even avian influenza. | | | | | | | | | | | |
| Impact after management | Medium term | 2 | Localized | 1 | Minor negative | 2 | Unlikely | 1 | 6 | Minor negative | Medium |

Vulnerabilities and Spatial Effects of Impacts:

The communities in the immediate study area (PAC1-3) as well as the immediate study area on the escarpment and pipeline route have the potential to be impacted by zoonotic diseases. No specific vulnerable groups or gender sensitivities are anticipated.

8.9 EHA #9 – Environmental Health Determinants

The potential environment health determinants and exposure to hazardous chemical substances have been addressed as part of specific sections in the biophysical specialist studies as part of the environmental section of the ESIA. These include noise and vibration, water and air quality, visual intrusion and waste management. The HIA will not attempt to repeat these findings and thus the following sections will just highlight some key findings and suggest additional mitigation measures as applicable to ensure health determinants are addressed.

8.9.1 Noise

Impact Definition:

A specialist noise impact assessment report was completed as part of the EIA with impacts evaluated for different operating circumstances, as follows [142]:

- Construction of Project infrastructure

The impact significance of construction activities with no mitigation measures was regarded as major due to a medium to high magnitude of change with high receptor sensitivity. Sensitive receptors include those communities near the wellpads and the road construction camp near Ikamiro. The construction of the CPF is predicted to have less of an impact due to the 200m exclusion zone around it. The pipeline development will have transient impacts, depending on the location of worksites in relation to sensitive receptors.

A range of mitigation measures have been proposed including:

- Minimum separation distances (at 130m) with some options requiring the physical relocation of people or proposed positions of well-pads.
- Limit working time to day-light only for noisy construction activities.
- Install silencing equipment on mobile machinery.

- Drilling wells

Depending on the location of communities in relation to the well-pads the impact significance ranges from major to minor. Predicted noise intensity increases (to high) at night in most of the sites (exception Ikamiro). Noise from drilling activities is enhanced due to the lack of any natural or man-made barriers. The drilling activities will occur 24 hours a day. A range of mitigation measures have been proposed including minimum separation distances (at 380m), erection of noise barriers and physical relocation of communities or a change in the position of the well-pads.

- Production
Noise from production activities range in significance from minor to major. Mitigation measures include acoustic enclosures to attenuate noise.

The HIA will not rank impacts or propose specific mitigation measures over and above those proposed by the specialist noise study. However, due to the potential concerns of health impacts of noise (physical and especially psychosocial) it will be important to develop effective communication procedures to proactively and transparently communicate results on noise and vibration to the community. A grievance mechanism supported by a register and a process to follow up and close out complaints should be established.

It will also be important to develop occupational hygiene (environment) programmes to reduce noise and vibration exposures to the workforce. A hearing conservation programme based on reducing noise exposures through engineering and administrative controls should be developed as a proactive priority intervention. If these engineering controls are effective, it will also reduce general noise exposure in the community. Vibration should also be included in the occupational environment surveillance programmes to monitor exposures to the workforce and by proxy the community. These considerations should be part of the FEED.

Impact Evaluation and management measures:

| EHA #9 | Noise and Vibration | | | | | | |
|---|---------------------|---------------|--------------------|-------------|-------------|----------------------|------------|
| Construction and Operations | | | | | | | |
| | Consequence/Effect | | | Probability | Total Score | Overall Significance | Confidence |
| | Temporal Scale | Spatial Scale | Severity of Impact | | | | |
| Impact before management | Not ranked for HIA. | | | | | | |
| Management Measures | | | | | | | |
| Project impact mitigation: | | | | | | | |
| <ul style="list-style-type: none"> • Recommendations as per the noise specialist study from the EIA. • Engineering designs that consider noise and vibration and model potential exposures to communities. This can include potential physical relocation of sensitive receptors or Project activities away from receptors. • Develop effective communication procedures to proactively and transparently communicate results on noise and vibration in the community. • Establish a grievance mechanism supported by a register and a process to follow up and close out complaints. | | | | | | | |
| Occupational health, safety and environmental management: | | | | | | | |
| <ul style="list-style-type: none"> • Ensure effective occupational hygiene programs to reduce noise and vibration exposures to the workforce. • Develop a hearing conservation program based on reducing noise exposures through engineering and administrative controls as priority interventions. | | | | | | | |
| Impact after management | Not ranked for HIA. | | | | | | |

Spatial Effects of Impacts:

Impacts associated with noise are discussed in the specialist study depending on each community's proximity to Project activity.

8.9.2 Air Quality and Mal-odours

Impact Definition:

Air quality and associated impacts have been addressed in a separate specialist study that describes the baseline air quality, potential current and future sources of air pollution and potential impacts associated with the Project [150]. The HIA will not rank impacts or propose specific mitigation measures over and above those proposed by the air quality specialist study, other than mentioning the importance of supporting influx management and ecosystems services plans. However, for reference some important findings are discussed below.

While there is no current oil production in the district or study area a number of potential air pollutants that may occur as a result of the oil extraction and refining include:

- Criteria air pollutants including; sulphur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO) and particulate matter (PM₁₀, PM_{2.5} and TSP).
- Hydrogen sulphide (H₂S) and aromatic hydrocarbons such as benzene, toluene, ethyl benzene and xylene (BTEX group).
- Greenhouse gasses including methane and carbon dioxide.

Significant impacts at baseline include domestic fuel burning (charcoal and wood) and biomass burning associated with clearing for farming. Vehicle emissions and dust generated from unpaved roads are also risks, but the low current volume of traffic limits significant exposures.

Impacts on air quality were divided into Project activities as follows:

- Construction activity impacts were mainly associated with the short and long term impacts from particulate matter (PM₁₀, PM_{2.5} and dust fall out).
- Construction activity impacts were mainly associated with the short term impacts associated with SO₂ and NO_x. Impacts from H₂S and volatile organic compounds

The most sensitive receptors were on Buhuka Flats and included the villages of Kyakapere, Kyabasambu, Nsonga and Nsunzu. The proposed mitigation measures will be completed based on the FEED.

In addition to the air quality impacts that are directly associated with the Project, the following are also important to consider:

- The development of the escarpment road and service road along the pipeline route will improve access to communities. Influx into the study area and a locally improved economy is likely to increase motorized forms of transport. It is likely that the local authorities will not seal roads in the short term and thus dust will be generated from existing road surfaces. It is also likely that community vehicles will not be adequately maintained and thus emissions will increase, and especially old diesel engines may increase exposures to diesel particulate matter which potentially have mutagenic and carcinogenic properties.
- Malodours from the sewerage treatment plant(s) will need to be considered as a source of air pollution that may affect both the community and the workforce. Therefore, the location and management of the plant are important to consider.
- Greenhouse gas emissions and energy consumption and impact on global climate change will be evaluated in a separate specialist report.

Impact Evaluation and management measures:

| EHA #9 | Air quality and malodours | | | | | | |
|---|---------------------------|---------------|--------------------|-------------|-------------|----------------------|------------|
| Early works through to Construction and Operations | | | | | | | |
| | Consequence/Effect | | | Probability | Total Score | Overall Significance | Confidence |
| | Temporal Scale | Spatial Scale | Severity of Impact | | | | |
| Impact before management | Not ranked for HIA. | | | | | | |
| Management Measures | | | | | | | |
| Project impact mitigation: <ul style="list-style-type: none"> • Air quality mitigation as per the air quality specialist study. • On-going monitoring of air quality as per the recommendation of the air quality specialist study • Dust suppression measures as required on access and service roads as required. Consider dust suppression in areas of increased dust from non-Project related activities. Dust may be a major concern and reason for complaints against Project activities. • Develop effective communication procedures to proactively and transparently communicate results on air quality to the community. • Establish a grievance mechanism supported by a register and a process to follow up and close out complaints. | | | | | | | |
| Occupational health, safety and environmental management: <ul style="list-style-type: none"> • Develop effective medical surveillance programs • Perform occupational hygiene baseline assessments and initiate a sampling program based on risk and exposure profiles | | | | | | | |
| Impact after management | Not ranked for HIA. | | | | | | |

8.9.3 Water Quality/Quantity

Impact Definition:

Specialist surface water, soil and groundwater studies were completed as part of the ESIA, and each of these has highlighted specific impacts and proposed mitigation measures [140,141]. The health consequences of altered drinking water quality are addressed in section 8.3.3 and this report will not rank impacts or propose specific mitigation measures over and above those proposed by these specialist studies.

However, in summary impacts on water quality/quantity were generally associated with an altered environment, the potential for pollution from Project activities and crude oil spills. Impact on water quality and quantity that the community use for domestic use and impacts on land capability (as the ecosystem is so important to local livelihoods) are the major impacts

- Surface water:
 - In the construction phase erosion and spills of oils, fuel and chemicals were the main impacts identified. These have the potential to pollute surface water sources that the community utilises for their domestic water supply as well as impacting agricultural land along the pipeline route. After environmental mitigation methods, these impacts were considered moderate.
 - In the operational phase major impacts can be associated with erosion, dust and sediment collection in run-off water that pollutes surface water and deteriorates land capacity. Other impacts included spillage of crude oil (moderate significance) and oil leaks around the pipeline (high significance). After environmental mitigation methods, these impacts were considered low to moderate.

- Ground water:
 - In the construction phase impacts are associated with domestic water discharge, sanitation waste, waste from equipment maintenance and accidental spills of materials stored or handled on site. All potential impacts were regarded as minor after mitigation. Abstraction of ground water on Buhuka Flats was not regarded as an impact as it is not seen as a sustainable or potable source of water.
 - In the operations phase well drilling with pollution from drill wastes and pollution from a well blow-out potential risks. The risks were regarded as

minor after mitigation but drilled cuttings removed from the wellbore are typically the largest waste stream generated in oil activities with groundwater pollution a real potential if there is improper handling and disposal of the drill fluids and cuttings.

Other impacts in the operational phase include an extension of impacts in construction with pipeline failure and leakage of crude oil. The communities along the pipeline route above the escarpment are dependent on groundwater in some areas so this poses a major potential impact, with a moderate residual risk after mitigation.

Impact Evaluation and management measures:

| EHA #9 | Water quality and quantity | | | | | | |
|---|--|---------------|--------------------|-------------|-------------|----------------------|------------|
| | Early works through to Construction and Operations | | | | | | |
| | Consequence/Effect | | | Probability | Total Score | Overall Significance | Confidence |
| | Temporal Scale | Spatial Scale | Severity of Impact | | | | |
| Impact before management | Not Ranked for HIA. | | | | | | |
| Management Measures | | | | | | | |
| Project impact mitigation: <ul style="list-style-type: none"> • Management as per the Project water management and surveillance system. • Develop effective communication program in the PACs on risks related to water quality. • Maintain the grievance mechanism supported by a register and a process to follow up and close out complaints | | | | | | | |
| Impact after management | Not Ranked for HIA. | | | | | | |

Spatial Effects of Impacts:

The potential spatial impacts on water quality and quantity are diverse and depend on the location of the community to potential event.

8.9.4 Visual Intrusion

Impact Definition:

A visual specialist study has been conducted as part of the EIA, which highlighted specific visual intrusion risks and associated mitigation measures [143].

The health effects of visual intrusion are generally mild but have been described to result in psychosocial health impacts and influence circadian rhythms, which affect sleep and general well-being. These are mentioned in the HIA for completeness but the potential impact findings and mitigation measures are discussed in detail in the EIA.

8.9.5 Hazardous Chemical Substances

Impact Definition:

The Project will utilize different types of hazardous chemical substances (HCS) in the construction phase and operational process or to support elements of the Project, including the following potential substances:

- Pest control: insecticides, pesticides and rodenticides to control insect and other vermin such as rats.
- Water treatment: chlorine and associated water treatment chemicals used in the treatment of potable water as well as waste water.
- Petroleum products to support heavy vehicles and light duty vehicles on site, including diesel fuel, mineral oils, grease, degreasers etc.
- The site based environmental laboratory.
- The site based medical services including cleaning agents, laboratory equipment as well as medications (especially expired ones requiring disposal).
- Potentially contaminated surface water including storm water, fire water and wash-down water originating from dirty areas.
- Other solid waste including contaminated rags, florescent light tubes, batteries etc.
- Products required for the operation of the CPF and produced as part of the waste stream of the CPF.
- Products required for well-drilling including drilling fluids and drill cuttings as part of the waste stream.

These HCS will need to be managed in the framework of best practice as defined by local Ugandan legislation, IFC PS 3 (Pollution Prevention and Abatement) and IFC EHS guidelines. This section is mentioned for completeness and it is out of scope to consider a risk assessment for each potential HCS. However, this should form part of the Project HCS management system, especially as the procurement, storage and use is a dynamic process.

Impact Evaluation and management measures:

| EHA #9 | Hazardous chemical substances | | | | | | | | | | |
|--|--|---------------|------------|--------------------|----------------|---|-------------|---|-------------|----------------------|------------|
| | Early works through to Construction and Operations | | | | | | | | | | |
| | Consequence/Effect | | | | | | Probability | | Total Score | Overall Significance | Confidence |
| | Temporal Scale | Spatial Scale | | Severity of Impact | | | | | | | |
| Impact before management | Medium term | 2 | Study area | 2 | Major Negative | 8 | Possible | 2 | 14 | Major negative | High |
| Management Measures | | | | | | | | | | | |
| <p>Project impact mitigation:</p> <ul style="list-style-type: none"> As per recommendations from the EIA and waste management plans. Effective monitoring of emissions, water quality etc. and transparent reporting to stakeholders. Develop appropriate HCS management programs in alignment with IFC PS3 guidance as well as the International Code of Conduct on the Distribution and Use of Pesticides [151]. Effective waste management so the communities do not use discarded containers that may have contained hazardous materials for collecting of water or storage of water or related domestic products. These should be crushed or spiked to prevent use as storage containers. <p>Occupational health, safety and environmental management:</p> <ul style="list-style-type: none"> Undertake a risk assessment on all HCS on site and determine the specific human health risks that may potentially result from exposure to a product or by product of a process or emission. Develop specific workplace health, safety and environmental plans based on the risk assessments, with clear emergency preparedness and response capability (equipment and trained personnel) for hazardous materials management. Ensure adequate personal protective, hygiene and washing facilities for employees that handle any form of pesticide. This should include dedicated personal protective clothing as well as showering and changing room facilities so that personnel are required to change potentially contaminated clothing before they go home, thus preventing exposures to their family unit or other workers. Medical surveillance (including biological monitoring) of employees handling HCS should be incorporated into the Projects OHSMP. | | | | | | | | | | | |
| Impact after management | Medium term | 2 | Study area | 2 | Nil/baseline | 1 | Unlikely | 1 | 6 | Minor negative | High |

Spatial Effects of Impacts

The impacts associated with HCS in Project activities are likely to be felt in the immediate study area and related to receptors that may be in proximity to the potential exposure.

8.10 EHA #10 – Social Determinants of Health

The holistic model of health and well-being acknowledges that the health status of a population is affected by factors known as health determinants. They are many and varied and include, for example; natural and biological factors, such as age, gender and ethnicity; behaviour and lifestyles, such as smoking, alcohol consumption, diet and physical exercise; the physical and social environment, including housing quality, the workplace and the wider urban and rural environment; and institutional factors such as the access to medical care. All of these are closely interlinked and differentials in their distribution lead to health inequalities. The model for the determinants of health is depicted in Figure 42, with many of the socio-economic, cultural and environmental conditions discussed in other sections. This section will focus on the influence of employment, local economic development and well-being/lifestyle factors.

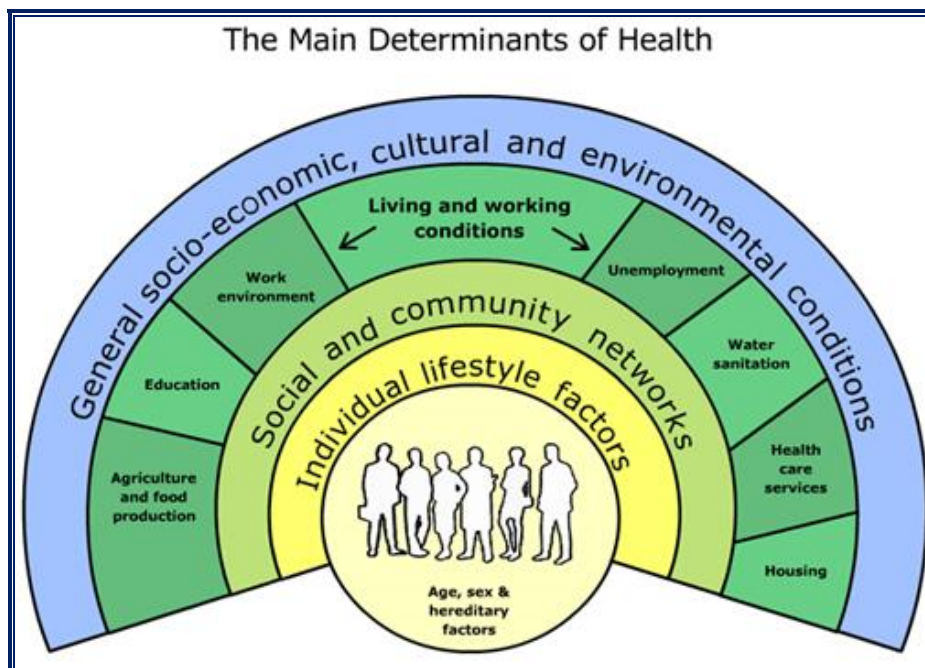


Figure 42: Determinants of health

8.10.1 Local Economic Development and Employment

Impact Definition:

The Project has the ability to improve the local employment and economic development in the study area if properly planned and executed. These are discussed in the SIA, and while the HIA will not seek to repeat these elements, the potential benefits are likely to influence

certain social determinants of health. General socio-economic conditions play an important role in the living and working conditions, which contribute to quality of life and well-being.

Education is a major challenge in the area. The poor educational attainment and indeed quality of education is a major challenge to breaking the cycle of poverty and ability for employment or to develop a local business. In addition, there are few employment opportunities in the study area, which has limited the indigenous population from participating in the formal job market and benefit from skilled or semi-skilled jobs. This lack of experience and exposure will limit the ability for the Project to hire people from the local community to more senior and well paying positions, with the likelihood that they will be placed in lower skilled jobs. These lower skilled positions will be more common in the construction phase but will taper into operations. However, the expectation for the Project to deliver sustainable economic benefits is high, in the local community and with other stakeholders, and thus effective communication and engagement strategies to outline the magnitude and timeframe for these benefits are important to develop to avoid creating unrealistic or unmatched expectations.

The Project has the potential to impact social determinants related to economic development in the following ways:

- **Direct employment at the Project**

In the construction phase, CNOOC has a casual labour policy in place that aims to comply with a 60% local resident employment target for casual job opportunities. However, as the Project transitions to operations, it will require a smaller workforce, with a specific skill set not likely to be available locally. Thus, there is a limited potential that the local community will benefit from local employment in a sustainable and long term manner with the potential for negative impacts, including:

- Unfulfilled expectations that the Project will employ vast numbers of people and to reduce poverty in the area.
- Employment of the community for a short period, with a resultant altered livelihood from subsistence farming to earning a paid wage. This may change traditional practices, especially in men who may not want to return to farming/fishing once the employment opportunities have ceased.
- Development of a local currency that may erode community cohesion and traditional bonds, which are an essential element in mutual help structures and local culture. Project induced influx may also influence these traditional

structures and also create supply and demand of products and services with escalating inflation.

- **Government spend and development.**

The government will be drawing royalties and taxes from the development of the oil fields including from KDA. It will be important that some of this revenue make it back to the development of the study area, district and region so the people that reside in the area actually feel tangible benefits related to the development. The Project has a role to play on supporting development but should do so in the framework of a broader district strategy, and in line with the National Oil and Gas Policy of 2008, with the following potential benefits:

- **Multiplier effects on the local economy** due the presence of the Project and its activities. This can stimulate economic growth and if part of a district development plan with other Oil developments may generate real benefits.
- **Improved infrastructure** in the host sites for communities that will be resettled by the Project and other communities due to CSI initiatives by the Project and government supported projects.
- **Improved access and improved basic services** such as education, water and sanitation and health care as discussed in numerous sections.
- **Local investment and development.** If the Project is supportive of local economic development and works in partnership with government and existing agencies/donors, it may serve as an attractor to increased funding and even improved government commitments to local and rural development. These businesses may also support the needs of the Project if correctly identified and supported, which may promote their sustainability in the longer term, especially if a linkages program is developed to stimulate local businesses as service providers, either directly to the Project or for general indirect services at the local or district level.

Impact Evaluation and management measures:

| EHA #10 | Employment and local economic development | | | | | | | | | | |
|---|---|---------------|------------|--------------------|---------------|---|-------------|-------------|----------------------|-------------------|-----|
| Construction and Operations, through to closure | | | | | | | | | | | |
| | Consequence/Effect | | | | | | Probability | Total Score | Overall Significance | Confidence | |
| | Temporal Scale | Spatial Scale | | Severity of Impact | | | | | | | |
| Impact before management | Short term | 1 | Study area | 2 | Minor benefit | 2 | Possible | 2 | 7 | Minor benefit | Low |
| Management Measures | | | | | | | | | | | |
| Project impact mitigation: | | | | | | | | | | | |
| <ul style="list-style-type: none"> Recommendations as per the social management plan, as well as the community investment and development plan. This should be aligned to legal requirements for Oil developments in Uganda. The Project should also enter into any agreements with the understanding that benefits of the investment will benefit the study area and broader district. Evaluate opportunities to support local economic development with a focus on improved quality of life and perceived well-being. This will be important in areas that are impacted by influx and the host sites for resettled communities. Influx management. Develop clear labour recruitment strategies including local hire policies that are realistic. Develop training programmes to enable local inhabitants to eventually secure skilled roles. Develop CMPs to supports these policies. Support effective communication strategies to manage community expectations on realistic extended benefits from the Project, including elements such as employment. Develop an effective stakeholder engagement strategy to develop partnerships with the authorities as well as with the communities. This will promote community ownership and thus ultimately sustainability of interventions. | | | | | | | | | | | |
| Social development mitigation and management: | | | | | | | | | | | |
| <ul style="list-style-type: none"> Evaluate opportunities to create an effective linkage program to stimulate local businesses to support the Project and other opportunities that may arise in the study area or district. Evaluate opportunities for the empowerment of women and girls in the area. Microfinance and self-reliance/co-operative schemes may be opportunities with the understanding that programs are being developed based on the ability at the local level to support this. | | | | | | | | | | | |
| Impact after management | Long term | 3 | Regional | 3 | Major benefit | 8 | Possible | 2 | 16 | Very high benefit | Low |

Vulnerabilities and Spatial Effects of Impacts:

The impacts associated with local economic development and employment will be felt in the longer term as these gains will take a period of time to develop and mature, if effectively planned, implemented and sustained. In the construction phase the communities in the immediate study area (PAC1-6) are likely to benefit from employment and local development. This is hard to predict in the operational phase but if effectively managed the broader district should benefit.

8.10.2 Social Ills and Gender Inequality

As discussed earlier, women are a vulnerable group in the study area, with cultural factors and a patriarchal society marginalising women to some extent. GBV was reported to occur, and although this could not be quantified, it appeared to be accepted or even tolerated.

Certain social ills, such as substance abuse, was common in the study area and this contributed to other challenges such as neglect of family responsibilities, transactional sex, GBV and common assault. This was more common in the lake-shore communities with migration of people into the area and erosion in some traditional structures contributing factors to a disruption of social order. In the SIA alcohol abuse was cited as the most common cause of dispute in the communities on Buhuka Flats. While communities perceived

their community to be safe, 48% of residents knew of a person who had been arrested for some form of crime, the most common being assault (55%) but theft in 22% of cases [2].

A number of factors may impact on the traditional values and social harmony in the study area as a result of the Project development. These include influx, stress on limited resources, altered lifestyle practices and possible development of increased levels of social ills such as CSW and substance abuse that have been discussed in previous sections. All these and other factors have the potential to increase levels of criminality and crime which may be associated with violence and injuries. This can include GBV as women are a vulnerable sector in the community and at risk to CSW and other forms of marginalization.

Impact Evaluation and management measures:

| EHA #10 | Social Ills and Gender Inequality | | | | | | | | | | |
|--|-----------------------------------|---------------|------------|--------------------|-------------------|---|-------------|---|-------------|----------------------|------------|
| Construction and Operations, through to closure | | | | | | | | | | | |
| | Consequence/Effect | | | | | | Probability | | Total Score | Overall Significance | Confidence |
| | Temporal Scale | Spatial Scale | | Severity of Impact | | | | | | | |
| Impact before management | Medium term | 2 | Study area | 2 | Moderate negative | 4 | Possible | 2 | 10 | Moderate negative | Medium |
| Management Measures | | | | | | | | | | | |
| Project impact mitigation: <ul style="list-style-type: none"> Mitigation measures as part of the social management plan. These should seek to involve programs to promote gender equality and promotion of women's rights. Labour recruitment and influx management plans. Support the retention of the powers of traditional authorities to limit the development of social ills in communities. | | | | | | | | | | | |
| Social development mitigation and management: <ul style="list-style-type: none"> Support local policing initiatives and an effective justice system, where possible, and in partnership with the local authorities. Promotion of gender based interventions including opportunities such as micro-finance projects, education and skills development programmes, in addition to educational programs on general women's rights and equality. Continue to support educational development but support the focus on education for girls as part of these initiatives. Support local empowerment for girls in the area through local development projects. Attempt a gender balance in the workforce noting the limitations of females in certain forms of manual labour. | | | | | | | | | | | |
| Impact after management | Long term | 3 | Study area | 2 | Moderate benefit | 4 | Possible | 2 | 11 | Moderate benefit | Low |

Vulnerabilities and Spatial Effects of Impacts:

These impacts may be experienced across the entire the study area, but will be more marked in the immediate study area (PAC1-3 and 5).

8.10.3 Altered Access

The Project has the potential to alter access in the study area with improved transport networks and communication systems having the potential to promote positive impacts:

- Improved access to information**

Improved mobile phone networks, services and eventually the introduction of the internet has the potential to improve the access to information, which will allow better

transfer of information and will possibly support better education and, which may in turn promote and support improved lifestyles, HSB and health knowledge and awareness.

- **Improved transport links**

The escarpment road that connects Buhuka Flats, improved roads to construct the pipeline and a potential general improvement in other roads in the area will promote improved access to services and trading opportunities. This can include better access to health services and public transport that may also promote HSB practices to the formal health sector.

- **Improved services**

Improved access will improve the ability for district authorities to deliver basic services in areas that were previously hard to reach.

Improved access may also cause negative impacts such as spread of STIs and other communicable diseases as described in each individual section.

Impact Evaluation and management measures:

| EHA #10 | Altered access | | | | | | | | | | |
|--|--------------------|---------------|--------------------|---|------------------|---|-------------|-------------|----------------------|------------------|--------|
| Construction and Operations, through to closure | | | | | | | | | | | |
| | Consequence/Effect | | | | | | Probability | Total Score | Overall Significance | Confidence | |
| | Temporal Scale | Spatial Scale | Severity of Impact | | | | | | | | |
| Impact before management | Medium term | 2 | Study area | 2 | Moderate benefit | 4 | Possible | 2 | 10 | Moderate benefit | Medium |
| Management Measures | | | | | | | | | | | |
| Project impact mitigation: | | | | | | | | | | | |
| <ul style="list-style-type: none"> • Evaluate opportunities to enhance the potential benefits of the improved access to the areas within the study area. This will need to be tempered with the mitigation of the negative impacts linked to access as described in other sections. • Influx management. | | | | | | | | | | | |
| Social development mitigation and management: | | | | | | | | | | | |
| <ul style="list-style-type: none"> • Evaluate opportunities to enhance the local economic development through access to markets, improved education and gender empowerment as described above. • Support the broader study area with access to improved and affordable information technology services. • Consider supporting the development of a community radio station. This can support health education but also general communication related to the Project and other community developments. | | | | | | | | | | | |
| Impact after management | Long term | 3 | Study area | 2 | Moderate benefit | 4 | Probable | 3 | 12 | Major benefit | Low |

Vulnerabilities and Spatial Effects of Impacts:

These impacts may be experienced across the entire the study area, but will be more marked for the lake-shore communities due to the development of the escarpment road (PAC1-4).

8.10.4 Social Harmony and Project Expectations

Impact Definition:

Project related expectations have the potential to influence social harmony in the study area in a number of ways, including:

- **Employment and Local Development**

The lack of general employment opportunities in the study area and the high expectation (as reported from the community comments and concerns study) that the Project will support employment for a large number of the community for extended periods has the potential to create social disharmony especially towards the Project, or those who many benefit from the Project. This may result if negative perceptions of well-being within communities or sections in the communities that do not directly benefit.

There will also be the expectation that the Project will support a full range of social development and community investment programs, irrespective of the role that district and national government should play in this role. The local community does not have insight into the actual scale and planned activities of the Project, which will support false expectations.

- **Inequalities and Social Harmony**

Potential or perceived inequalities may be caused by:

- those who are physically resettled may have improved housing structures compared to those who are not moved.
- those who benefit from employment;
- those communities that may benefit from outreach support from the Project; and
- gender inequalities as the Project is more likely to employ men than women.

- **Project induced in-migration**

Influx may create impacts on well-being/lifestyle and erode quality of life through:

- eroded cultural and traditional values;
- increase in crime, alcoholism and potentially drug abuse;
- increase in GBV;
- increase in CSW; and

- various psychosocial effects related to lifestyle change and perceptions of well-being.
- **Third country nationals and migrant workforce**
During construction and operations, a portion of the workforce will originate from outside of the study area, and potentially even the country. This group may have a different cultural and value system and be wealthier than the local community. This has the potential to create frustrations in the study area due to the limited alternative employment opportunities in the local communities with the perception that these outsiders are taking jobs that could be provided to local inhabitants. There is also the potential for this incoming workforce to be disrespectful of the local cultures and norms and flaunt wealth.

Impact Evaluation and management measures:

| EHA #10 | Social Harmony and Project Expectations | | | | | | | | | | |
|---|---|---------------|------------|--------------------|-------------------|---|-------------|-------------|----------------------|-------------------|--------|
| | Construction and Operations | | | | | | | | | | |
| | Consequence/Effect | | | | | | Probability | Total Score | Overall Significance | Confidence | |
| | Temporal Scale | Spatial Scale | | Severity of Impact | | | | | | | |
| Impact before management | Medium term | 2 | Study area | 2 | Moderate negative | 4 | Probable | 3 | 11 | Moderate negative | Medium |
| Management Measures | | | | | | | | | | | |
| Project impact mitigation: | | | | | | | | | | | |
| <ul style="list-style-type: none"> • Mitigation measures as part of the social management plan. • Labour recruitment and influx management plans • Effective communication regarding the employment and local development capability of the Project- especially to the youth. • Evaluate opportunities for local development that support vulnerable groups, including gender balance. • Effective communication programs on the activities of the Project and management of expectations of what the Project will, and will not do. | | | | | | | | | | | |
| Occupational health, safety and environmental management: | | | | | | | | | | | |
| <ul style="list-style-type: none"> • Limit the contact of the in-coming construction workforce with the local population as far as practical (closed camp). | | | | | | | | | | | |
| Social development mitigation and management: | | | | | | | | | | | |
| <ul style="list-style-type: none"> • Any social development and community investment programs should be planned to be conducted with district authorities. Where relevant these should be harmonized with national policy and strategy and while the Project should (strongly recommended) take a leading role in the planning, implementation and review of programmes, it should not be seen as the sole actor. Sustainability elements should be incorporated into each plan and a MOU developed that defines roles and responsibilities of each party. • Development programs that maintain traditional values and promote social cohesion/ sense of community. These can include co-operative programs that promote sustainability and self-reliance in communities as well as maintenance of effective traditional leadership structures. | | | | | | | | | | | |
| Impact after management | Medium term | 2 | Localized | 1 | Minor negative | 2 | Possible | 2 | 7 | Minor negative | Low |

Vulnerabilities and Spatial Effects of Impacts:

These impacts may be experienced across the entire the study area.

8.11 EHA #11– Cultural Health Practices and Health Seeking Behaviour

Impact Definition:

HSB in the communities is affected by cultural preferences, access to, and acceptability of the local health services.

TM plays an important role in local HSB, with traditional healers (TH) were reported play a major role in health care and treatment of certain problems such as “Awola” (bewitching). Local beliefs dictate that certain medical conditions, such as fever, necessitates a consultation with a TH prior to visiting a HC for further treatment. Though most local TH practices were not noted to cause any adverse effects, such as herbal intoxication, the process often results a substantial delay in diagnosis and treatment, increasing the morbidity of serious medical conditions.

However, lack of access to, and the prohibitive transport costs, to local HC supports the utilization of TM, underscoring the fact that HSB in the study area is as much a financial consideration as it is a matter of personal preference. Included in this phenomenon, is the use of TBAs for home deliveries. Despite the fact that TBAs are not considered to be an officially recognized option for delivery assistance by the Hoima DHMT, HCWs in the area reported that between 50 to 80% of all deliveries in the area were home deliveries performed with the assistance of TBAs and/or family members.

Many of the poorer members of the population in the study area also used herbs and medicinal plants to self-medicate where cultural believes dictated this, or when financial restrictions did not allow for the use of THs or health centres.

The Project development is unlikely to play a major role in influencing cultural health practices, but may influence HSB in the following manners:

- **Improved access to formal public healthcare services:**

Improved access roads, such as the escarpment road, will lead to easier access and shorter referral times for residents of the Buhuka Flats to their level 4 referral health centre at Kyangwali. This is likely to be replicated on most of the main transportation routes to the Project, as well as access roads to the pipeline route where road improvement and maintenance is likely to form an important part of construction.

• **Project induced In-migration:**

The negative indirect effects of in-migration may impact on the ability of public HC facilities to meet the demands of the community and the fact that access to health services may be limited in certain areas. This may lead to an increase in the demand for services provided by the informal medicine sector.

Impact Evaluation and management measures:

| EHA #11 | Cultural health issues and HSB | | | | | | | | | | |
|---|--------------------------------|---|---------------|---|--------------------|---|------------------------|---|-------------|----------------------|------------|
| Constructions through to Operations | | | | | | | | | | | |
| | Consequence/Effect | | | | | | Probability/Likelihood | | Total Score | Overall Significance | Confidence |
| | Temporal Scale | | Spatial Scale | | Severity of Impact | | | | | | |
| Impact before management | Medium term | 2 | Study Area | 2 | Minor negative | 2 | Possible | 2 | 8 | Moderate negative | Low |
| Management Measures | | | | | | | | | | | |
| Project impact mitigation: | | | | | | | | | | | |
| <ul style="list-style-type: none"> Develop mitigation measures for the reduced access of the community to health care services. Influx management. | | | | | | | | | | | |
| Occupational health, safety and environmental management: | | | | | | | | | | | |
| <ul style="list-style-type: none"> Support IEC programmes to educate the local workforce in a culturally sensitive manner on the use and application of TM. | | | | | | | | | | | |
| Social development mitigation and management: | | | | | | | | | | | |
| <ul style="list-style-type: none"> Support IEC programmes related to HSB and use of TM. This will support proposed health interventions described in other sections so that notification of specific health conditions occurs in the public health services. Partner with the local health care authorities to improve the functionality of health care services and to improve HSB towards the formal health sector for serious conditions. It is important to recognize that culturally TM still has a role to play in local health care delivery but if the community can be educated on when to seek priority care from the formal health sector, it will likely result in a health benefit. To this end, it may be beneficial to work with the local health authorities to create a TH forum that integrates into the formal health sector so that each practice is recognized and functions effectively to improve the health care needs of the population. This can include training TH on the need for early referral for acute conditions. | | | | | | | | | | | |
| Impact after management | Medium term | 2 | Localised | 1 | Nil/baseline | 1 | Unlikely | 1 | 5 | Negligible | Low |

Vulnerabilities and Spatial Effects of Impacts:

Negative impacts associated with cultural health issues may be experienced in all communities that will experience influx (PAC1-3, 5-7). Communities that currently have reduced access to HC services (PAC1-4) will benefit from better access after the development of the escarpment road. Access to the area and improved socio-economic conditions may improve the HC services and reduce the need to seek TM in the absence of an alternative.

8.12 EHA #12 – Health Systems and Services

Impact Definition:

The capacity and quality of health care services is limited in the study area. The highest level of health care is a RRH in Hoima city, which serves 6 other districts, including Hoima district. In addition to the Hoima RRH, 4 other HC that serve the communities in the study area as discussed in 7.2.12 and Appendix E that describes a modified SARA metric that assessed the service availability and readiness of the health sector.

All HC, including the Hoima RRH, were found to be under-resourced, both in terms of infrastructure and human resources and had challenges relating to diagnostic and clinical monitoring capacity, skilled staff capacity, referrals, general infrastructure and reliable water and electricity services. The smaller HCs were noted to be under-scoped for the populations they were intended to serve, with a level three HC was supposed to serve a target population of approximately 1500 people. RHMIS data indicated that actual populations in Buhuka HC was 9493 and Kyangwali HC 24 274. None of the HC evaluated had the full complement of personnel required to fully staff a level 3 HC, with Buhuka HC only having three enrolled nurses in attendance.

Medical waste management was a universal challenge, with only Kyangwali HC using an incinerator to dispose of their medical waste. All of the other facilities, including Hoima RRH, depended on open pit burning and burial for disposal of medical waste (although Hoima RRH was in the process of commissioning an incinerator).

Access to HCs and the referral of patients from HCs to hospitals was highlighted as a major issue as the entire district had access to only one ambulance, which was reserved for patient transfers between Hoima and Kampala. In the absence of public transport, the population was entirely dependent on private means for routine and emergency transportation, with costs reported as prohibitive for the majority of the population,

The supply chain of consumables and medications from the central district stores was reported to be fairly consistent, following a push system based on an essential drug list. Stock-outs were reported to be infrequent, with the exception of Kyangwali HC who reported regular stock-outs due to high patient numbers, reportedly associated with a rapid population growth.

The Project has the potential to impact on the health systems services and infrastructure as follows:

- **Workforce health requirements**

The Project will require primary, occupational and emergency care facilities to serve the needs of the workforce. While the estimated workforce is not predicted to be excessively large, there is the risk that the public healthcare system will be overburdened if the workforce and contractors were referred into the local systems. This added demand may impact on the capacity of the local health centres to deliver care to the local community, causing a negative health impact and potentially pushing the community to seek alternative forms of care (such as TM). The HC staff in Kyangwali and Buhuka reported that contractor staff from the escarpment road construction were commonly seen and treated in their facilities and that this had added to an already busy patient load.

- **Employment of skilled public health service staff**

CNOOC and selected contractors will need to develop workplace medical services and while these are not likely to be extensive, the Project must take care not to employ local public health care staff as this will significantly impact on the ability to deliver local services, especially with the anticipated increased demand for services associated with influx. The facilities are already under-capacitated and engagement of staff will further limit human resource capacity. While these impacts are most likely in the construction phase, it may be challenging to recruit medical staff to return to work in the public sector.

- **Project induced in-migration**

Migration into the area has the potential to significantly exceed the capacity of what are already limited health care facilities. There is minimal institutional capacity to support this potential growth from a planning, budget or a delivery perspective; and without due anticipation, awareness to meet the increased demand will impact on local health service delivery. This can include acceptable infrastructure, effective supply chain of medications and consumables and diagnostic equipment.

- **Improved access**

The development of the escarpment road to Buhuka Flats will dramatically improve access and enable both a broader economic development and access to health

services. Public health services will be enhanced as officials will be able to reach the local HC, and the community will have improved access to referral facilities.

However, the capacity at the Kyangwali HC may be over extended as improved access will increase demand for services at this centre, as it is the best staffed and equipped facility in the area.

- **Altered burden of disease**

The development of the Project may alter the local social and environmental determinants and change the current BOD patterns as discussed in other sections. Health planning and the ability to proactively respond to an epidemiological transition may be challenging with a potential inability to effectively respond to emerging or new disease profiles (such as increased HIV and certain NCDs). However, economic development may enhance the general state of health and support improvements in certain health indicators.

Various HSS activities have been mentioned in various EHAs under their respective mitigation sections, but for these activities to be effective it will require interaction, agreement and collaboration of all parties, and especially the district health department. However, if these measures are effectively and sustainably implemented there is a real opportunity to manage an altered BOD and enhance the well-being of the population and improve local health care services.

Impact Evaluation and management measures:

| EHA #12 | Health Systems and Service Issues | | | | | | | | | | |
|--|-----------------------------------|---|---------------|---|--------------------|---|------------------------|-------------|----------------------|-------------------|--------|
| Early works, constructions into operations and post closure | | | | | | | | | | | |
| | Consequence/Effect | | | | | | Probability/Likelihood | Total Score | Overall Significance | Confidence | |
| | Temporal Scale | | Spatial Scale | | Severity of Impact | | | | | | |
| Impact before management | Medium term | 2 | Study Area | 2 | Moderate negative | 4 | Possible | 2 | 10 | Moderate negative | Medium |
| Management Measures | | | | | | | | | | | |
| Project impact mitigation: | | | | | | | | | | | |
| <ul style="list-style-type: none"> • Influx management should include health sector planning, as there is minimal capacity to plan for, or expand, services in the study area to meet what is likely to be a growing demand, recognising the shortfall at baseline. The planning should be supported by monitoring of demographic changes to determine the target number of people per HC, and evaluate if the available health facilities are adequate for the needs of the community based on Ugandan standards. Support as required within framework of HSS and broader district health strategy. • Consider supporting the extension of the current VHT programme into the study area. This programme was managed by Malaria Consortium in other parts of the district and by all accounts was extremely successful. The use of the community as a resource will be extremely powerful as there is an available pool of human resource, they will understand cultural and ethnic factors in supporting health promotion and prevention messaging, it will provide a sense of worth and meaning for sectors of the community and some form of employment (even if on an incentivised volunteer basis). The scope of the VHT can include health education and behaviour change communication, support with managing environmental health issues ('clean community campaigns'), first line medical aid and treatment (after training), and collection of health data. | | | | | | | | | | | |

| | | | | | | | | | | | |
|---|-------------|---|------------|---|------------------|---|----------|---|----|------------------|--------|
| <ul style="list-style-type: none"> Consider supporting key HSS activities in partnership with the district health authorities. This HSS links into other sections and while some interventions may be designed to specifically mitigate impacts, there is the likelihood that some extended benefits may be achieved through enhancement of interventions. Therefore, sustainability criteria must be applied to any HSS activities including a clear memorandum of understanding (MOU) and an exit strategy. Ideally CNOOC should create an entity that supports any HSS activities to remove the direct involvement of the company, while still serving the needs of the Project (see 8.13). Interventions can include: <ul style="list-style-type: none"> Support health infrastructure refurbishment and upgrades in Buhuka Flats HC. This will require refurbishment of buildings and medical equipment. Upgrades to other HCs and even the RRH can be considered as the Project extends. Support the district in attracting medical staff to work in the various HC in the study area but providing incentive packages. This can include proper accommodation and living amenities, top up on salaries, beneficial training etc. Support outreach services in maternal and child health, school health, mass drug administration and health education. Support health infrastructure to cater for the health care needs of the resettled communities if access is affected. | | | | | | | | | | | |
| <p>Occupational health, safety and environmental management:</p> <ul style="list-style-type: none"> Plan and design an appropriate site based medical service that is managed by a reputable medical service provider as part of the Project's OHSMP. This service will need to cater for most health related conditions so that referral into the local public health sector (HC level) is not required from CNOOC or contractors. It is strongly recommended that workplace health service capacity is developed proactively so the services are in place before demand exceeds supply. This is essential in construction and given delays in construction and procurement of medical equipment this should be planned with adequate foresight. A CMP will need to be developed to cater for workplace medical service planning and implementation that defines what scope of services is required, staffing levels and referral restrictions and plans. This planning and CMP should include human resource planning so that health staff are not recruited from the local public health sector. | | | | | | | | | | | |
| <p>Social development mitigation and management:</p> <ul style="list-style-type: none"> HSS as discussed under other sections. In partnership with the other Oil companies, support the District and National Health departments to develop a district health strategy that considers the health sector planning in the district to address the Oil field developments. These initiatives should have the focus to consider the broader district/region and not just individual operating entities and their small direct area of influence. This is essential to maximise the potential economic and development benefits of the Oil sector. Support medical waste management in the local health facilities. | | | | | | | | | | | |
| Impact after management | Medium term | 2 | Study area | 2 | Moderate benefit | 4 | Possible | 2 | 10 | Moderate benefit | Medium |

Vulnerabilities and Spatial Effects of Impacts:

As discussed in section 8.11, negative impacts may be experienced in all communities that will experience influx (PAC1-3, 5-7). Communities that currently have reduced access to HC services (PAC1-4) will benefit from better access after the development of the escarpment road. The broader study area may benefit from improved health care facilities if extended benefits are realised. No gender specific impacts are anticipated.

8.13 EHA #13 – Health Programmes and Systems

Impact Definition:

There is currently a limited ability to support effective health programmes in the study areas due to local capacity in the communities and amongst the health authorities. In general, health systems such as national disease control programs (TB, malaria) are weak and are inadequately implemented at the level of the study area due to funding, logistics and human resource constraints.

Access to primary healthcare at a community level is dependent on VHT and outreach services from HCs. VHT consist of community volunteers who are trained to perform a specific set of basic educational, diagnostic and curative activities in communities. As part of the program, a novel HMIS, utilizing mobile phones, was introduced to provide IEC, decision making support and diagnostic support while simultaneously tracking community level health indicators. Until recently, the VHT program was supported and funded by Malaria Consortium but despite positive impacts, the five year funding cycle has come to a close.

Structured outreach programs by HC staff are planned on a monthly basis and addresses key health concerns, including:

- EPI outreach;
- HCT;
- Environmental health outreach;
- Health education/promotion outreach; and
- Nutritional outreach.

However, based on available DHMT statistics, only 24 to 62% of all planned outreach activities were performed due to insufficient funding, lack of transport and staff.

NGO presence throughout the study area is varied, depending on ease of access and logistical restrictions. The lake-shore communities reported no NGO activities. There was extensive support in and around Kyangwali HC, specifically coordinated by UNHCR to support the refugee camp located in the Kyangwali sub-county. It was noted that many NGOs were active in Hoima district with many organisations having offices in Hoima town. Alignment between individual NGO's and the DHMT was reported to be sub-optimal. As a result, an alignment forum to help align different stakeholders has been established and is expected to be operational by mid-2015.

The paper-based Hoima district RHMIS is functional but weak. Its effectiveness and accuracy is limited by lack of skilled staff, limited diagnostics, limited reporting and recording capabilities, which ultimately limits the accuracy of reporting and ability to use the RHMIS as an effective decision making and tracking tool. The entire district HMIS was managed off a range of MS Excel spreadsheets with manual capturing from paper based reports sent from various HCs. Access to and acceptance of the public health services was also poor so many conditions in the district are not recorded in any system. Clandestine pharmacies and small private HC were noted in the study area and the community does seek treatment from these facilities. There was no formal reporting from these facilities so these statistics are effectively not notified. The weak health system will not be resilient to the added demands from Project induced influx, which will increase demand for preventive and curative health services, as well as other basic services.

The Project has the potential to influence health systems and programs in a number of ways:

- **Health care funding**

The development of the Project may reduce the future interest of agencies to work in the area as there may be an assumption that the Project should fund any local development so that the NGOs/donors can work elsewhere. However, there are several initiatives by agencies and NGOs that are working in the Hoima district or at provincial level (Table 16) that can be leveraged for mitigation and social investment purposes, or that can overlap or be extended into health programs. This can extend to national programs that have limited functionality in the study area.

Table 16: Selection of partner organizations within Hoima district

| |
|--|
| Action Africa Help: Health, education, water, sanitation and hygiene, agriculture and environmental management. |
| Infectious Diseases Institute: HIV/STI information, education and communication, HCT, safe male circumcision. |
| Malaria Consortium: VHT support. |
| Mary Stopes: Family planning services. |
| Meeting Point: HIV/STI information, education and communication. |
| UNHCR: Support of Kyangwali HC |
| USAID: Sustain Initiative [HIV treatment capacity survey], MDR and XDR-TB support) |

- **Health service delivery capacity, inequality and expectations on the Project**

There is limited institutional capacity to support the current health service delivery requirements, and additional demands on this system would be challenging to

support. As the Project will be so visible in the area, the community, district and even national health authorities may look to the company to plan, finance and even deliver health services to support this lack of capacity.

There is the potential for inequality and inequity between different communities as a result of Project supported health initiatives. The Project will logically have a priority to mitigate impacts and support social developments in the study area as a priority but this may generate perceptions of inequality in those who do not benefit. This may further support the attractor state of the Project and lead to influx with the development of make-shift settlements. The decision to support these unplanned settlements can be challenging, as on the one hand it may attract more settlers, but if not supported the numerous health impacts discussed in previous sections will be realized.

- **Health information**

The RHMIS that is managed at the Hoima DHMT is limited, and while it presents a valuable (and only) source of health data in the study area, it has constraints that limit its use in effectively monitoring health trends and effects of health interventions. The system relies to a large extent on manual entry and the limited human resource skills and diagnostics in the district, limits the accuracy of captured health information.

While the Project will not cause any direct impact on the HMIS, the fact that the system has these limitations poses a risk to the Project to utilize local health statistics as a surveillance mechanism to track health impacts, or to effectively monitor the success of interventions. This also to a degree limits the ability of the local health authorities to inform policy decisions for interventions in specific areas.

Impact Evaluation and management measures:

| EHA #13 | Health Programmes and Systems | | | | | | | | | | |
|--|-------------------------------|---|---------------|---|--------------------|---|-------------|---|-------------|----------------------|------------|
| Construction and Operations, through to closure | | | | | | | | | | | |
| | Consequence/Effect | | | | | | Probability | | Total Score | Overall Significance | Confidence |
| | Temporal Scale | | Spatial Scale | | Severity of Impact | | | | | | |
| Impact before management | Medium term | 2 | Study area | 2 | Minor negative | 2 | Possible | 2 | 8 | Moderate negative | Low |
| Management Measures | | | | | | | | | | | |
| <p>Project impact mitigation:</p> <ul style="list-style-type: none"> Evaluate opportunities for HSS that will primarily mitigate impacts as discussed in the previous sections, but also explore opportunities for a broader district/ regional approach so as to reduce potential inequalities and reduce the attractor state of the study area. Develop effective communication strategies on the role and responsibility of the Project in supporting health care service delivery in the area, and manage expectations. Support the improvement in the RHMIS at the local and district level, with the intent to develop a key set of indicators from the district statistics to effectively monitor health impacts and interventions longitudinally. A specific community health information system (CHIS) or database could be developed as part of the health monitoring plan which links information from the district RHMIS, measurement of specific Project sponsored interventions, and track data that may have been collected at baseline by the Project and subsequently monitored. A basic Project specific software system that captures key indicator data can be developed with trends evaluated in dashboard matrix <p>Social development mitigation and management:</p> <ul style="list-style-type: none"> HSS as part of the broader district development plans. Seek opportunities to partner with donor agencies/NGOs for HSS interventions in the study area and as part of a broader district development plans and in alignment with district strategies. The Project must attempt to outsource the management of as many of these health programmes as possible; and only retain a supporting (and as required logistics or funding arm) role. These programmes must be based on sustainability principles. | | | | | | | | | | | |
| Impact after management | Long term | 3 | Study area | 2 | Moderate benefit | 4 | Possible | 2 | 11 | Moderate benefit | Low |

Vulnerabilities and Spatial Effects of Impacts:

Impacts on health programs and systems will be experienced from the construction phase and extend into operations and even closure. These impacts will not be localized but experienced across the broad study area and even district. No specific gender impacts are anticipated and no vulnerable groups are recognised as long as equity is maintained.

9 Data-gaps and Opportunities for Data Gap Closure

The HIA process to date has collected and analysed secondary and primary participatory data, and while this is adequate to describe the major potential health impact areas of concern on a qualitative basis, it does not always allow for the effective monitoring of specific health impacts or interventions, especially at the level of the study area or PACs.

The impact analysis section (chapter 8) has identified a number of data-gaps to support the detailed description of these key health indicators at the level of the study area. These are described as relevant under the respective EHA, but a summary has been developed to highlight data-gaps and provide recommendations for data-gap closure. This is based on modularised approach to collecting baseline health data in the structure of HIA as shown in Figure 43 (this is an example and not all elements will be required for the Project).

| | | Individual level | | | |
|---|--|--|--|--|---|
| | | Indicators on personal status | Indicators on KAP | Biomedical indicators | |
| Module 1 Questionnaire survey | Self reported status of health (e.g. diarrhoea, acute respiratory infection, genital discharge, etc.) | KAP related to transmission of disease (e.g. malaria, HIV/AIDS, helminthiasis, etc.) | Prevalence of disease conditions in children under 5 years of age and the adult population (e.g. malaria, anaemia, hypertension, etc.) | Module 3 Clinical field unit | |
| | Reproductive health (e.g. pregnancy, and fertility status) | KAP related to prevention of disease (e.g. vector control measures, contraceptive use, general health education, personal hygiene, etc.) | Nutritional status based on height and weight measurements and/or mid-upper arm circumference (MUAC) | | |
| | Vaccination status | KAP related to maternal and child health (e.g. health seeking behaviour, feeding practices, place of delivery) | Prevalence of disease conditions in school-aged children (aged 9-14 years) (e.g. schistosomiasis, soil-transmitted helminthiasis) | | Module 4 Parasitological survey in school children |
| | Indicators on social determinants of health (e.g. employment status, educational level, domestic violence, life style, etc.) | Role of traditional medicine/healers | Concentration of heavy metals in urine/blood (e.g. mercury, arsenic, cadmium, lead) | Module 5 Heavy metal exposure | |
| | Self reported exposure to air and noise pollution | Animal husbandry and consumption of animal products | | | |
| | | Household level | | | |
| | | Structural indicators | Asset indicators | Environmental indicators | |
| Module 2 Service and infrastructure assessment | Number of people per household | Construction material of houses (e.g. floor, walls and roof) | Drinking water quality at household level (e.g. presence of coliform and/or faecal coliform bacteria) | Module 6 End-user water quality testing | |
| | Distance to drinking water collection points | Number and type of general household assets (e.g. beds, bicycles, radio, etc.) | Number of open water bodies around the household (e.g. open containers) | Module 7 Larval breeding site survey | |
| | Available improved/non improved toilet/latrine facilities | Method of cooking (type of fuel) | | | |
| | Type and location of kitchen compartment within household | Availability and use of vector control measures (e.g. insecticide-treated nets, repellents) | | | |
| Method and place of waste disposal | | | | | |
| | | Community level | | | |
| | | Health system indicators | Infrastructure indicators | Environmental indicators | |
| Module 2 Service and infrastructure assessment | Number and type of available health facilities | Number of households in a community | Water quality at community drinking water points (e.g. presence of coliform bacteria, heavy metals, organic pollutants, turbidity, etc.) | Module 8 Water source quality testing | |
| | Type and quality of health care services | Number and type of drinking water collection points | Level of air pollution (e.g. dust along road) | Module 9 Environmental monitoring | |
| | Type and capacity of health initiatives (e.g. national and international health initiatives, NGO activities) | Number and type of waste disposal points | Exposure to noise pollution (e.g. traffic or project related noise) | | |
| | Number of traditional healers and provided services | Traffic burden in community | Presence of disease transmitting vectors | Module 10 Vector study | |

Figure 43: Framework of modularised baseline health surveys for HIA

The range and significance of potential health impacts, related social sensitives and scale/footprint and precedence of the Project requires that a robust baseline be developed to support the health status at point of departure and to support an effective health monitoring programme. The Project also meets the criteria of a Category A project and given this stature it is strongly recommended to develop a robust baseline at point of departure. Table 17 provides the rationale for collecting detailed primary data. The timing of proposed data collection is important as it intends to describe conditions prior to Project initiation, and while the HIA process is iterative, it is recommended to collect any primary data before any more significant early works or construction work proceeds. It would be beneficial to wait for the FEED before finalising the scope, but as cross sectional surveys can take months to plan and execute advanced planning is recommended.

Table 17: Opportunities and risks for primary data collection

| Variable | Opportunity | Risk |
|---|--|---|
| Criticisms related to negative health impacts caused by the Project | By having a robust health baseline the project will have the ability to describe the baseline health situation and the present state. This will allow easy, effective and evidence based communications with internal and external stakeholders. | Inability to respond to criticisms and effectively communicate with stakeholders. This may lead to reputational loss at a local, national and even international basis. |
| Benchmarking the operation as good international industry practice, especially in country with new oil discovery and development. | Ability to effectively describe a baseline health situation and report on changes from the baseline | Inability to report on measured changes |
| Establishing a good track record of the sustainable management of health impacts in the study area. This will support the elevation of CNOOC as the oil company of choice in Uganda and enhance the reputation in stakeholders. | Ability to report on achievements from baseline and linked to specific interventions. | Inability to proactively report actual impacts of health programmes in annual or specific company reporting. |

Table 18 summarises potential data-gaps and suggested opportunities to close gaps. These should be elaborated further with the development of detailed sampling strategies and designs. Surveillance of these indicators will be required and therefore it is important that the study is designed in such a way that allows reproducibility and comparison from baseline. This will require that surveys are repeated serially and while this will provide invaluable data on change from baseline a longitudinal surveillance system should also be considered that tracks disease incidence and other KPIs. CNOOC should consider developing a database that links into their social and environmental management system to track key indicators.

Table 18: Data gap and data-gap closure opportunities

| Data gap | Data closure opportunity | Proposed approach |
|---|--|--|
| Lack of information on knowledge, attitudes, practices and behaviour related to certain health conditions | Perform focussed KAP surveys on various demographic and health indicators. These can include such as water and sanitation, reproductive health, HIV/AIDS, TB, malaria, as well as HSB and socio –economic indicators linked to health. | Cross sectional surveys at household level by developing a structured sampling strategy to include lake-shore, escarpment and pipeline alignment communities. Questionnaires can be developed based on local needs and validated against indicator, core welfare and other demographic and health studies completed in Uganda or the region. |
| Robust baseline of key clinical disease indicators such as: <ul style="list-style-type: none"> • Malaria • Potential filariasis or dengue • Anaemia • Sanitation related conditions, with STH and schistosomiasis effective indicators. • Nutritional status- especially wasting, stunting and body mass index • Indicators for STIs- specifically syphilis. • Blood pressure and potential chronic diabetes as indicators for NCDs. | Biomedical surveys in communities. | As part of the household questionnaire surveys develop a strategy to collect biomedical samples in a clinical field unit. Ideally most samples should be analysed in the field. Full ethical clearance and practices will need to be followed. Ideally, these surveys should be conducted in association with the district health authorities and extensive pre-survey consultation and sensitisation is required. |
| Knowledge of behaviours and insecticide sensitivities of local disease vectors, to enable evidence decision making for control programmes. | Entomology studies | Commission a baseline entomology study to determine the presence, behaviour and preferred control methods for disease vectors in the study area. Research agencies in Uganda should be able to support these. |
| Environmental hygiene indicators on quality of water from community collection points to end user to evaluate quality at source-collection-storage-use. | Collection of environmental data in communities | Use a field test kits (Del Aqua) to determine the presence of thermo-tolerant coliforms (<i>E.coli</i>) in community water sources and at end-user level (cups). |

10 Assessment of Alternatives

Alternatives related to the Project design and associated FEED is still under development and is considering the elements of the ESIA.

The proposed alternatives are recommended to avoid, reduce, mitigate or enhance potential health impacts include:

- Resettlement:
 - Plan physical resettlement in such a way to reduce exposure to sensitive receptors.
 - Plan location of host sites for physically resettled communities so as not to create new environmental health or social challenges.
 - Minimize economic resettlement from land as far as reasonable possible and support effective compensation and support to those whose livelihoods depend on subsistence agriculture.
- Temporary and permanent work camps:
 - Plan these in such a way to limit contact with the camp residents and local population. A cordon sanitaire of 1.6 km is ideal, but this may not be practical.
 - Limit the number of employees and especially contractors/villages that use local accommodation (guesthouses) when overnighing in the study area.
 - Maintain a closed camp status.
 - Maintain good environmental sanitation and hygiene controls in the camps including
 - Domestic garbage and waste water management.
 - Storm water run-off and drainage both on site and immediately surrounding the site.
- Engineering controls and selection of equipment to keep noise and air emissions ALARP, selection and management of HCS to reduce risks to workforce and community, and good environmental management to prevent water and soil pollution and increased risks from vector related disease.
- The in-coming contractor workforce should be selected in such a way so as not to introduce a novel or higher rates of communicable diseases into the communities residing in the study area.
- Plan development to manage Project induced influx and also the creation of “camp follower” settlements.
- Effective OHSMP.

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12 Appendices

12.1 Appendix A: Methodology for Assessing and Categorizing the Significance of Impacts

12.1.1 Introduction

The impact significance methodology discussed below presents the process whereby health outcomes and determinants that may be influenced by the project, or its activities, are ranked to support the prediction, evaluation and ultimate mitigation of potential health impacts.

The categorization of impacts is based on a ranking system that evaluates the direction (positive versus negative) of the impact, the consequence of the impact itself, as well as the likelihood that the impact will occur. These predictions are made based on the evidence collected in the HIA process and the sensitivity/susceptibility of receptors to the proposed project activities- whether direct, indirect or cumulative. The process will consider the different life stages of the project, as the direction, and area of influence of impacts may differ related to these phases.

The ultimate objective of the impact assessment rating process is to provide a subjective assessment of the comparative health impacts so that their significance can be determined based on the criteria above. This significance ranking allows for prioritization of impacts, as well as mitigation and management measures, and can support the project proponent in critical project design and process considerations before the project starts so that these impacts can be avoided where possible.

12.1.2 General Reporting

In general, each potential impact will be reported on in the following manner:

- **Identification of issues:** which include those health issues where project activities impact on a variety of receptors. The issues will be presented in the EHA framework but will only describe relevant issues; neutral impacts will not be discussed. Some of the issues will be addressed in a separate manner; while others may be addressed broadly as many of the health determinants/outcomes are interdependent.
- **Impact definition.** Positive and negative impacts associated with these issues (and any others not included) then need to be defined – the definition statement will include a cause and comment on the project activity (source of impact), how this may

create an impact and who the receptor group is. Impacts are identified and defined where there is a plausible pathway between the activities and receptors. The “base case” scenario will describe the present health status of communities, or the existing health needs.

The impact definition will address direct, indirect and cumulative impacts. In general, the direct impacts will be addressed in the quantitative impact evaluation while the indirect and cumulative impacts will be discussed in a qualitative fashion.

It is essential that an impact definition is set in context, and to achieve this, the impact assessment will seek to describe the sensitivity of the receptors and any stakeholder concern (where relevant).

- **Impact evaluation:** This is the final step in the process where the significance of the impact is ranked. This is described in detail in the section below.

12.1.3 Impact Evaluation

The impact assessment process adopted by SHAPE uses a structured process through the following steps:

12.1.3.1 Part A: Defining the Consequence or Effects of a Health Impact

The impact consequence is defined using three primary impact characteristics including:

- **Magnitude:** this considers the intensity/severity of the health effect on receptors as well as the ability of the community to adapt to the pre-impact level of health. In addition, the degree of stakeholder concern to the level or severity of the health effect is considered. As health effects can be detrimental or beneficial to the receptor this element evaluates how severe negative impacts might be, or how beneficial positive impacts maybe on a particular receptor or a potentially affected community.
- **Temporal scale/duration:** this defines the significance of the impact at various time scales, as an indication of the duration of the impact.
- **Spatial scale/ extent of influence on the population:** This defines the physical extent of the impact. This is relevant to support the description of the magnitude as the specific impact may influence different levels; from an individual; to a small community; and even extend to influencing national and cross boundary effects.

The severity of impacts can be evaluated with and without mitigation in order to demonstrate how serious the impact is when nothing is done about it. The word 'mitigation' means not just 'compensation', but also the ideas of containment and remedy. For beneficial impacts, optimization means anything that can enhance the benefits. However, mitigation or optimization must be practical, technically feasible and economically viable.

12.1.3.2 Part B: Defining the Probability of a Health Impact

The **likelihood/probability** of the impact occurring because of project actions differs between potential impacts. There is no doubt that some impacts will occur (alteration in environment), but other impacts are not as likely to occur (e.g. vehicle accident), and may or may not result from the proposed development. Although some impacts may have a severe effect, the likelihood of them occurring may affect their overall significance.

The likelihood rankings are linked to the temporal rankings as described in the consequence and effects section in Part A.

12.1.3.3 Part C: Determination of the Significance Ranking

Each criterion in Part A and Part B is assigned a ranking score to evaluate the overall **significance** of an activity as shown in Table A-1. This is an additive score based on the specific effect and likelihood rankings, which are then analysed in the matrix presented in Table A-2 and Table A-3. These total scores are then evaluated to determine the significance of the impact and based on the overall cumulative score the significance ranking is divided into four categories as discussed in Table A-4. The importance of the ranking is discussed based on the overall significance to the receptor and the proposed development. The overall significance can be either positive or negative depending on the effect of the magnitude and these are divided into different colour codes in Table A-2 (for negative impacts) and Table A-3 (for positive impacts).

This evaluation is used to prioritize which impacts require mitigation, with critical and high impacts generally requiring some form of mitigation or proposal for an alternative approach. The approach also allows the determination of the benefit of mitigation measures that may actually manage a negative impact to bring about benefits. It can also highlight beneficial impacts because of interventions, generally on the residual rankings though.

These high impacts may also affect decision makers in whether to proceed with the proposed activity. Moderate impacts require an investigation on mitigations or alternatives.

Low impacts will require minimal intervention but it is essential that these elements remain of low significance.

12.1.3.4 Part D: Confidence Level

A confidence level is assigned to the assessment based on the amount and quality of the evidence and the confidence of the impact assessor on predicting the significance of the ranking. These are limited to low, medium and high ratings.

Table A-1: Consequence/effect and likelihood/probability matrix

| Part A: Define the consequence/effect in terms of intensity of health effect, duration and spatial scale | | | | |
|--|---------------------------|---|---|--------|
| Impact characteristics | Definition | Criteria | | Rating |
| | | Negative impact | Beneficial impact | |
| A. Magnitude/Intensity of Health Effect | Nil | Prevailing baseline | Prevailing baseline | 1 |
| | Minor (impact/benefit) | Minor deterioration (nuisance, annoyance) in health or harm to receptors. The receptors will adapt with ease to the influence of the determinant and maintain pre-impact levels of health. | Minor improvement in the health and well-being of receptors. The changes are not significant and thresholds are maintained. No stakeholder approval or appreciation. | 2 |
| | Moderate (impact/benefit) | Moderate/measurable deterioration in health or harm to receptors. Acute conditions. The influence of the determinant will result in some difficulty in adapting to the health effects, and maintaining pre-impact levels of health will require support. Moderate stakeholder concern. Moderate exceedance of thresholds. | Moderate improvement in the health and well-being of receptors. The changes are within or better than thresholds. Minimal stakeholder approval or appreciation | 4 |
| | Major (impact/benefit) | Substantial deterioration in health or harm to receptors. The influence of the determinant will result in the inability to adapt to the health effects or to maintain a pre-impact level of health. Chronic or terminal conditions. There is substantial stakeholder concern. An identified threshold is often exceeded. | Substantial improvement in the health and well-being of receptors. The changes are within or better than thresholds. Stakeholder approval/appreciation and favourable publicity | 8 |
| C. Temporal scale/duration | Short term | Short term, < 1-4 years, low frequency | | 1 |
| | Medium term | Between 5 and 20 years | | 2 |
| | Long term | Between 20 and 40 years (generational) and from an individual human perspective permanent | | 3 |
| | Permanent | Over 40 years and resulting in a long term and lasting change | | 4 |
| D. Spatial scale/extent/population | Site/localized scale | Site specific or confined to a sensitive receptor at the local scale. This is generally limited to an individual/ small number of households/small settlement | | 1 |
| | Study area | This is localized to the study area as well as the broader project affected area. These can generally extend to influence an administration post or sub-district level. | | 2 |
| | Regional | District and Provincial level | | 3 |
| | National/Cross boundary | National or influence across international borders | | 4 |
| Part B: Define the likelihood or probability of exposure to impacts | | | | Rating |
| Probability of exposure | Unlikely/Improbable | The likelihood of these impacts occurring is slight | | 1 |
| | May occur/Possible | The likelihood of these impacts occurring is possible | | 2 |
| | Probable | The likelihood of these impacts occurring is probable | | 3 |
| | Definite | The likelihood is that these impacts will definitely occur | | 4 |

Table A-2: Determination of the Negative Significance Ranking

| Part C: Determination of the significance ranking: based on a comparison between likelihood and consequence | | | | | | | | | | | | | | | |
|---|--|-------------------------------------|---|---|----|----|----|----|----|----|----|----|----|----|----|
| Likelihood/ Probability | | Consequence/effect of health impact | | | | | | | | | | | | | |
| | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 1 | | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 2 | | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 3 | | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 4 | | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |

Keys: Light blue: negligible; Green: minor negative; Yellow: moderate negative; Orange- high negative; Red: critical/very high negative

Table A-3: Determination of the Beneficial Significance Ranking

| Part C: Determination of the significance ranking: based on a comparison between likelihood and consequence- Beneficial | | | | | | | | | | | | | | | |
|---|--|-------------------------------------|---|---|----|----|----|----|----|----|----|----|----|----|----|
| Likelihood/ Probability | | Consequence/effect of health impact | | | | | | | | | | | | | |
| | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 1 | | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 2 | | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 3 | | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 4 | | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |

Keys: Aqua: negligible benefit; Lilac: minor benefit; Blue: moderate benefit; Navy blue- high benefit; Purple: very high benefit

Table A-4: Description of Significance Rating

| Significance Ranking | Description of significance | Cumulative score |
|----------------------|--|------------------|
| Negligible | The impact magnitude is small and is within all limits and mitigation is not necessary. These impacts will result in either positive or negative short-term effects on health and well-being. | 4-5 |
| Minor | The impact magnitude is sufficiently small and is within acceptable limits and mitigation is desirable but not essential. The impact by itself is insufficient even in combination with other low impacts to prevent the development being approved. These impacts will result in either positive or negative medium to short-term effects on health and well-being. | 6-7 |
| Moderate | An important impact, which requires mitigation to levels as low as reasonably possible. The impact is insufficient by itself to prevent the implementation of the project but which in conjunction with other impacts may prevent its implementation. These impacts will usually result in either a positive or a negative medium to long-term impact on health and well-being. As residual impacts, these are of lower importance but warrant careful attention to conditions regarding mitigation and monitoring. | 8-11 |
| Major | A serious impact, if not mitigated, may prevent the implementation of the project (if it is a negative impact). These impacts would be considered by society as constituting a major and usually a long-term change to health and well-being and may result in severe effects. As residual impacts, these should play a role in project development and they require strict controls and monitoring. Beneficial impacts should be fully delivered. | 12-15 |
| Critical/Very High | A very serious impact, which, if negative, may be sufficient by itself to prevent implementation of the project. The impact may result in permanent change. At times, these impacts are unable to be mitigated. As residual impacts, these need to be avoided. Beneficial impacts should be fully delivered. | 16-20 |

12.1.3.5 Reporting on Impacts

An example of the reporting format is provided below. For most impacts, summary tables for each project phase (the phases can be integrated or separated as required) are produced to present the rating results.

The first row of the rating table presents the impact definition. This is presented in the form of the environmental health areas framework based on the relevant health outcome or determinant. The second row presents the rating categories as presented in Table 1.

The third row presents the actual ranking or impact definition. The impact before management is presented first in row three to outline the **inherent risk** from the potential impact.

Management measures are listed in row four of the table. These management measures are divided into three management components based on the focus of the intervention; namely:

- **Project impact mitigation:** Interventions required to manage the potential health impacts on the receptors. These are required by the project and are not voluntary contributions. The precautionary principle will apply whilst analysing these.
- **Occupational health, safety and environmental management:** Interventions aimed at ensuring a healthy, safe and productive workforce. In addition, it considers aspects that can be controlled in the workforce to prevent community health impacts.
- **Social Development Initiatives:** Interventions suggested that will improve the existing health status of the communities. These are voluntary contributions and should bring about health benefits and improve social license to operate in the receptive communities. It should also promote project sustainability if developed based on sustainability principles.

The fifth row of the table will present the impacts after management or the so-called **residual risks**. This follows the steps from Part A to D with the ranking that assumes that the recommended mitigation measures are successfully implemented. When voluntary contributions are recommended that may enhance the baseline, these will be mentioned, as they are likely to result in beneficial impacts.

The confidence ranking is included in the summary table, which provides the reader with an indication of the assurance level placed on the rating process and addresses the concept of uncertainty.

Example of the Rating Scale:

| EHA #1 | Communicable disease linked to overcrowding and poor environmental health | | | | | | | | | | |
|--|---|---|---------------|---|--------------------|---|------------------------|---|-------------|----------------------|------------|
| Early works and Construction | | | | | | | | | | | |
| | Consequence/Effect | | | | | | Probability/Likelihood | | Total Score | Overall Significance | Confidence |
| | Temporal Scale | | Spatial Scale | | Severity of Impact | | | | | | |
| Impact before management | Short term | 1 | Study Area | 2 | Moderate | 2 | Definite | 2 | 10 | Major | High |
| Management Measures | | | | | | | | | | | |
| Project impact mitigation: <ul style="list-style-type: none"> • G • G | | | | | | | | | | | |
| Occupational health, safety and environmental management: <ul style="list-style-type: none"> • G • G | | | | | | | | | | | |
| Social Development: <ul style="list-style-type: none"> • G • G | | | | | | | | | | | |
| Impact after management | Short term | 1 | Localized | 1 | Slight | 1 | Unlikely | 1 | 4 | Minor beneficial | Medium |

The final element is to consider which communities are affected by the potential impact. Where it is possible to classify the potentially affected communities (PACs) for the specific project these will be presented as a summary based on the potential for impact. For example, in a project with a linear road feature only the PACs located on the road will be impacted. This will be presented as follows.

| | PAC 1 | PAC 2 | PAC 3 | PAC 4 | PAC 5 |
|--------------------------------|-------|-------|-------|-------|-------|
| Accidents and injuries: | Yes | Yes | No | No | No |

12.2 Appendix B: Progress Report of Preliminary Trip

| | |
|----------------------------|---|
| Project | Chinese National Offshore Oil Company Uganda, Kingfisher Project |
| Progress Report No. | 01 |
| Date | 20th March 2015 |
| Reporting Period | 1 st March 2015-20 th March 2015 |

Summary of Activities in Reporting Period

Activities completed in the reporting period

The activities completed in the reporting period are outlined in Table 19. The brief minutes of meetings and a daily activity log are attached under a separate cover.

Table 19: Activities undertaken in reporting period

| Item | Project Activity | Date/Notes |
|--------------------|--|--|
| Desktop work | | |
| 1 | Initial meeting with Golder | |
| 2 | Completion of initial literature review based on EHA methodology. This will form the basis for the baseline health description. | The literature review and framework of the report updated up the 20 th of March and will form the base for on-going iterations. |
| 3 | Planning for initial field work | |
| Initial field work | | |
| 1. | Met with key CNOOC environmental, health and social staff and presented HIA objectives, approach and expected outputs. | |
| 2. | Field work including: <ul style="list-style-type: none"> Meeting key CNOOC community liaison staff. Initial meeting with Hoima District Health Management Team (DHMT) to present HIA and request support. Meeting with Western Region head of Malaria Consortium (an NGO doing health related work in the region, district and study area). Travelled to study area and evaluated some health facilities and communities. Initial introductions to health facility staff and local community leadership. Interviewing and appointing Ugandan field support staff. Plan for next field visit. Request additional project documents | |

Activities not completed in the reporting period

| Item | Project Activity | Date/Notes |
|---------|---|------------|
| Desktop | | |
| 1 | Review of all project documentation. Project description and biophysical baseline studies, scoping assessments etc. | |

Areas of Concern

No specific areas of project management or contractual concern were noted at this stage. An initial impression of health challenges is summarised below in section 4 (initial impressions). Golder support and items associated to per-diems and sitting fees for government officials needs to be defined in terms of payment and responsibility.

Main activities for the next reporting period (20th March until 18th April 2015)

Activities to be completed in next reporting period

The main activities to be completed in the next reporting period are detailed in the table below.

Table 20: Planned activity

| Item | Project Activity | Responsibility | Due Date | Notes |
|---------------------|---|----------------------------|-----------------------------|--|
| Desktop work | | | | |
| 1 | Finalise field plan | SHAPE | 22 nd March 2015 | Complete on 20 th of March and sent. |
| 2 | Request data, reports and statistics from DHMT. | SHAPE with CNOOC follow up | 22 nd March 2015 | Submitted on 19 th of March to DHMT. |
| 3 | Approval of field plan | Golder/CNOOC | 27 th March 2015 | SHAPE to adjust as required |
| 4 | Develop tools for use in field | SHAPE | 27 th March 2015 | |
| 5 | Contract Ugandan staff | SHAPE | 27 th March 2015 | Annette Kobusingye will be supporting SHAPE. CV sent to Golder and CNOOC for approval |
| 6 | Plan logistics for second field trip | SHAPE | 2 nd April 2015 | As per work plan. Michelle Watts from SHAPE to follow up as required. |
| 7 | Present formal request for HIA to Hoima DHMT and obtain formal stamped permission to conduct the second stage of the field work. | CNOOC | 2 nd April 2015 | As per format provided by SHAPE. CNOOC to arrange from Hoima and to have in place prior to second field trip. |
| 8 | Book and arrange round table meeting with Hoima DHMT, invited NGOs/CBOs/agencies for the 27 th of April 2015 (morning for three hours- 9-12am). Ideally meeting will be held at DHMT offices or at | CNOOC/ Golder | 2 April 2015 | As per work plan and discussed with Hoima DHMT on the 17 th of March 2015. Golder to arrange venue with DHMT. Sitting fees or per diems to be |

| | | | | |
|-------------------|---|---------------------|---|---|
| | other approved venue. | | | arranged by Golder and SHAPE advised. |
| 9 | Book meeting/ interviews with staff in health centres and community leaders as per work plan. | CNOOC/Golder | 9 th April 2015 | Based on receipt of formal approvals from DHMT. |
| 10 | Finalise and confirm arrangements for field trip. | Golder/CNOOC | 9 th April 2015 | As per approved work plan. |
| 11 | Follow up with DHMT on requested data, reports and statistics | CNOOC | 15 th April 2015 | From Hoima DHMT and to receive from health centres in study area but after permissions process. |
| Field work | | | | |
| 1 | Initiate field work on 25 th April 2015 | SHAPE/CNOOC /Golder | Depart Kampala for Hoima and Kingfisher on 26 th of April. | 2 x vehicles as team will spilt into two. Require CLO support at Hoima and Kingfisher. |
| 2. | Arrange boat trip from Kingfisher to southern communities as per plan | CNOOC | As per work plan | For 2 people |

Client Meetings

Issues addressed at client meetings and field work

Summarised in activities completed to date and in daily field logs.

Issues to be addressed at next client meeting/call

- Workplan and timing
- Logistics
 - Flights
 - Split teams with two vehicles as parallel activities in Hoima/Kingfisher.
 - CLO support at Hoima and at Kingfisher
 - Boat transfers for team of 2 people to remote community for one day.
- Hoima round table meeting. Planning, chairing, venue, recording, refreshments and per diems/sitting fees.

Initial Impressions

The initial field work allowed the opportunity to identify some specific health challenges that have relevance to the HIA. These will be followed up and more data obtained as available in the next phases:

Health systems and health information

The health systems in the study area appeared to be very weak. Numerous challenges were noted including available human resources, inadequate facilities and equipment, poor access for communities and supply chain of essential supplies. A detailed service availability and readiness assessment will be performed in the next phase.

Referral to higher levels of health care was also a major challenge as the district has no ambulance and patients need to rely on their own transport. Distances were large and transport relatively expensive.

The village health team's programme was reported to be relatively effective but was severely hampered by the inability to provide medications to support community based management of disease. These are supported by donor programmes in areas but these are slowing or funding is coming to an end.

Health information in general appeared to be available but given the limited diagnostics, challenges related to access for the community and potential other health seeking behaviour determinants it may not be reliable at the local level and thus may not reflect a specific point of departure baseline for the potentially affected communities. This will be examined in more detail in the next field trip and advice on the robustness of the baseline health conditions in the study population will be provided. Data closure opportunities including primary collection of data will also be addressed in the next stage as an output of the HIA report or the next progress report.

Major Burden of Disease

A brief discussion was held with staff in the four health centres in the immediate study area on the major burden of disease and associated contributing factors, as summarised in the table below.

| Burden of Disease | Contributing factor |
|--|---|
| Malaria was regarded as the biggest public health concern despite control efforts. | Poor use of bednets. Environment conducive to proliferation of mosquitoes. Poor behaviours increase risk. |
| Diarrhoeal disease and other infective gastro-intestinal ailments was a major concern with dysentery, typhoid and even cholera reported in addition to large case load of viral causes of diarrhoea. Intestinal schistosomiasis was reported in the Lake Albert area with intestinal parasites common. | Access to clean water was a challenge. Unsafe and un-improved sources were used commonly. Sanitation services were poor with open defaecation common. General environmental hygiene and household waste management was very poor. |
| Respiratory disease such as pneumonia was common, with a seasonal preference. | Poor housing. General poor living circumstances. Indoor and outdoor air quality is poor with use of biomass fuel for cooking/heating which increases risk of respiratory disease. |
| Measles outbreaks have occurred. | Weak immunisation campaigns as outreach is limited. |
| HIV and sexually transmitted are on the increase in certain communities. The fishing communities and trading centres are especially experiencing an upsurge in cases. | Knowledge is reported to be good but behaviours poor. Available cash in Buhuka flats was a major issue as transactional and even commercial sex was common. Substance abuse |

| | |
|--|--|
| | increases high risk behaviour and condoms are rarely used. Young girls are especially vulnerable to transient businessmen, fisherman and transport workers. It was reported that construction activity (Turkish contractor building the road and contractor workforce from escarpment road also engage in high risk multi sexual relations often with a transactional nature. Sharing of women and general promiscuity was reported as common place on Buhuka flats. |
| Malnutrition does occur in pockets | Refugee communities that attend Kyangwali are reported with severe acute malnutrition. However, fishing communities and agricultural communities did not report food shortages although food was regarded as very expensive. It was reported that fishing resources have been dramatically depleted. |
| TB | There is an increase in TB with a reported co-morbid association with HIV. Overcrowding and poor living conditions may also contribute. |
| Accidents and injuries | Road traffic accidents do occur but not commonly. However, assault is common as is gender based domestic violence. Substance abuse is the common root cause. |
| Other vector related disease | River-blindness occurs in the district |
| Animal related disease was reported to occur including Brucellosis | Cattle rearing are common in area with weak veterinary health services. There may be a risk of leptospirosis as well. |

Influx and Social Dynamics Influencing Health

Influx and movement of people is reported to be occurring and influencing a number of health determinants. Some respondents considered this to be positive as it injects cash into the area, but pressure on scarce resources, alteration in social dynamics and culture are potential negative effects. Influx is likely to be a major cause for future health impacts.

Information Requirements

As mentioned in the dependencies in the planned activities.

General Issues

- See attached work plan and letter to DHMT.

12.3 Appendix C: Stakeholder Engagement with Hoima DHMT



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CNOOC UGANDALIMITED

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Fax: +256 (0) 204792012

Date: April 20th, 2015

File Ref: CUL-PT -20150420-01

Hoima District Local Government,
P.O. Box 2,
Hoima-Uganda.

Attention: Director District Health Services.

Dear Sir,

RE: PROPOSED HEALTH IMPACT ASSESSMENT: KINGFISHER PROJECT.

As you are aware, CNOOC Uganda Limited the operator of the Kingfisher Discovery Area is in the process of undertaking the Environment and Social Impact Assessment (ESIA).

CNOOC Uganda Limited intends to conduct a health impact assessment (HIA) as part of the feasibility and risk management studies for the proposed Kingfisher Project (Project) located within the Hoima district and specifically the sub-counties of Kyangwali, Buseruka as well as the Hoima municipality.

A HIA seeks to identify and estimate the lasting or significant changes of different actions on the health status of a defined population. HIA may be defined as "a combination of procedures, methods, and tools by which a project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population". Therefore, the HIA will identify appropriate actions to manage those effects, and thus plays an important role as a key decision-making tool in development planning, and will assist the Project by understanding the existing health needs of the community, as well as considering the future consequences of different Project options on human health.

CNOOC has appointed Golder Associates and SHAPE Consulting to undertake this survey with Dr Mark Divall leading the assessment. CNOOC and SHAPE wishes to engage with the DHMT to better understand the prevailing public health challenges, related determinants of health and opportunities to mitigate any potential negative impacts from the Project and to enhance the potential positive benefits.

The consultancy team will engage with the DHMT to introduce the study and to obtain key information and data on the communities that may be impacted by the development of the Project. The team also wishes to meet with the other organs of the district health team including:

- Clinical and programme managers
- Planning, Monitoring and Evaluation manager or the person in charge of the district health information system
- Primary health care manager
- Environmental health officer (manager)



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The HIA team is looking to obtain secondary and participatory information which we have divided into the following four sections:

1. Firstly, data from the district health information system and where possible disaggregated to the communities that may be impacted by the Project. The data being sought is for the top ten conditions reported in the district stratified by hospitals, community health centres, clinics and mobile units that serve these communities. The team will be interested in the last five years data so as to compare trends.
2. The team will be conducting key informant interviews with key programme managers in the district to understand health challenges, needs and current interventions in the communities that may be affected by the Project. The interest will be understanding specific vulnerabilities and determinants of health in the communities to find out why health challenges are what they are.

The intent of the study is to establish what sectors of the population may be vulnerable to health and social changes related to the Project and potentially working with the district health authority in improving these determinants. For example, if non-accidental injuries are a challenge the team would be interested to know that substance abuse was an issue, specifically in this group and these are the vulnerable parts of the community who are affected. The team would also be interested in understanding practices and behaviours in the communities and if any studies of this nature have been performed and semi structured interview tools will be used to conduct these sessions.

In terms of the health programmes, the team will be interested in:

- What health programmes are ongoing in the areas of interest?
 - Who is the funder and implementing partner?
 - What are gaps and opportunities in programmes? &
 - How are the programmes measured in terms of performance and outcome?
3. Thirdly, the team would like to visit the public health centres in the study area to conduct key informant interviews with the operations/clinic manager in each area to obtain data in a participatory manner on health challenges and needs in their specific community and issues such as health behaviours, health education and health seeking behaviour.
 4. The proposed schedule for the specialist visit to the Hoima district health facilities, looks as follows:



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| Date | Time | Activity |
|---------------|------|--|
| 27 April 2015 | AM | Hoima DHMT workshop, including programme managers and NGOs |
| 27 April 2015 | PM | Kabaale Health Centre assessment and KII |
| 28 April 2015 | AM | Hoima Hospital assessment and KII |
| 28 April 2015 | PM | Kyangwale HC Assessment and KII |
| 30 April 2015 | AM | Kaseeta HC assessment and KII |

We would appreciate your assistance in setting up these interactions with the specific stakeholders as detailed above.

For further enquiries on the matter, contact Zakalia Lubega on 0772-798 051 or Zakalia.LUBEGA@cnoocuganda.com.

We thank you for your continued support.

Yours Sincerely,

Xiao Zongwei
President
CNOOC Uganda Limited
CA/ZL

Cc: Commissioner Petroleum Exploration and Production Department
Cc: Chief Administrative Officer-Hoima District
Cc: Area Manager, Kingfisher Development Area, Petroleum Exploration and Production Department
Cc: District Health Officer-Hoima District
Cc: The Director Medical Services-Hoima Regional Referral Hospital
Cc: The Mayor-Hoima Municipal Council
Cc: The Town Clerk-Hoima Municipal Council
Cc: LC 111 Chairperson-Kyangwale Sub-county Local Government
Cc: Sub-county Chief-Kyangwale Sub-county Local Government
Cc: LC 111 Chairperson-Buseruka Sub-county Local Government
Cc: Sub-county Chief-Buseruka Sub-county Local Government

12.4 Appendix D: Price list of selected commodities as of 14 October 2014 (Hoima Town)

AVERAGE PRICES OF SELECTED COMMODITIES AS AT OCTOBER 2014

| NO | COMMODITY | RETAIL/KG | |
|----|-----------------------|--------------|--------|
| | | WHOLESALE/KG | |
| 1 | Agwedde Beans | 1,450 | 1,800 |
| 2 | Apple Bananas | 2,000 | 2,550 |
| 3 | Beef | 6,950 | 8,200 |
| 4 | Cassava Flour | 950 | 1,200 |
| 5 | Cavendish (Bogoya) | 2,850 | 3,650 |
| 6 | Coffee (Arabica) | 5,000 | 5,250 |
| 7 | Coffee (Robusta) | 1,500 | 1,700 |
| 8 | Cow Peas | 2,700 | 3,200 |
| 9 | Dry Fermented Cassava | 700 | 850 |
| 10 | Exotic Chicken | 10,200 | 12,450 |
| 11 | Exotic Eggs | 8,250 | 9,600 |
| 12 | Fresh Cassava | 750 | 950 |
| 13 | Goat Meat | 8,300 | 9,300 |
| 14 | Groundnuts | 3,250 | 3,850 |
| 15 | Irish Potatoes | 1,050 | 1,300 |
| 16 | Kayiso Rice | 2,150 | 2,500 |
| 17 | Local Chicken | 17,400 | 20,900 |
| 18 | Local Eggs | 12,900 | 14,900 |
| 19 | Maize Flour | 1,400 | 1,700 |
| 20 | Maize Grain | 550 | 700 |
| 21 | Matooke | 19,600 | 23,050 |
| 22 | Matooke(kg) | 850 | 1,150 |
| 23 | Milk | 1,050 | 1,300 |
| 24 | Millet Flour | 2,250 | 2,650 |

| | | | |
|----|---------------------|--------|--------|
| 25 | Millet Grain | 1,450 | 1,700 |
| 26 | Nambale Beans | 1,650 | 2,000 |
| 27 | Nile Perch | 9,950 | 12,150 |
| 28 | Orange S.Potatoes | 600 | 800 |
| 29 | Pineapple | 1,700 | 2,250 |
| 30 | Pork | 7,050 | 8,650 |
| 31 | Processed Honey | 11,600 | 13,800 |
| 32 | Simsim | 4,750 | 5,450 |
| 33 | Sorghum Flour | 1,550 | 1,800 |
| 34 | Sorghum Grain | 950 | 1,150 |
| 35 | Soya Beans | 1,850 | 2,200 |
| 36 | Sun Dried Cassava | 700 | 900 |
| 37 | Sunflower | 1,000 | 1,100 |
| 38 | Super Rice | 2,750 | 3,150 |
| 39 | Tilapia | 8,600 | 10,500 |
| 40 | Turkey | 44,550 | 51,050 |
| 41 | Unprocessed Honey | 6,600 | 7,650 |
| 42 | Unprocessed Vanilla | 2,800 | 3,500 |
| 43 | Upland Rice | 2,350 | 2,600 |
| 44 | White S. Potatoes | 700 | 950 |
| 45 | Yellow Beans | 2,000 | 2,300 |

12.5 Appendix E: Health Facility Assessments

12.5.1 Introduction

In order to evaluate the capacity of the health system that supports the populations of the study area, a health care quality assessment was conducted as part of the HIA field work.

The following health centres (HC) were identified as serving the identified PACs in the Project area:

- Hoima Regional Referral Hospital;
- Kabaale Health Centre (level 3);
- Kaseeta Health Centre (level 3);
- Kyangwali Health Centre (level 3 – to be upgraded to level 4 as from July 2015); and
- Buhuka Health Centre (level 3).

The nearest referral hospital is the Hoima Regional Referral Hospital (HRRH), located approximately 84km north-east from the furthest health centre (Buhuka HC) and 48 km east of the closest, evaluated health Centre (Kabaale HC). In addition to serving the population in the study area, HRRH also served the whole of the Hoima district and six other districts, namely:

- Masindi district;
- Kagadi district;
- Bulisa district;
- Kilyandongo district;
- Kiboga district; and
- Kyangwanzi district.

As outlined in the methodology, the facilities were assessed in terms of human resources (capacity and training), quality and range of services (including availability of equipment, medication and supplies), general infrastructure and profile of catchment population as well as quality of the referral system. Where applicable, the WHO SARA readiness indices were adapted for the Ugandan context and the scores are reported below.

12.5.2 Findings

12.5.2.1 Human Resources: Capacity and Skills

Figure 44 illustrates the number of staff per category as well as the reported target population area at the time of the facility assessment. In general:

- All of the HCs were under-staffed, with Buhuka HC being the worst affected. According to the Hoima DHMT, a level III health centre is supposed to have 23 staff members.
- Even the best resourced and staffed HC (Kyangwali), had an insufficient complement of staff present during the evaluation.
- The lack of staff was identified as the main driver for poor execution outreach programs in the communities.
- All health centres (with the exception of Buhuka HC) had clinical officers (three years of study) as the highest educated health practitioners. Buhuka HC only had three enrolled nurses.
- It must be noted that Kyangwali HC had the services of a medical doctor for three days per week. The doctor, however, is an employee of UNHCR and not the DHMT and the arrangement was subject to availability.

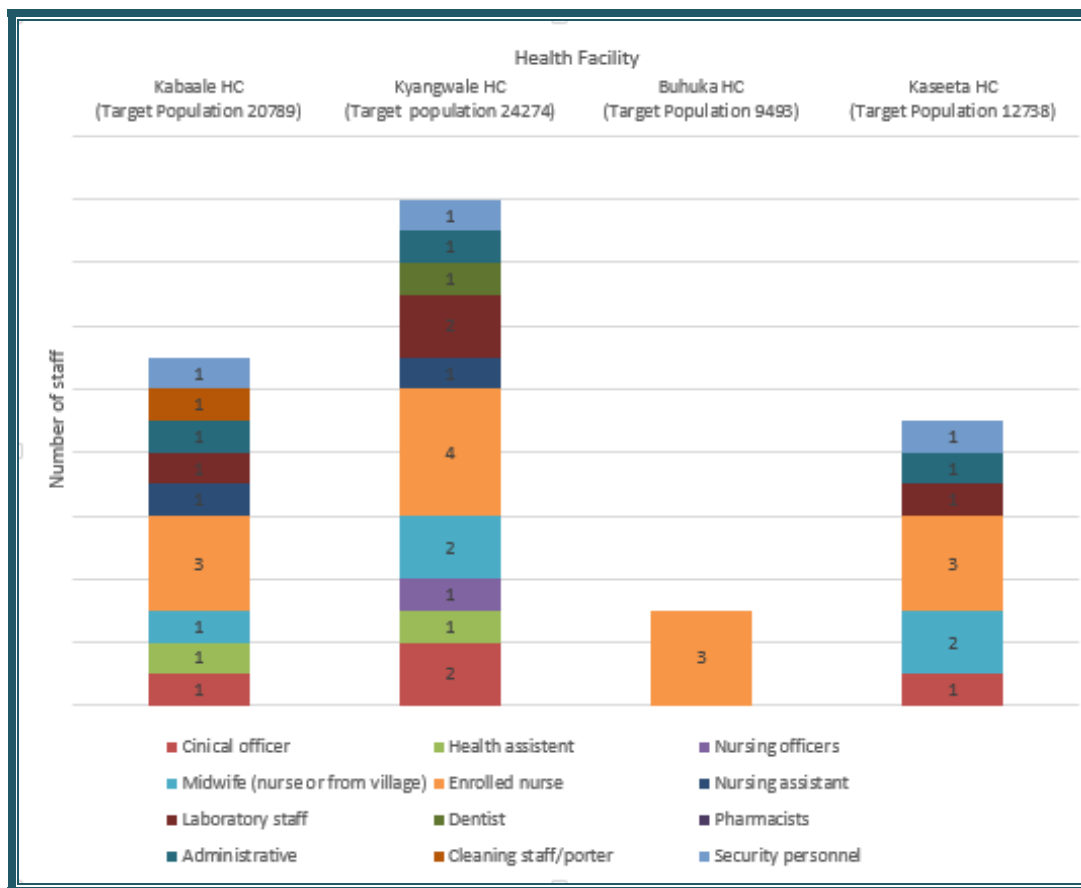


Figure 44: Number and type of dedicated staff per health facility

12.5.2.2 Service Availability and Range of Services

- Hours of service:

All evaluated HCs had 24 hour emergency services availability, although facility hours were officially from 7:00 to 17:00 on a daily basis. All of the centres had clinical staff accommodation on site, although these accommodation facilities were appointed to the midwives who needed to be available for deliveries. For any after-hours emergencies, the clinical staff would be alerted and called to the health facility to attend to the emergency.
- Staff proximity to facility and accommodation:

As noted, all HCs had staff accommodation available on site. Staff who could not be accommodated in these housing units, lived in rental properties in the nearby communities, approximately 5-15 min away from the premises.
- Costs:

All services, treatment and medication were reported to be free of charge in all of the evaluated HCs. The only costs associated with medical treatment in the study area,

was transport cost from their residence to the health centre. It was also reported that patients who needed to be referred from HRRH to the national referral hospital in Kampala, would frequently be asked to contribute money towards the procurement of fuel.

- Transport costs throughout the area were generally considered to be prohibitive with the highest costs for emergency private transport reported on the Buhuka Flats (100 000 UGX for the unscheduled hire of a boat from a lake-shore community to the Buhuka HC).
- Figure 45 illustrates the services offered at the 5 facilities. There is tremendous variation between the packages of services as well as the capacity and supplies available at the different facilities.

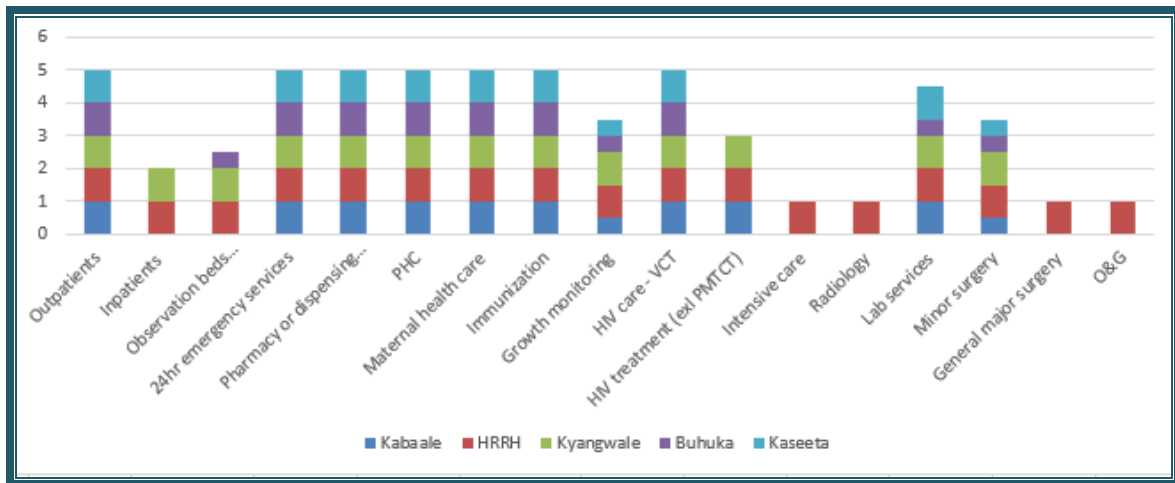


Figure 45: Range of services provided at health facilities

12.5.2.3 Access to Referral Hospital

All HCs had designated referral routes for patients to obtain additional evaluation and treatment. Without fail, though, all of the rural HC indicated that the majority, if not all of the referred patients went to HRRH. Difficulty in access and the perception that most rural HCs had limited diagnostic and treatment capabilities were the reasons stated for not following the existing chain of referral.

Costs associated with transport averaged 68 750 UGX (ranging from 15 000 UGX to 100 000 UGX). Kyangwali HC was the only HC that had access to an ambulance, although it is no longer functional.



Figure 46: Broken down ambulance at Kyangwali HC

12.5.2.4 Readiness Indices

The items used for the different readiness indices of basic amenities, basic equipment, laboratory capacity and essential medicines are described below in Figure 47. Buhuka HC is generally under-resourced. The diagnostic laboratory capacity of all the sampled facilities was limited and a concern. A reliable supply of clean water and power was lacking in all the facilities.

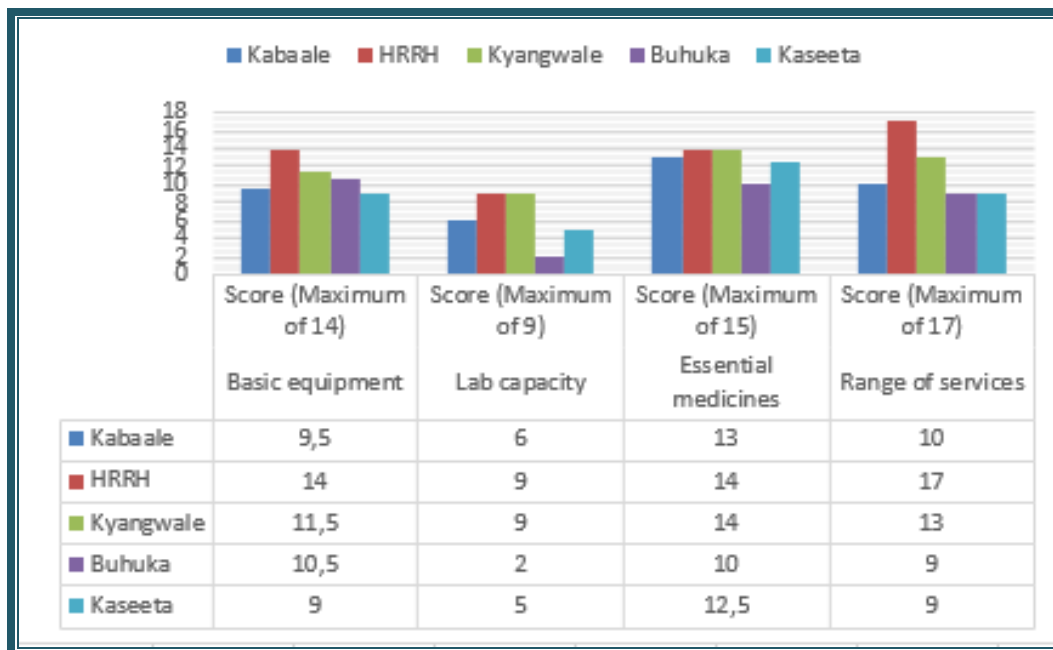


Figure 47: Readiness scores of the health facilities

Comments on Figure 46:

- Basic amenities consist of the following 6 items: reliable power, reliable water source, adequate sanitation facilities, private room, a communication device (not personal mobile) and emergency transportation that is on the premises.

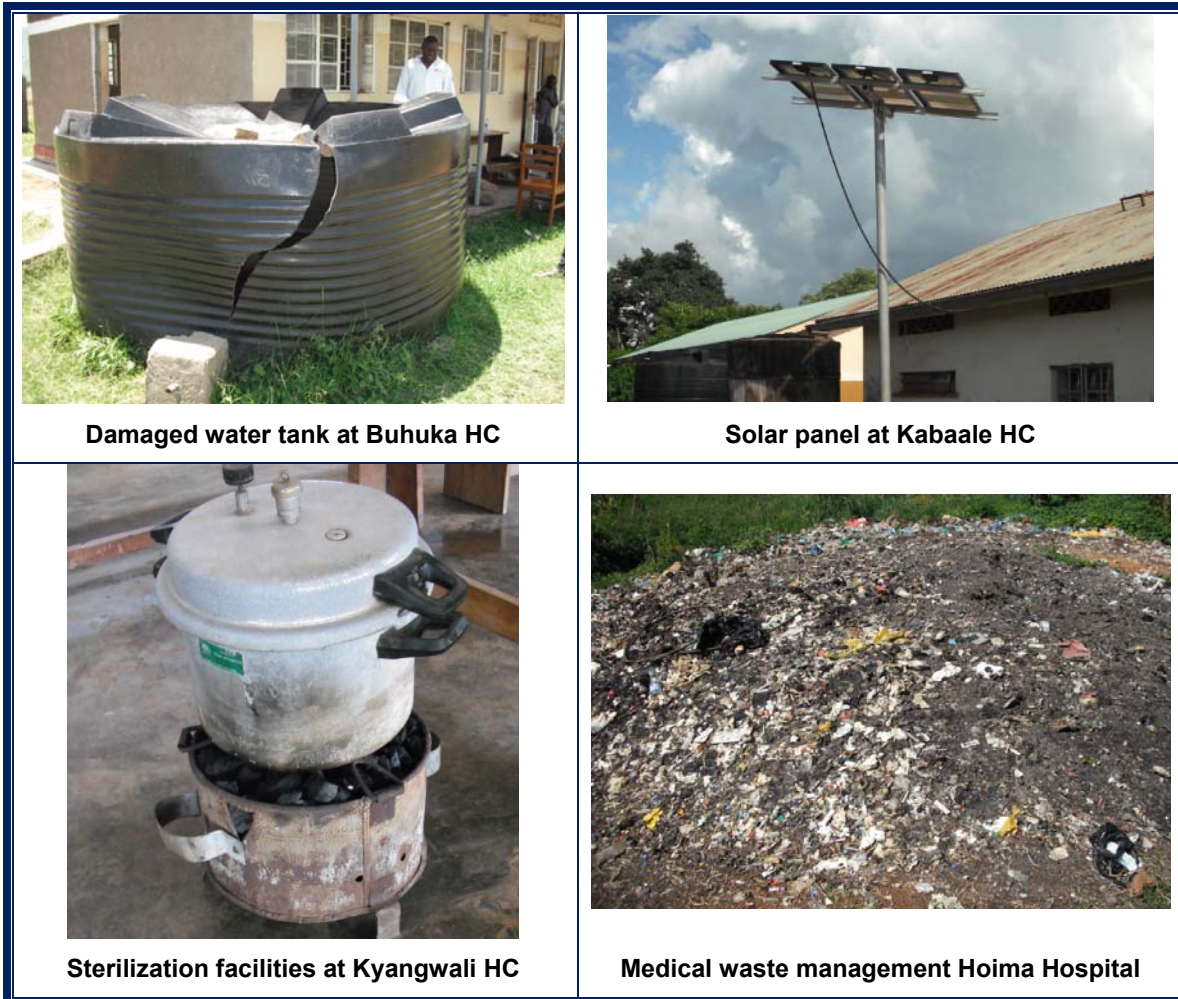


Figure 48: Basic amenities at evaluated health centers

- Basic equipment consist of the following 14 items: any weighing scale, thermometer, stethoscope, sphygmomanometer and BP cuff, sharps box, functional fridge, resuscitation mask and bag, latex gloves, sterilization equipment, eye protection, hand-washing soap and water (or alcohol-based hand rub), blood giving set, oral rehydration solution and Intra venous (IV) sets.

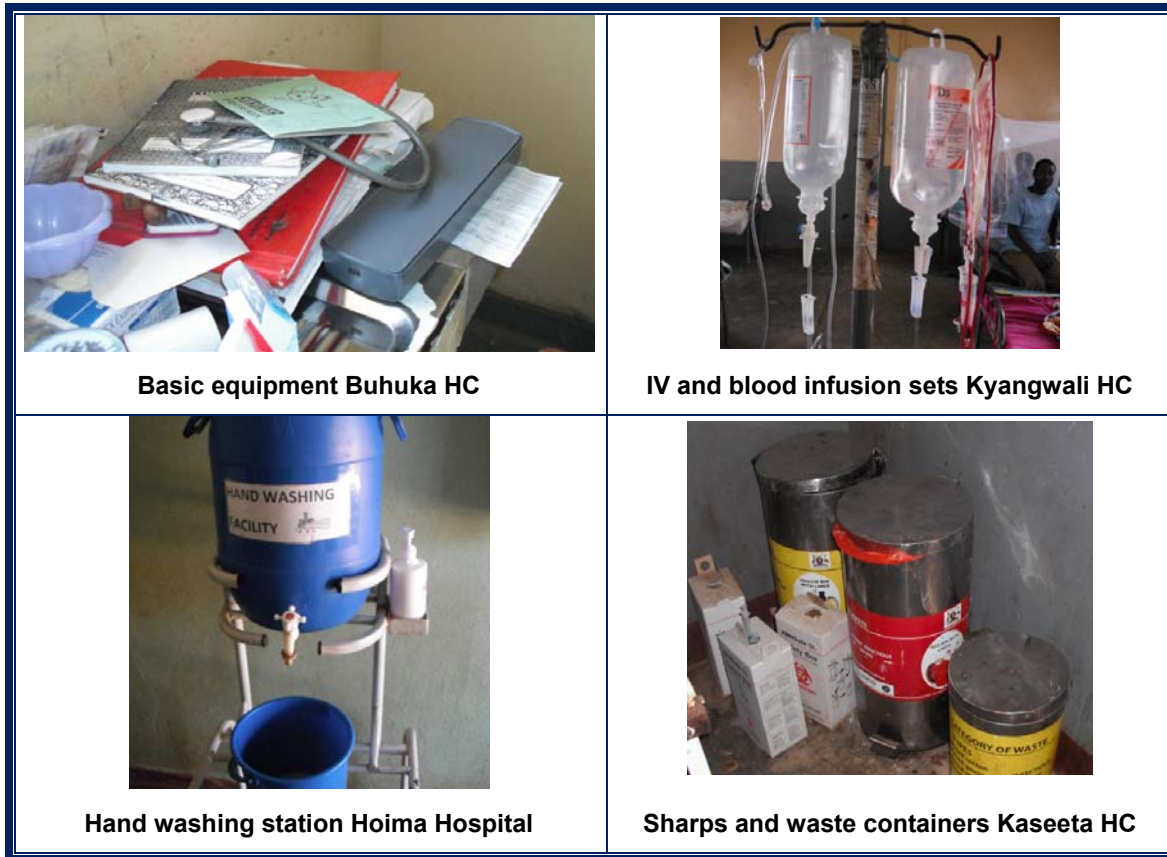


Figure 49: Basic equipment at evaluated health centers

- Laboratory capacity consists of the following 9 items: haemoglobin, blood glucose, HIV RDT or ELISA, syphilis RDT, malaria RDT or smear, TB microscopy, general microscopy and biochemistry.
- Essential medicines consist of the following 15 items: EPI vaccinations, penicillin, erythromycin, doxycycline, any anti-hypertension drugs, IV fluids, any 1st line TB drug regimen, ACTs, ART, diazepam, paracetamol, any anti-inflammatory, anti-helminthic drugs, adrenaline injection and anti-histamine.



Figure 50: Laboratory equipment and drugs at evaluated health centers

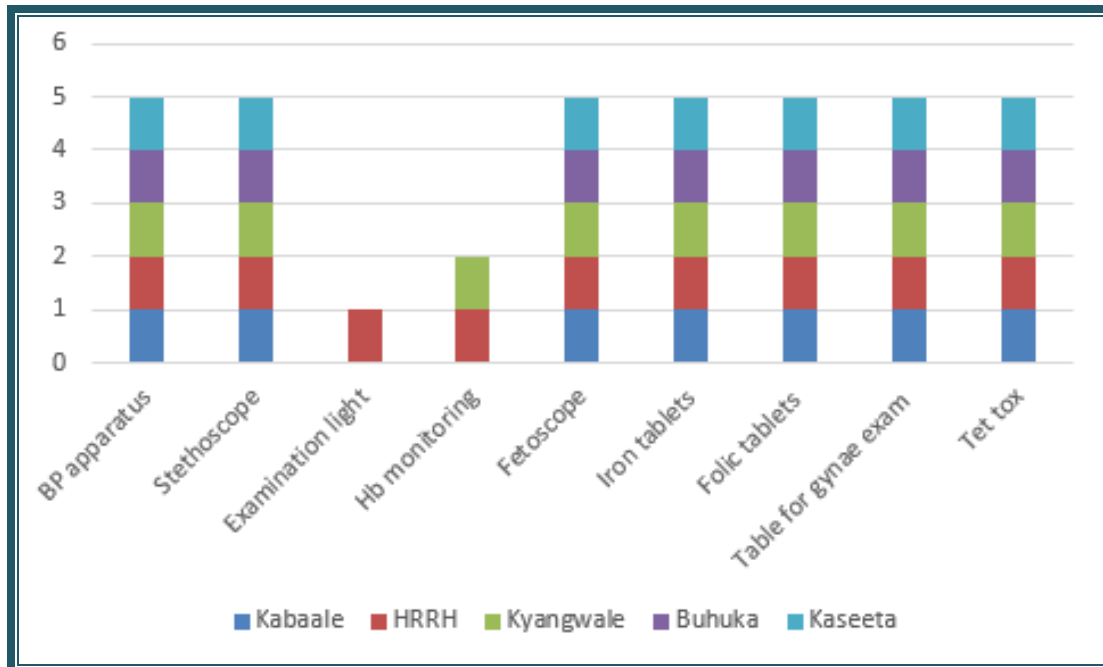


Figure 51: Antenatal readiness index of health facilities

For the antenatal care readiness index in Figure 51, a maximum score of 9 was assigned. Although all the facilities reported providing antenatal care services, only HRRH was considered to be completely equipped. Although most HCs indicated the presence of certain pieces of equipment, it has to be noted that some of these (e.g. stethoscopes and BP apparatuses) were the only ones of their kind in the facility and had to be shared amongst different departments.

For emergency obstetric care (Figure 52), a maximum score of 13 was devised. Three facilities had a score of 7 or less; indicating inadequate supplies on-site to manage an obstetric emergency appropriately.

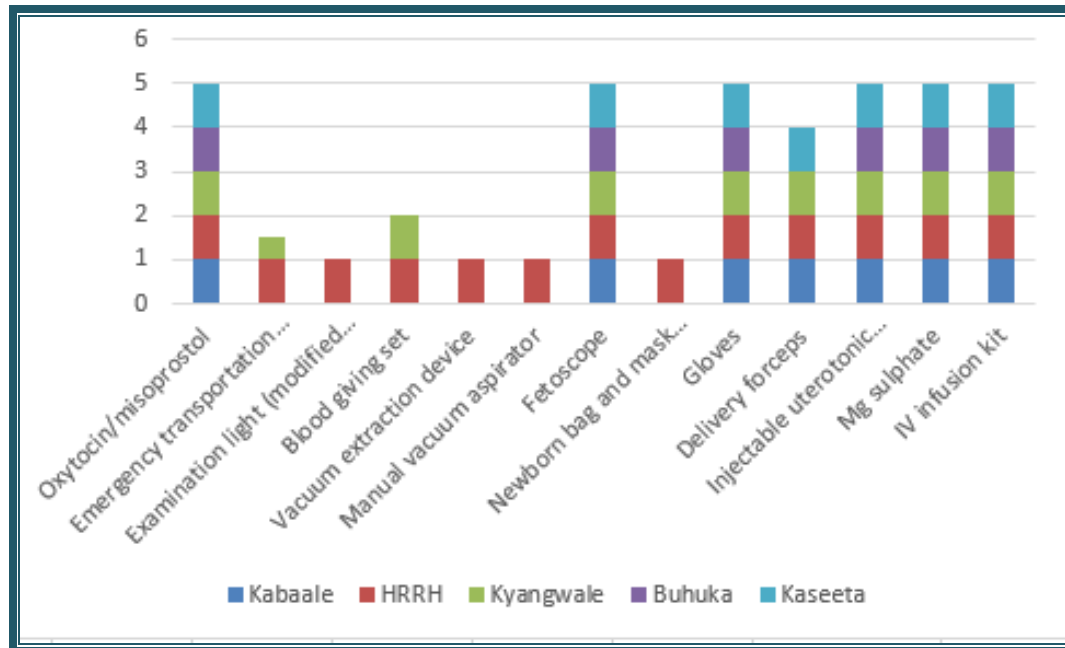


Figure 52: Emergency obstetric care readiness index of health facilities

Figure 53 depicts the items required for malaria care and treatment. IPT_p was offered at all of the evaluated facilities. Where ITNs were available, they were either prioritized for pregnant women or only at the health facility's beds. Although all the facilities were able to diagnose malaria using either the RDT kit or blood smear, only HRRH and Kyangwali HC could monitor Hb for malaria-related anaemia.

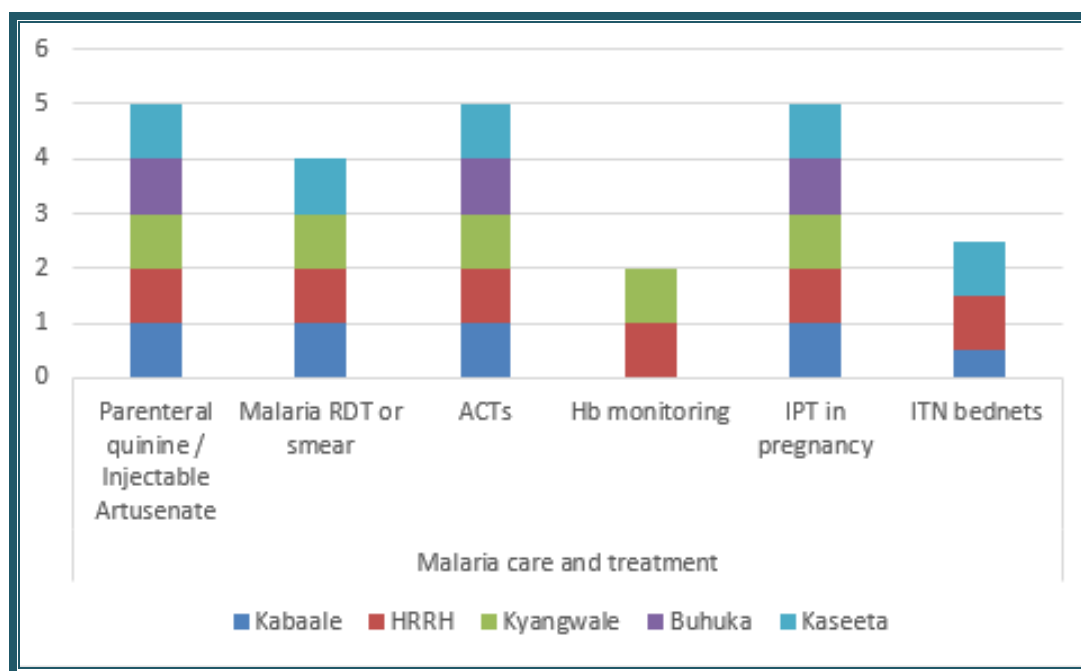


Figure 53: Malaria care and treatment service package of health facilities

For the HIV/TB services, all the facilities were able to provide HIV diagnostic services (based on diagnosis with RDT), ART clinics were available at Kabaale, Kyangwali and HRRH while only HRRH and Kyangwali had the ability to perform CD4 counts.

Similarly, all of the facilities with the exception of Buhuka HC, could reliably diagnose TB (based on sputum-ZN exams) in patients; medication would be started at the facility but of significance is that DOTS was not available and that the treatment default rate was reported to be between 30 and 40%.

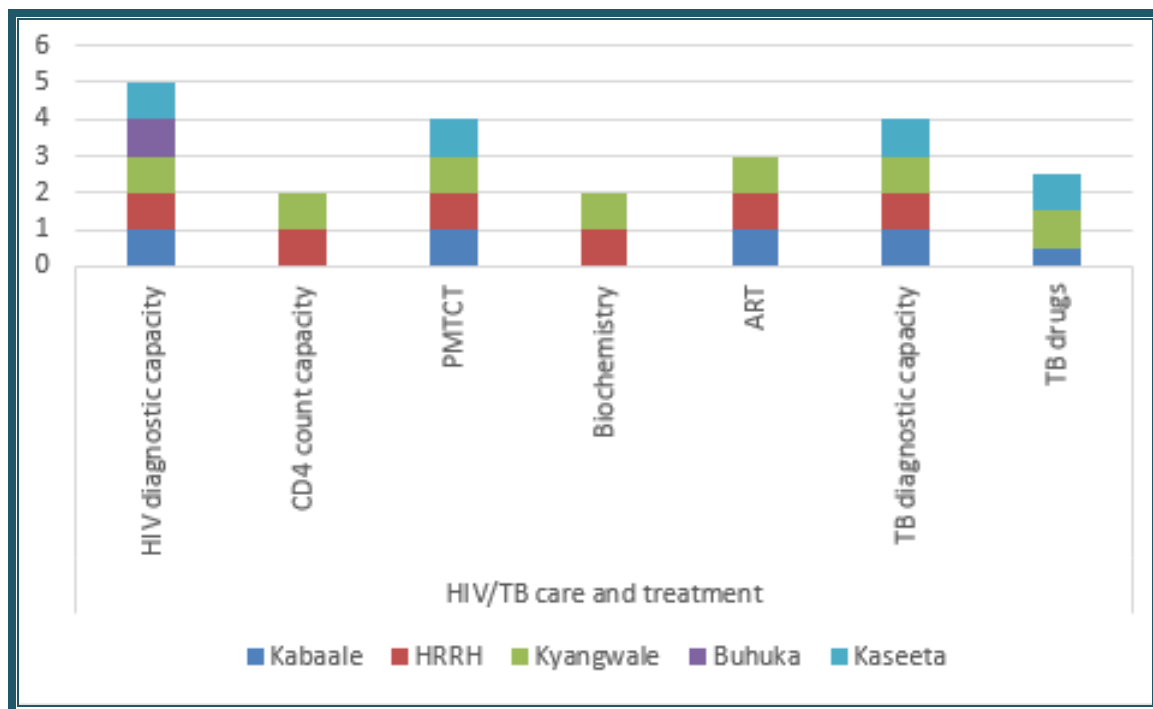


Figure 54: HIV/TB care and treatment service package of health facilities

12.5.3 Disease Profile from Key Informant Interviews at Health Facilities

The most common diseases amongst children under 5 years as well as all age groups were ranked by the person in-charge of the facilities. The findings are reported below in Table 21. The ranking of all age groups is in brackets and for children under 5 years is represented to the left.

Table 21: Ranking profile of common diseases

| | Most common diseases | | | | | | | | | | | | | | | | |
|----------------|----------------------|----------|----------|---------------------|----------------------|-------------|-------|----------------|------------------------------|----------|---------------------|----------------------|------|----------|----------|-----|-------|
| | Children under 5 | | | | | | | All age groups | | | | | | | | | |
| | Malaria | ARI | HIV | Diarrhoeal diseases | Intestinal parasites | Dermatology | Other | Malaria | Resp-related (ARI/LRTI/URTI) | HIV | Diarrhoeal diseases | Intestinal parasites | Derm | STI | RTI | NCD | Other |
| Kabaale | 1 | 3 | NR | 2 | 4 | NR | NR | 1 | 2 | NR | NR | NR | NR | 3 | NR | NR | NR |
| HRRH | 1 | 2 | NR | 3 | 4 | NR | NR | 1 | 2 | 3 | NR | NR | NR | NR | NR | NR | NR |
| Kyangwali | 1 | 3 | NR | 2 | NR | 4 | NR | 1 | 2 | NR | 4 | NR | NR | NR | 3 | NR | NR |
| Buhuka | 2 | 1 | NR | 3 | NR | 4 | NR | 2 | 1 | NR | 3 | NR | NR | 4 | NR | NR | NR |
| Kaseeta | 1 | 2 | 6 | 3 | 4 | 5 | NR | 1 | 3 | NR | NR | 2 | NR | 4 | NR | NR | NR |

NR = Not Ranked

12.6 Appendix F: Hoima District Health Data from Routine Health Management Information System

| HEALTH CONDITIONS | HOIMA DISTRICT | | HOIMA RRH | | BUHUKA HCIII | | KABAALÉ HCIII | | KASEETA HCIII | | KYANGWALI HCIII | |
|--|----------------|---------|-----------|---------|--------------|---------|---------------|---------|---------------|---------|-----------------|---------|
| | 2012/13 | 2013/14 | 2012/13 | 2013/14 | 2012/13 | 2013/14 | 2012/13 | 2013/14 | 2012/13 | 2013/14 | 2012/13 | 2013/14 |
| OUTPATIENT DEPARTMENT (OPD) & REFERRALS | | | | | | | | | | | | |
| Outpatient Attendance | 677,964 | 790625 | 155654 | 172388 | 11123 | 8012 | 12217 | 13588 | 12331 | 16932 | 26331 | 28994 |
| New attendance | 610,202 | 718,043 | 106128 | 114173 | 11033 | 7950 | 12109 | 13381 | 12140 | 16720 | 25550 | 27920 |
| Re-attendance | 67,762 | 72,582 | 49526 | 58215 | 90 | 62 | 108 | 207 | 191 | 212 | 781 | 1074 |
| Deaths in OPD | 6861 | 3976 | 6472 | 3808 | - | - | 18 | 1 | 1 | - | - | 1 |
| Referrals | | | | | | | | | | | | |
| In-referrals | 2,626 | 1,682 | 698 | 454 | 7 | 22 | 58 | 28 | - | 16 | 319 | 320 |
| Out-referrals | 2,627 | 2986 | 19 | 27 | 48 | 29 | 25 | 24 | 63 | 88 | 138 | 102 |
| INFECTIOUS / COMMUNICABLE DISEASES | | | | | | | | | | | | |
| Notifiable Diseases | | | | | | | | | | | | |
| Acute flaccid paralysis | 11 | 13 | 2 | 2 | - | - | - | - | - | - | - | - |
| Cholera | 107 | 19 | - | - | - | 24 | - | - | 35 | 0 | 21 | - |
| Dysentery | 3,290 | 3920 | 166 | 163 | 283 | 213 | 102 | 198 | 116 | 133 | 233 | 255 |
| Guinea worm | 8 | 18 | - | - | - | - | - | - | - | - | - | - |
| Bacterial meningitis | 23 | 7 | - | - | - | - | 9 | - | - | - | - | 1 |
| Measles | 347 | 228 | 16 | 12 | 1 | - | 25 | 6 | 172 | 25 | 5 | 62 |
| Plague | | | | | | | | | | | | |
| Rabies | 2 | 25 | 2 | 3 | - | - | - | 4 | - | - | - | - |
| Yellow fever | 1 | 2 | - | - | - | - | - | - | - | 2 | - | - |
| Viral haemorrhagic fevers | 5 | 4 | - | - | - | - | - | - | - | - | - | - |
| Other emerging infectious diseases | 260 | 138 | - | - | - | - | 1 | 2 | - | 15 | - | - |
| Other Infectious / Communicable Diseases | | | | | | | | | | | | |
| Gastrointestinal Illnesses | | | | | | | | | | | | |
| Diarrhoea - acute | 20889 | 26401 | 1523 | 1108 | 622 | 1146 | 460 | 529 | 609 | 679 | 1202 | 1116 |
| Diarrhoea - persistent | 544 | 610 | - | | 14 | 30 | 13 | 60 | 2 | - | - | - |
| Intestinal worms | 35815 | 40486 | 866 | 750 | 160 | 185 | 633 | 796 | 914 | 1283 | 2491 | 1782 |
| Respiratory Illnesses | | | | | | | | | | | | |
| Cough or cold (no pneumonia) | 152621 | 175139 | 12632 | 10315 | 572 | 1646 | 2615 | 2248 | 3707 | 5054 | 9232 | 8547 |
| Pneumonia | 22207 | 22515 | 942 | 850 | 3143 | 4559 | 314 | 1164 | 72 | 133 | 317 | 277 |
| Severe acute respiratory infection | 12,418 | 22201 | - | 1408 | - | - | 1592 | 572 | 3 | 18 | - | - |

| HEALTH CONDITIONS | HOIMA DISTRICT | | HOIMA RRH | | BUHUKA HCIII | | KABAALÉ HCIII | | KASEETA HCIII | | KYANGWALI HCIII | |
|--|----------------|---------|-----------|---------|--------------|---------|---------------|---------|---------------|---------|-----------------|---------|
| | 2012/13 | 2013/14 | 2012/13 | 2013/14 | 2012/13 | 2013/14 | 2012/13 | 2013/14 | 2012/13 | 2013/14 | 2012/13 | 2013/14 |
| Tuberculosis (new smear +ve) | 605 | 646 | 218 | 255 | - | - | 3 | 9 | - | - | 26 | 25 |
| Other tuberculosis | 178 | 185 | 13 | 13 | - | - | 4 | | 8 | 15 | 1 | - |
| Vector-Borne Diseases | | | | | | | | | | | | |
| Malaria | 179395 | 242081 | 18882 | 14523 | 3910 | 5214 | 5408 | 5800 | 5934 | 9151 | 9160 | 12997 |
| Sleeping sickness (African trypanosomiasis) | 22 | - | - | - | - | - | - | - | - | - | - | - |
| Leishmaniasis | 7 | 7 | 6 | 0 | - | - | - | - | - | - | - | - |
| Lymphatic filariasis | 100 | 96 | 41 | 14 | 0 | 4 | 1 | 0 | 0 | 0 | 1 | 0 |
| Onchocerciasis (river blindness) | 1321 | 727 | 7 | 1 | - | 1 | 257 | 23 | - | - | - | - |
| Bilharzias/Schistosomiasis | | | | | | | | | | | | |
| Urinary schistosomiasis | 21 | 29 | - | - | 11 | 14 | - | - | - | - | - | - |
| Intestinal schistosomiasis | 628 | 992 | 8 | 3 | 15 | 50 | - | - | 4 | - | - | - |
| Sexually Transmitted Infections (STIs) & other Genitor-Urinary Conditions | | | | | | | | | | | | |
| STIs (excluding HIV) | 9241 | 8227 | 1055 | 969 | 312 | 103 | 556 | 293 | 156 | 145 | 336 | 414 |
| Urethral discharges | 1977 | 1972 | 258 | 210 | 29 | 64 | 7 | - | 4 | 7 | 1 | - |
| Genital ulcers | 1926 | 1686 | 370 | 244 | 15 | 44 | 149 | 277 | 45 | 5 | 9 | - |
| Urinary tract infections | 14649 | 16631 | 3146 | 2460 | 111 | 266 | 283 | 163 | 267 | 230 | 714 | 812 |
| HIV/AIDS | | | | | | | | | | | | |
| Number of individuals tested | 62737 | 113303 | 13469 | 39359 | | 958 | 1330 | | 540 | | 2117 | 5533 |
| Number of individuals who received HIV test results | 62731 | 114787 | 13469 | 39359 | | 958 | 1328 | | 540 | | 2117 | 5533 |
| Number of individuals who received HIV results for the first time in this financial year | 41214 | 57782 | 7821 | 13155 | | 767 | 1278 | | 334 | | 1830 | 5234 |
| Number of individuals who tested HIV positive | 3622 | 4840 | 1186 | 1991 | | 32 | 59 | | 35 | | 178 | 293 |
| HIV positive individuals with suspected TB | 109 | 94 | - | 21 | | - | 3 | | 2 | | 3 | 8 |
| Number provided with safe male circumcision | 9253 | 14387 | 137 | 4845 | | - | - | | - | | 717 | - |
| Other Infectious Diseases | | | | | | | | | | | | |
| Leprosy | 5984 | 1888 | - | 38 | - | - | 1208 | - | - | - | | 320 |
| Other types of meningitis | 4263 | 1376 | 25 | 48 | - | - | 48 | 1 | - | - | 1 | - |
| Skin diseases | 24070 | 28516 | 4618 | 3848 | 270 | 520 | 140 | 86 | 404 | 715 | 529 | 755 |
| Typhoid fever | 2795 | 3539 | 552 | 465 | 159 | 202 | 173 | 214 | 1 | 3 | 8 | 12 |

| HEALTH CONDITIONS | HOIMA DISTRICT | | HOIMA RRH | | BUHUKA HCIII | | KABAALÉ HCIII | | KASEETA HCIII | | KYANGWALI HCIII | |
|--|----------------|---------|-----------|---------|--------------|---------|---------------|---------|---------------|---------|-----------------|---------|
| | 2012/13 | 2013/14 | 2012/13 | 2013/14 | 2012/13 | 2013/14 | 2012/13 | 2013/14 | 2012/13 | 2013/14 | 2012/13 | 2013/14 |
| Tetanus (post-neonatal) | 7 | 55 | 5 | 9 | - | - | - | - | - | - | - | - |
| Ear, Nose and Throat (ENT) conditions | 13722 | 14561 | 3205 | 3201 | 203 | 254 | 198 | 333 | 157 | 165 | 165 | 190 |
| Infectious eye conditions | 25164 | 28213 | 8746 | 9697 | 288 | 320 | 365 | 376 | 422 | 388 | 412 | 389 |
| NON-COMMUNICABLE DISEASES (NCDs) | | | | | | | | | | | | |
| Major NCDs | | | | | | | | | | | | |
| Diabetes mellitus | 1990 | 3599 | 1384 | 2821 | 3 | 1 | 2 | - | - | - | 83 | 100 |
| Hypertension | - | - | - | - | 16 | - | - | 47 | - | 8 | - | - |
| Cardiovascular diseases | 550 | 726 | 168 | 147 | 19 | 8 | - | - | - | 3 | - | - |
| Cancers | No data | | | | | | | | | | | |
| Chronic Respiratory Conditions | | | | | | | | | | | | |
| Asthma | 1982 | 1925 | 230 | 235 | 49 | 40 | 7 | 16 | 23 | 24 | 104 | 73 |
| Nutritional Conditions | | | | | | | | | | | | |
| Severe acute malnutrition | 354 | 1373 | 77 | 122 | 1 | 2 | 7 | 90 | 6 | 13 | 44 | 527 |
| Anaemia | 3450 | 3131 | 1145 | 1172 | 56 | 38 | 7 | 17 | 300 | 497 | 376 | 292 |
| Mental and Substance Use Disorders | | | | | | | | | | | | |
| Depression | 631 | 867 | 528 | 633 | 1 | - | - | - | - | 3 | 18 | 4 |
| Schizophrenia | 622 | 746 | 611 | 726 | - | 1 | - | - | - | - | - | 1 |
| HIV-related psychosis | 396 | 444 | 97 | 101 | - | - | 17 | 2 | - | 3 | 28 | 23 |
| Anxiety disorders | 203 | 387 | 44 | 26 | 12 | 30 | - | - | 1 | 1 | 15 | 3 |
| Epilepsy | 8304 | 9466 | 3662 | 3893 | 25 | 23 | 78 | 98 | 42 | 81 | 169 | 205 |
| Alcohol abuse | 138 | 172 | 76 | 116 | 13 | 1 | - | - | - | - | 3 | 6 |
| Drug abuse | 37 | 24 | 17 | 16 | 3 | - | 1 | - | - | - | 1 | - |
| Childhood mental disorders | 127 | 131 | 94 | 73 | - | - | 1 | - | - | - | - | 1 |
| Other forms of mental illness | 1065 | 1076 | 800 | 918 | 46 | - | 6 | - | - | - | 27 | 19 |
| Oral/Dental Health | | | | | | | | | | | | |
| Periodontal diseases | 1074 | 1340 | - | 171 | 27 | 48 | - | - | 23 | - | 17 | 13 |
| Tooth extraction | 14,282 | 12895 | 11,879 | 9513 | - | - | - | - | 1 | - | 492 | 1232 |
| Dental filling | 379 | 528 | 121 | 22 | - | - | - | - | - | - | - | - |
| Road Traffic Accidents and Other Injuries | | | | | | | | | | | | |
| Road traffic injuries | 1798 | 2031 | 328 | 418 | 8 | 25 | 17 | 38 | 16 | 2 | 12 | 27 |
| Injuries due to Gender Based Violence (GBV) | 806 | 672 | 12 | 317 | 3 | 3 | 14 | 1 | 7 | - | 21 | - |
| Injuries (trauma due to other causes) | 13457 | 16179 | 3551 | 4999 | 139 | 15 | 89 | 10 | 198 | 379 | 155 | 228 |

| HEALTH CONDITIONS | HOIMA DISTRICT | | HOIMA RRH | | BUHUKA HCIII | | KABAALÉ HCIII | | KASEETA HCIII | | KYANGWALI HCIII | |
|---|----------------|---------|-----------|---------|--------------|---------|---------------|---------|---------------|---------|-----------------|---------|
| | 2012/13 | 2013/14 | 2012/13 | 2013/14 | 2012/13 | 2013/14 | 2012/13 | 2013/14 | 2012/13 | 2013/14 | 2012/13 | 2013/14 |
| Animal bites | 520 | 702 | 144 | 206 | 1 | 1 | 6 | 1 | 1 | 3 | 38 | 42 |
| Snake bites | 283 | 254 | 37 | 56 | 3 | 1 | 2 | 1 | 6 | 1 | 16 | 5 |
| MATERNAL HEALTH | | | | | | | | | | | | |
| Family Planning (FP) | | | | | | | | | | | | |
| Oral contraceptives users | 3371 | 4373 | 217 | 318 | No data | 19 | 160 | No data | 47 | No data | 37 | 32 |
| Male condom users | 3585 | 2607 | 4 | 24 | | 29 | 599 | | 20 | | 207 | 558 |
| Female condom uses | 651 | 514 | - | - | | - | 49 | | - | | - | 2 |
| Injectable contraceptive users | 19949 | 24805 | 958 | 1154 | | 115 | 270 | | 259 | | 431 | 601 |
| Intra-uterine-devices (IUD) users | 1289 | 1187 | 492 | 100 | | - | 2 | | 2 | | 14 | 14 |
| Other FP methods users | 2124 | 2052 | 461 | 582 | | - | - | | 0 | | 123 | 101 |
| Pregnancy-related Conditions | | | | | | | | | | | | |
| Abortions due to GBV | 11 | 32 | - | 27 | - | 2 | - | - | - | - | - | - |
| Abortion due to other causes | 875 | 867 | 225 | 224 | 20 | 13 | 12 | 3 | 13 | 9 | 65 | 56 |
| Malaria in pregnancy | 4,220 | 4610 | 596 | 308 | 44 | 53 | 114 | 195 | 202 | 242 | 197 | 243 |
| Hypertension in pregnancy | 124 | 108 | 1 | - | 10 | - | 19 | - | - | - | - | - |
| Obstructed labour | 121 | 142 | - | 5 | 1 | 1 | - | - | 6 | 11 | 12 | 14 |
| Puerperal sepsis | 183 | 158 | 23 | 14 | 16 | 7 | 2 | - | 6 | - | 11 | 14 |
| Haemorrhage in pregnancy | 120 | 153 | 30 | 33 | 1 | 2 | - | - | 13 | 2 | 8 | 15 |
| Antenatal Care (ANC) | | | | | | | | | | | | |
| ANC 1 st visit | 29914 | 30024 | 4522 | 4380 | No data | 366 | 850 | No data | 1204 | No data | 2153 | 1943 |
| ANC 4 th visit | 7831 | 11230 | 1087 | 2013 | | 51 | 181 | | 197 | | 210 | 365 |
| Total ANC visits (new clients + re-attendances) | 67338 | 75913 | 11423 | 11865 | | 763 | 1456 | | 2338 | | 4068 | 4498 |
| First dose IPT (IPT1) for malaria prophylaxis | 25041 | 24403 | 3740 | 2807 | | 340 | 730 | | 991 | | 1837 | 1728 |
| Second dose IPT (IPT2) for malaria prophylaxis | 22660 | 17379 | 2813 | 2031 | | 231 | 387 | | 515 | | 1035 | 1083 |
| Pregnant women receiving iron/folic acid on ANC visit | 26291 | 22987 | 4142 | 867 | | 406 | 701 | | 916 | | 2370 | 1943 |
| Pregnant women receiving free ITNs | 21280 | 8942 | 2237 | 725 | | - | 615 | | 749 | | 1542 | 812 |
| Pregnant women tested for syphilis | 4147 | 4004 | 271 | - | | - | - | | - | | 1746 | 1931 |
| Pregnant women tested positive for syphilis | 470 | 363 | 6 | - | | - | - | | - | | 256 | 107 |

| HEALTH CONDITIONS | HOIMA DISTRICT | | HOIMA RRH | | BUHUKA HCIII | | KABAALÉ HCIII | | KASEETA HCIII | | KYANGWALI HCIII | |
|---|----------------|---------|-----------|---------|--------------|---------|---------------|---------|---------------|---------|-----------------|---------|
| | 2012/13 | 2013/14 | 2012/13 | 2013/14 | 2012/13 | 2013/14 | 2012/13 | 2013/14 | 2012/13 | 2013/14 | 2012/13 | 2013/14 |
| Pregnant women counselled, tested and received HIV test results | 26925 | 28878 | 4715 | 3720 | | 126 | 778 | | 904 | | 2174 | 2179 |
| Pregnant women tested positive for HIV | 1157 | 1144 | 294 | 175 | | 7 | 19 | | 9 | | 69 | 65 |
| Pregnant women given ARVs for PMTCT | 1431 | 176 | 238 | 0 | | 0 | 25 | | 23 | | 199 | 17 |
| Pregnant women on ART For their own health | 312 | 934 | 72 | 208 | | - | 2 | | - | | 25 | 104 |
| Male antenatal partners tested and received HIV results | 3882 | 4272 | 171 | 133 | | - | 17 | | 53 | | 157 | 505 |
| Maternity/Delivery | | | | | | | | | | | | |
| Admissions | 16220 | 18345 | 5603 | 6502 | No data | 113 | 130 | No data | 244 | No data | 1414 | 1747 |
| Deliveries in health facilities | 13443 | 15250 | 4776 | 5606 | | 105 | 118 | | 152 | | 933 | 954 |
| Live births | 12944 | 14417 | 4521 | 5304 | | 102 | 94 | | 149 | | 897 | 937 |
| Live births to HIV positive mothers | 735 | 628 | 308 | 222 | | - | 1 | | 1 | | 43 | 52 |
| Babies born to HIV positive mothers given PMTCT | 669 | 579 | 279 | 174 | | - | 1 | | 1 | | 45 | 53 |
| Birth asphyxia | 561 | 444 | 468 | 358 | | 2 | - | | 2 | | 10 | 2 |
| Babies born with low birth weight | 733 | 646 | 307 | 274 | | - | 2 | | - | | 51 | 60 |
| Still births in health facilities | 375 | 429 | 212 | 283 | | 5 | 12 | | 3 | | 27 | 15 |
| Newborn deaths (0-7days) | 44 | 38 | 10 | - | | - | - | | - | | 13 | 5 |
| Maternal deaths | 25 | 37 | 23 | 34 | | - | - | | - | | - | 1 |
| Deliveries assisted by TBA | 28 | 49 | 11 | 12 | - | 1 | - | - | - | | | |
| CHILD HEALTH | | | | | | | | | | | | |
| Total Children weighed at measles Immunisation | 16936 | 18353 | 2646 | 2198 | No data | 297 | - | No data | 187 | No data | 697 | 2088 |
| Dewormed 1 st dose in the yr | 38442 | 74609 | 1152 | 755 | | 101 | 780 | | 105 | | 2852 | 2548 |
| Dewormed 2 nd dose in the yr | 23862 | 20333 | 191 | 363 | | 50 | 46 | | 17 | | 777 | 232 |
| Overweight (above +3SD line) | 139 | 153 | - | - | | 7 | - | | - | | - | - |
| Underweight (Below -2SD line) | 146 | 226 | 4 | - | | 1 | - | | - | | 1 | - |
| Vit A supp. 1 st dose in the yr | 28176 | 49917 | 1515 | 1502 | | 286 | 875 | | 341 | | 962 | 1458 |
| Vit A supp. 2 nd dose in the yr | 11708 | 16820 | 189 | 592 | | 147 | 96 | | 18 | | 140 | 306 |
| Children fully immunized | 14440 | 17850 | 360 | 68 | | 148 | 179 | | 347 | | 246 | 843 |

12.7 Appendix G: Baseline Socio-demographic and Health Indicators

| Indicators | Year | National (Uganda) | Hoima District |
|---|-----------|-------------------|----------------|
| General Demographics | | | |
| Population (No.) | 2014 | 34,856,813 | 573,903 |
| Population growth rate per annum (%) | 2002-2014 | 3.0 | 4.3 |
| Number of households | 2014 | 7,353,427 | 125,907 |
| Average household size (No.) | 2014 | 4.7 | 4.5 |
| Life expectancy at birth (years) | 2012/13 | 57 | 51.7 |
| Population living in urban areas (%) | 2014 | 18.4 | 18.5 |
| Crude birth rate (%) | 2011 | 42.1 | - |
| Total fertility rate (child per woman) | 2011 | 6.2 | 6.9 |
| Mortality rates | | | |
| Infant mortality rate (per 1000 live births) | 2011 | 54 | 88 |
| Under-5 mortality rate (per 1000 live births) | 2011 | 90 | 85 |
| Maternal mortality ratio (per 100,000 live births) | 2011 | 438 | 437 |
| Gender rates | | | |
| Sex ratio (males per 100 females) | 2014 | 94.5 | 99.8 |
| Proportion of females aged 14-49 years (%) | 2011 | 43.6 | 21.6 |
| Disability rates | | | |
| People living with disability of any form (%) | 2011 | 19 | - |
| Respiratory conditions rates | | | |
| TB prevalence (per 100,000) population | 2013 | 154 | - |
| TB incidence | 2013 | 166 | - |
| Multi-drug resistant TB (% new cases, % retreatment) | 2013 | 1.4, 12 | - |
| HIV and STIs | | | |
| HIV prevalence (% adults 15-49 years) | 2013 | 7.4 | 6.7 |
| Syphilis prevalence (% adults 15-49 years) | 2011 | 2.0 | - |
| Vector-borne conditions | | | |
| Malaria prevalence (% children under-5 years, by RDTs) | 2014 | 30.0 | - |
| Food Security & Nutrition | | | |
| Food security index score (%) | 2015 | 42.8 | N/A |
| Stunting prevalence (moderate & severe) | 2011 | 33.4 | 26.8 |
| Wasting prevalence | 2011 | 4.7 | 8.5 |
| Underweight prevalence (moderate & severe) | 2011 | 13.8 | 19.5 |
| Anaemia prevalence (% children under-5 with haemoglobin <11g/dl) | 2011 | 49.3 | - |
| Water & Sanitation | | | |
| Population with access to safe drinking water (%) | 2011 | 70.0 | 74.2 |
| Population with access to any form of sanitation facility (%) | 2011 | 86.8 | 71.0 |
| Population with access to improved sanitation facility (%) | 2011 | 18.7 | - |
| Maternal Health | | | |
| Contraceptive prevalence (% current married women) | 2011 | 26.0 | - |
| Proportion of pregnant women receiving antenatal care from a skilled provider (%) | 2011 | 95.0 | - |
| Proportion of deliveries (child births) occurring at a health facility (%) | 2011 | 57.4 | - |

| Indicators | Year | National (Uganda) | Hoima District |
|--|---------|-------------------|----------------|
| Proportion of deliveries (child births) assisted by a skilled provider (%) | 2011 | 58.0 | - |
| Vaccination Coverage (% of target children) | | | |
| Full vaccination (by 12 months of age) | 2011 | 40.3 | - |
| BCG | 2013/14 | 82.0 | 87.2 |
| DPT3 | 2013/14 | 78.0 | 85.0 |
| Polio3 | 2013/14 | 82.0 | 92.0 |
| Measles | 2013/14 | 82.0 | 79.0 |



November 2019

REPORT – VOLUME 4, STUDY 11

CNOOC UGANDA LIMITED

KINGFISHER FIELD DEVELOPMENT AREA PROJECT, UGANDA - INFLUX MANAGEMENT PLAN

Submitted to:

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Distribution:

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Executive Summary

This influx management plan has been prepared for China National Offshore Oil Corporation (CNOOC) Uganda Limited guided by the 2009 International Finance Corporation (IFC)'s handbook for addressing project-induced in-migration. The plan specifies the IFC performance standards which apply to the proposed influx management approaches and defines project-affected areas, the status of influx in project affected area, areas likely to be affected by influx and influx impact analysis. According to the IFC, an influx management approach should be aimed at minimising in-migration into the project area and managing the migrant physical and social footprint. The key approaches to reducing potential influx risk and impacts as proposed by the IFC include:

- Promotion of regional diversified growth strategies;
- Local recruitment and workforce management;
- Use of buffer zones;
- Initial project footprint;
- Access control;
- Spatial planning, administration and resource allocation;
- Planning infrastructure, services and utilities;
- Provision of worker transportation and housing;
- Procurement of goods and services;
- Building multi-stakeholder framework and capacity; and
- Definition of project affected people, compensation and benefits.

Lastly, the plan specifies stakeholders to be involved as per the Stakeholder Engagement Plan (SEP) and influx monitoring parameters which should be considered. This influx management plan needs to be:

- Further developed in consultation with government, key donors, affected people and other key stakeholders;
- Integrated into the company and contractor social management plans for the proposed project;
- Implemented in tandem with CNOOC's Community Development Plan (CDP) with a focus on establishing synergies between the two plans; and
- Implemented in tandem with and as supporting activities to donor and government initiatives for the affected area.



ABBREVIATIONS AND ACRONYMS

| Abbreviation | Explanation |
|---------------------|--|
| CBO | Community-based Organisation |
| CDP | Community Development Plan |
| CNOOC | China National Offshore Oil Corporation |
| DWRM | Directorate of Water Resource Management |
| EA | Exploration Areas |
| ESIA | Environmental and Social impact Assessment |
| IFC | International Finance Corporation |
| LSA | Local Study Area |
| M&E | Monitoring and Evaluation |
| NGO | Non-Governmental Organisation |
| NEMA | National Environment Management Authority |
| OECD | Organisation for Economic Co-operation and Development |
| RAP | Resettlement Action Plan |
| SMC | School Management Committee |
| UPE | Universal Primary Education |
| USE | Universal Secondary Education |



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APPENDICES

APPENDIX A

Influx Impacts in Project-Affected Areas





1.0 INTRODUCTION

Golder Associates Africa (Pty) Ltd (Golder) has prepared this influx management plan for the proposed Kingfisher Field Development Area (KFDA) project in Kikuube and Hoima Districts, Uganda, guided by the 2009 IFC’s handbook for addressing project-induced in-migration.

1.1 Aim and objectives

1.1.1 Aim

The main aim of this influx management plan is to propose measures aimed at:

- Avoiding or reducing negative influx impacts, and enhancing positive impacts in the project zone of influence; and
- Providing capacity building for local government and communities to help them cope with project-induced in-migration.

1.1.2 Objectives

The objectives of this influx management plan are to:

- Specify the IFC performance standards that apply to the proposed influx management approaches;
- Assessing in-migration in project-affected areas;
- Identify influx risks and impacts;
- Propose influx management approaches as identified by the IFC;
- Describe stakeholders affected by the influx and stakeholders to involve in managing the influx; and
- Define monitoring parameters.

2.0 INTERNATIONAL STANDARDS

2.1 IFC performance standards

This influx management plan adheres to international best practices viz., the IFC policy and performance standards for social and environmental sustainability (2006) as amended in 2012. The policy sets out a range of recommendations for managing social and environmental impacts including those associated with the influx. Table 1 shows the key performance standards that apply to this plan.

Table 1: IFC Performance standards which apply to this plan

| Applicable performance standards | Reference where applicable |
|---|--|
| IFC’s Performance Standard 1: Social and environmental assessment and management system | The plan considers all social and environmental aspects related to the project. |
| IFC’s Performance Standard 4: Community health, safety and security | The plan considers areas of risk viz., housing and respiratory issues, vector-related diseases, sexually transmitted infections, soil and water-borne diseases, food and nutrition related issues, accidents or injuries, exposure to potentially hazardous materials, social determinants of health, cultural health practices, health services infrastructure, non-communicable diseases, veterinary medicine. |
| IFC’s Performance Standard 5: Land acquisition and involuntary resettlement | The plan considers project-induced in-migration and resettlement. |





3.0 IN-MIGRATION IN PROJECT AFFECTED AREAS

3.1 Definition of project affected areas

In September 2013, the Ugandan Government awarded the first oil production licence to CNOOC, to start the development of the Kingfisher Field that lies within EA 3A, with commercial production expected to commence in 2018. Project affected areas are defined in regional and local terms. These areas are further defined below.

3.1.1 Regional project affected areas

The regional project affected area has been defined as Kikuube and Hoima Districts (Figure 1), Kyangwali Sub-County (Figure 2) and Buhuka Parish (Figure 3).



INFLUX MANAGEMENT PLAN

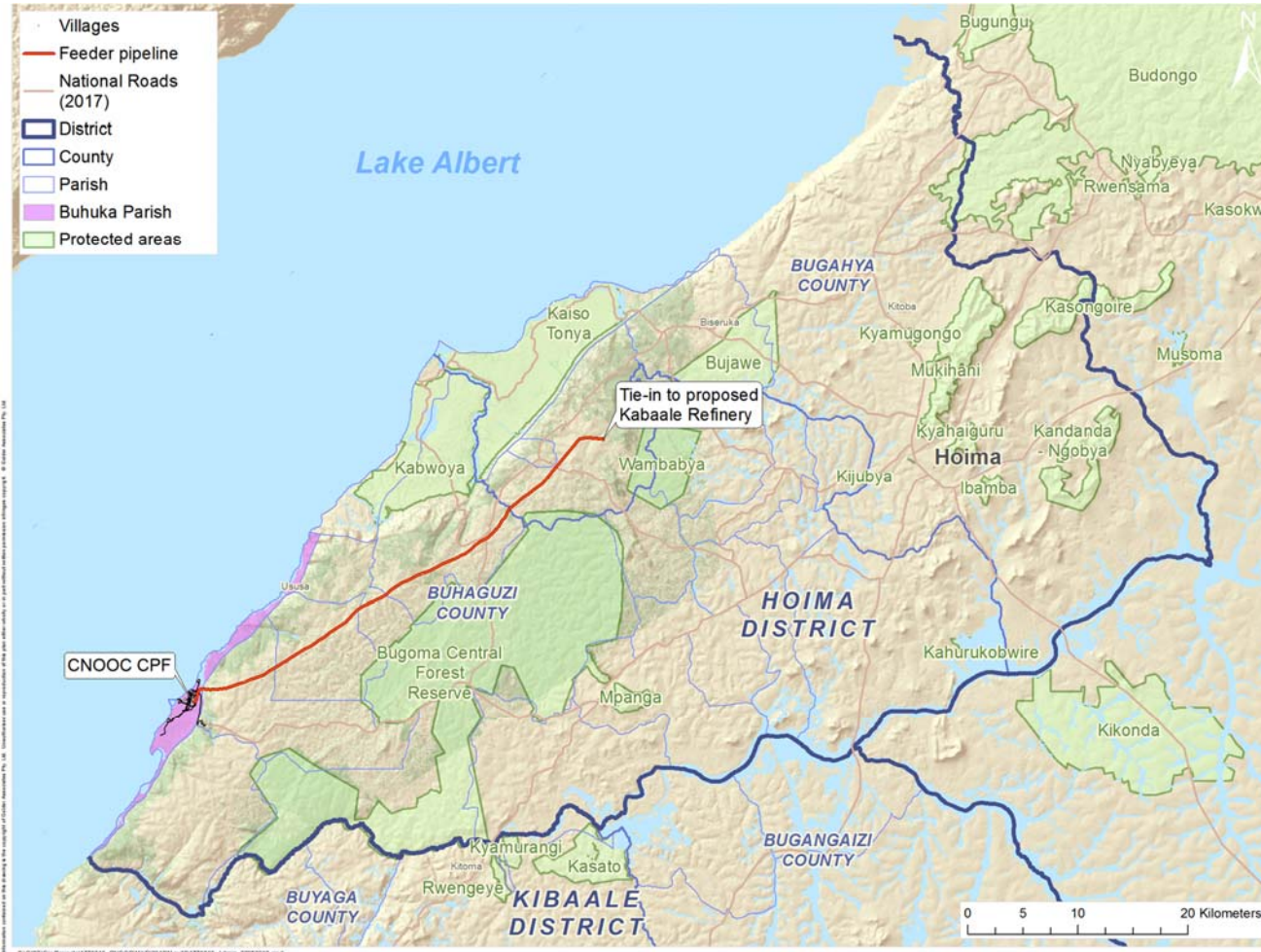


Figure 1: Hoima and Kikuube Districts





3.1.2 Local project affected areas

The local projected affected areas include the KFDA project and the pipeline (from Kingfisher to Kabaale). The KFDA is located in the Buhuka Flats, a flat area of land between the escarpment and Lake Albert in Buhuka Parish, which is the area where the majority of project infrastructure will be developed.

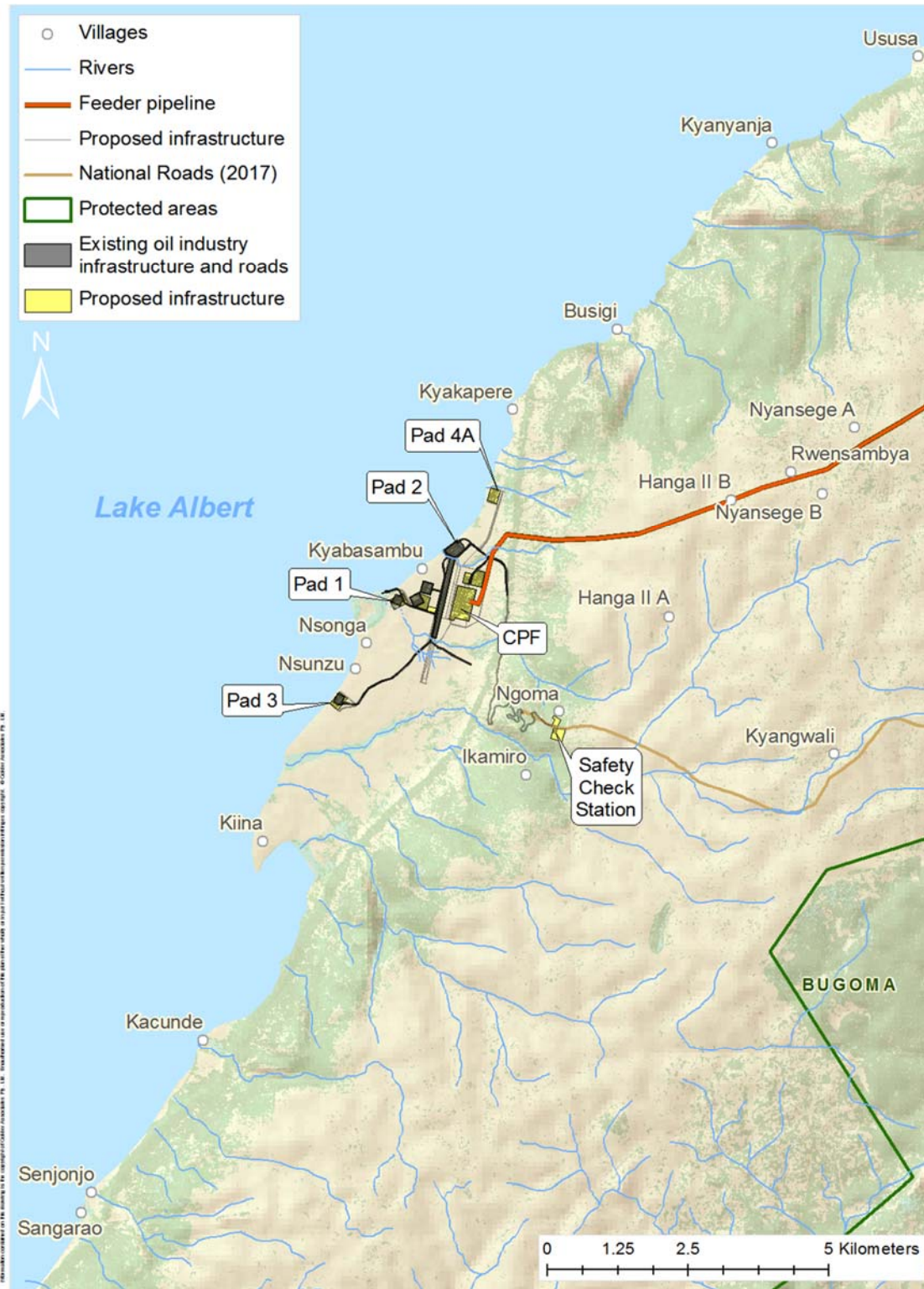
Infrastructure includes the following:

- Four onshore well pads (Pad 1-KF, Pad 2-KF, Pad 3-KF and Pad 4A-KF);
- A total of 31 wells will be drilled (20 of which will be production wells and 11 water injection wells);
- CPF (process the fluids to produce crude oil, produced water and gas that meets the crude oil export standard);
- Kingfisher feeder pipeline (transport the stabilised crude oil approximately 46 km from the CPF to delivery point in Kabaale); and
- Supporting infrastructure, including in-field access roads and flowlines, an upgraded jetty and water abstraction station on Lake Albert, a permanent camp, a material yard (or 'supply base'), a laydown area, a safety check station at the top of the escarpment and construction camps located on the Buhuka flats and midway along the feeder pipeline.

The Kingfisher LSA focuses on the villages of Kyabasambu, Kyakapere, Nsonga, Nsunzu and Kiina as the villages closest to the proposed infrastructure (and which are located in the Buhuka Flats) and the villages of Busigi, Kyenyanja, Ususa, Kacunde, Senjonjo and Sangarao adjacent to the proposed infrastructure, which are neighbouring the Buhuka Flats areas to the north and south (Figure 4).



INFLUX MANAGEMENT PLAN



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Figure 4: Kingfisher development area





The pipeline (from Kingfisher to Kabaale) passes through four Sub-counties, six parishes and near 24 villages (Table 2).

Table 2: Sub-counties, parishes and villages within the vicinity of the pipeline

| Sub-county | Parish | Village | | |
|------------|--------------|--------------|---------|--------|
| Kyangwali | Kyangwali | Hanga II A | | |
| | | Hanga II B | | |
| | | Kibale | | |
| | | Ngoma | | |
| | | Nyasenge A | | |
| | | Nyasenge B | | |
| | | Kyangwali | | |
| | | Kyarusheshe | | |
| | Butoole | Kasoga | | |
| | | Kyarujumba A | | |
| | | Kyarujumba B | | |
| | | Tontema | | |
| | | Kabwoya | Kaseeta | Ndongo |
| | | | | Hohwa |
| Nyairongo | | | | |
| Nyaseke | | | | |
| Buseruka | Kyangwali GR | Kitegwa | | |
| | Kabale | Kabakete | | |
| | | Kamukeduke | | |
| | | Kataaba | | |
| | | Kijumba | | |
| | | Nyamasoge | | |
| | | Kitegwa | | |
| | | Nyahaire | | |
| Bugambe | Bugambe | Nyahaire | | |

3.2 Status of the current influx

According to national population census (2002), between January 1980 and September 2002, the population of the District increased from 142,247 to 343,480. This rapid increase was mainly due to the high fertility rates, early marriage patterns and immigrants from other parts of Uganda as well as internationally. In 1991, the population density of Hoima District was 56 persons/km², lower than the national average of 85 persons/km². By 2014, the district population had increased to 572,986 people, of whom just over 77% lived in rural areas (Uganda Bureau of Statistics, 2014). Based on the 2014 Census, the Kyangwali sub-county population stood at a total of 97,366, comprising 49,598 males and 47,768 females, respectively.

Lake Albert plays a key role in the socio-economic support of people from Uganda and the Democratic Republic of the Congo (DRC). Population movement across the lake between the two countries is significant, and there has been an upsurge in in-migration and settlement along the shores of Lake Albert from the DRC. The total number of refugees in Uganda in 2014 was estimated to be 238,040 (United Nations High Commission for Refugees, 2014). Refugees fleeing into Bundibugyo District in Uganda have spilled over into the Kyangwali refugee settlement in Kikuube District.

The growth in the lakeside villages of the Buhuka Parish has been analysed drawing upon available google aerial imagery. The figures below show the changes over the years.

Figure 6 shows a clear increase in settlement between 2010 and 2013 in Kacunde village. This is despite the lack of proper access down the escarpment, local road networks and social services.



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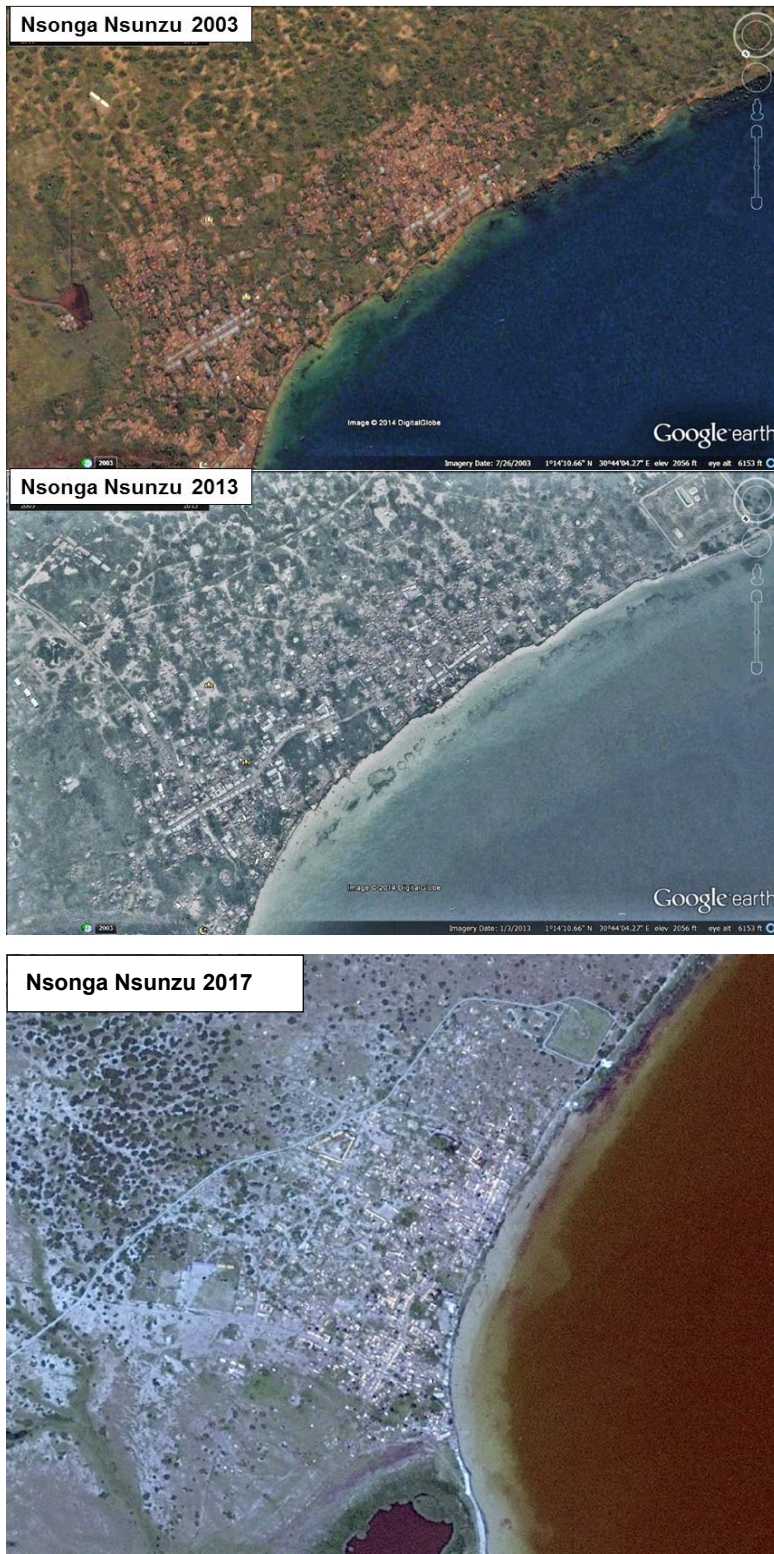


Figure 5: Comparison of Nsunzu and Nsonga villages, 2003, 2013 and 2017



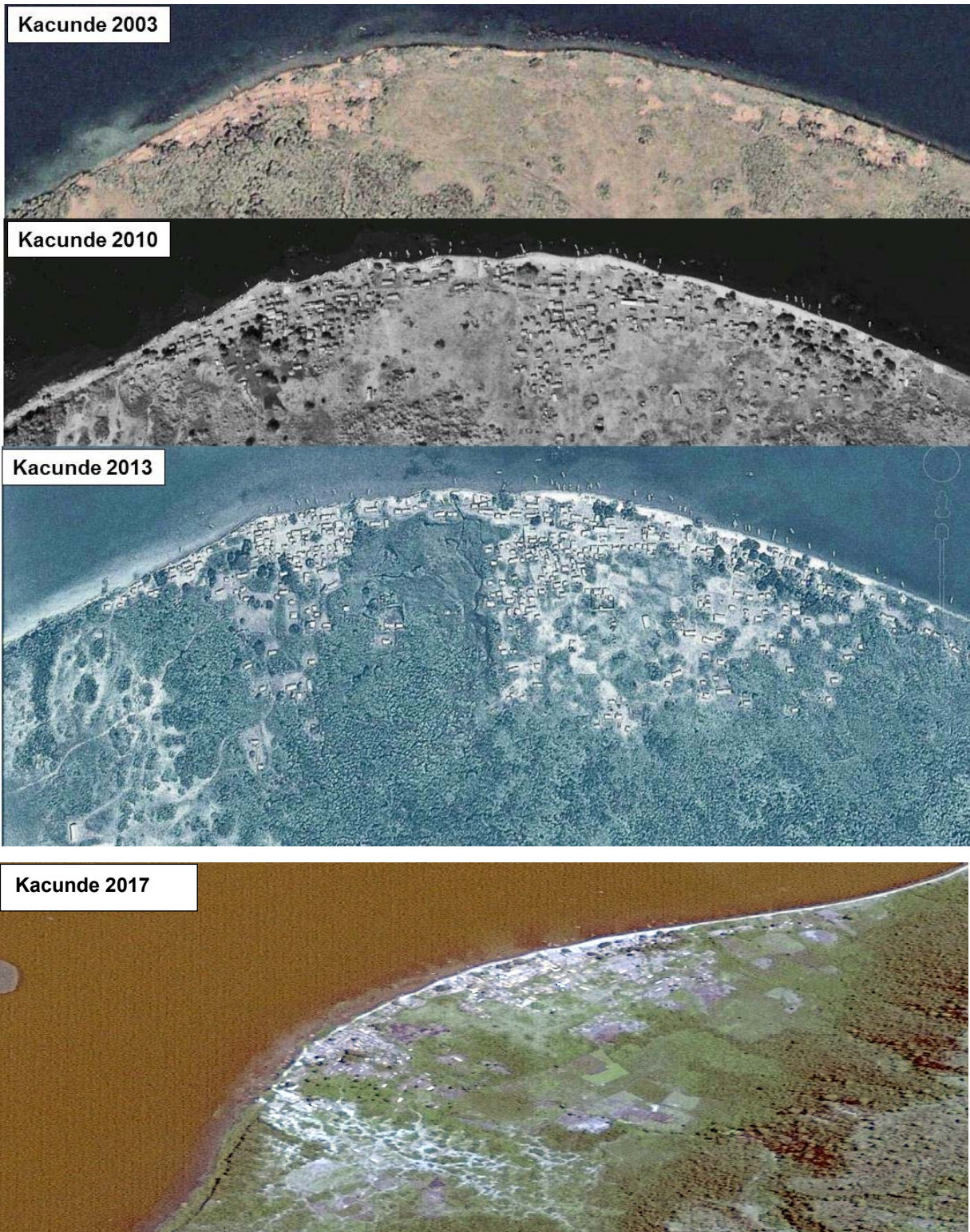


Figure 6: Comparison of Kacunde village, 2003, 2010, 2013 and 2017



Figure 7: Comparison of Busigi village, 2003, 2013 and 2017



Figure 8: Comparison of Kyakapere village, 2003, 2013 and 2017

According to 2014 and 2018 CNOOC Uganda ESIA report, villagers report that the influx was because of people seeking opportunities from fishing and fish processing at Lake Albert. Cattle herders from up north also migrated into the Buhuka Flats and live there now with large herds of cattle. As a result, the population on the flats and adjacent villages on the lake is diverse. Little or no in-migration is reported because of current Kingfisher Project activities on the flats, although this is certain to increase as jobs and other opportunities become available.



3.3 Influx impact analysis

3.3.1 Factors likely to give rise to population influx

Influx is likely because of the following:

- Being the first oil and gas production licence issued in Uganda, the KFDA Project has a high profile with ongoing media coverage. The oil discoveries generally in the Lake Albert basin, with Tullow and Total being the operators of the two concessions to the north, and the proposed government oil refinery complex in Kabaale, are also widely publicised. This publicity attracts attention across Uganda and neighbouring countries;
- CNOOC Uganda's widely publicised commitment to local employment, community development and upliftment, and again, those of its partners Tullow and Total. Regardless of the lack of consistent and reliable statistics for unemployment in African countries, unemployment in Africa is a reality. This includes Uganda and its neighbouring countries. People seek work opportunities to earn income to care for their families, driven by basic needs – food, shelter, income, security. Large-scale projects that offer employment of any kind, or opportunities from the wages of the employed, invariably attract work and opportunity seekers;
- As more money starts circulating in villages from wages earned by local people, economic opportunities will increase. Coupled with the general lack of modern goods and services in the villages, opportunity seekers will be quick to recognise the commercial advantage of this;
- The proposed escarpment road, although being constructed by CNOOC for the Kingfisher Project, will be a public road. It will thus not be possible to deny people access to the road. It is likely that job seekers, entrepreneurs, traders and other groups will want to access the flats and fishing products using the road;
- It is conceivable that, as money from wages, salaries, local procurement and supply start to circulate in the Hoima as well as Ntoroko and potentially adjacent districts, the influx will increase. Given cumulative developments of other oil and gas projects, accessibility, employment opportunities, emerging markets and opportunities, the influx is likely to increase exponentially. This is likely to be a *long-term phenomenon*;
- Active trade across Lake Albert has been taking place for years with citizens of the DRC, both in fish products and other goods. Trade goods from the DRC are evident in shops in the fishing. This is likely to increase from the DRC side when more money starts circulating in the villages. DRC traders would also want to use the new road for access to the escarpment and to further inland markets for their goods;
- Stakeholders also report trade with Rwandan refugees from the refugee village on top of the escarpment. Refugees descend on the escarpment to trade basic foodstuffs such as maize and other flour, oil etc. they receive as aid. It would be easy for some refugees to stay on in the villages; and
- Importantly, people in local villages are keen to improve their circumstances through any manner of employment and economic activity possible. Where this will rely on additional people entering the area, villagers are likely to encourage it.

3.3.2 Likely areas to be affected by in-migration

Based on preliminary assessments, six areas of likely in-migration have been identified viz., area 1 – 6 (Figure 9)..



INFLUX MANAGEMENT PLAN

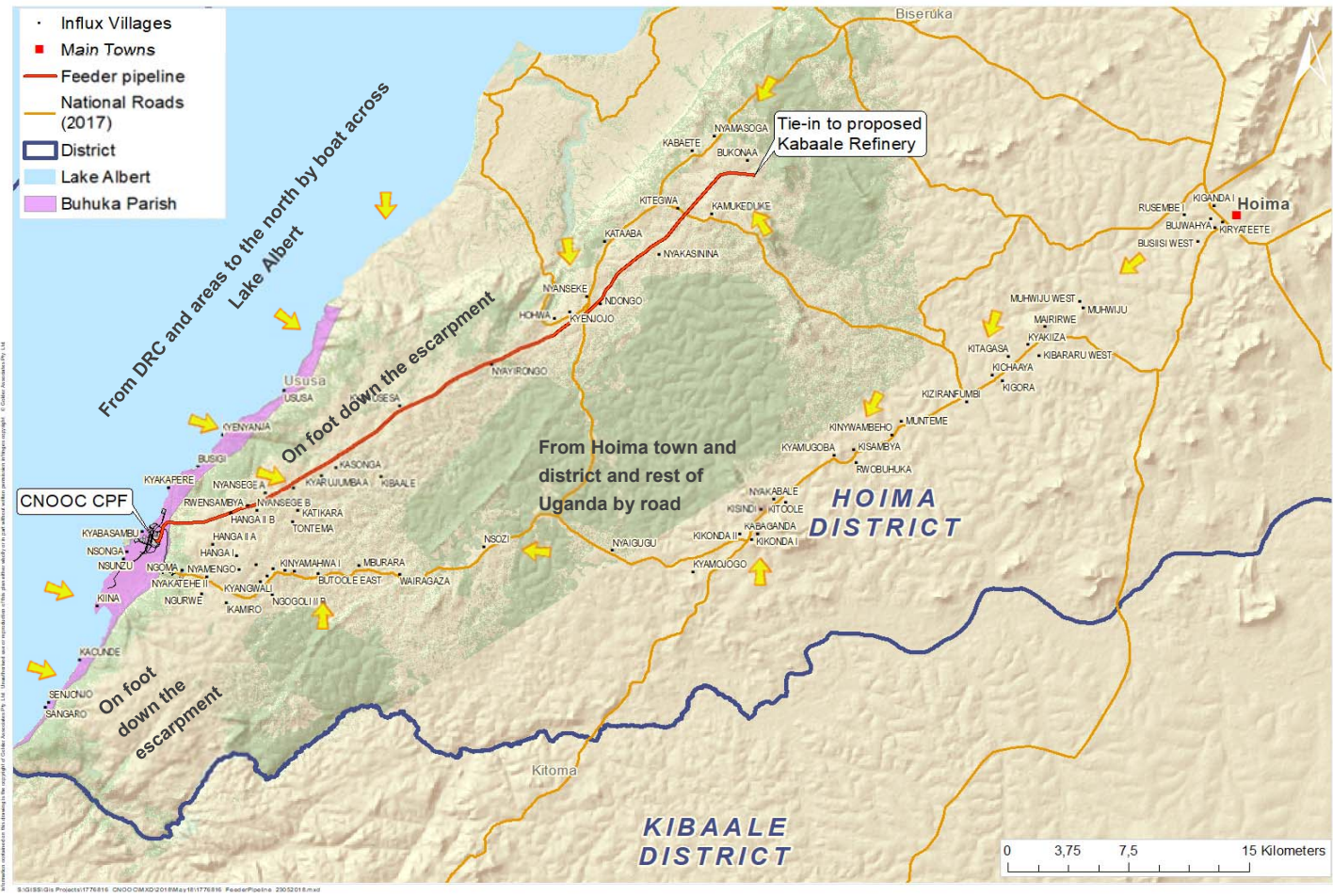


Figure 9: Likely areas of population influx and migration patterns





- Within the KFDA on the Buhuka Flats, villages likely to be directly affected by the proposed project are Kiina, Nsunzu, Nsonga, Kyabasumbu, and Kyakapere (**collectively referred to herewith as area 1**);
- Several near neighbours within the Buhuka Parish which, although out of range of the direct impacts, may nevertheless experience some indirect effects. This includes, for example, increased accessibility between the top and bottom of the escarpment, indirect impacts associated with employment, access to social infrastructure and impacts on demographic, social cohesion and the associated tensions and conflicts resulting from population influx. These neighbouring villages include:
 - Ususa, Kenyanya, Busigi (north of the flats between the shore of Lake Albert and the escarpment), and Kacunde, Senjonjo and Sangaro (south) (**collectively referred to herewith as area 2**); and
 - The two villages of Ikamiro (A and B) at the top of the escarpment from where the escarpment road down to the flats will start (**collectively referred to herewith as area 3**).
- Within the footprint of the 46 km transmission pipeline from the Buhuka Flats to Kabaale where individuals and communities may suffer some loss of access to land and assets, while the surrounding areas may be subject to short-term construction impacts, notably associated with noise and dust generation, loss of access and social disruption as a result of construction crews. These areas potentially may experience short-term population influx and more population movement as a result of improved access. These villages are **collectively referred to as area 4**;
- Impacts are also anticipated across a wider area of influence that, though initially centred on the Buhuka Flats where CNOOC activities will be focussed, may extend out over the wider area of the Hoima District and beyond (Hoima and Hoima District is herewith **collectively referred to as area 5**); and
- Notably, the road from Buhuka to Hoima links a number of settlements including towns, villages and hamlets (**collectively referred to herewith as area 6**), some of which may represent important market and trading centres for communities along the road. The nature and extent of this influence will depend on the areas from which job seekers may migrate and within which the supply chains originate. To a greater or lesser extent, this area is likely to extend over the entirety of Uganda as well as beyond the borders into the DRC and potentially other nearby countries, the refugee camp in the Hoima District with refugees mainly from Rwanda being a case in point. This wider area of influence also includes areas subject to impacts from other oil-related development and other development in the region which together with those from the Kingfisher Project will generate cumulative impacts.

3.3.3 Potential risks and impacts of population influx

An analysis of various impacts that can be expected because of project-induced in-migration in areas 1 - 6 are shown in APPENDIX A. This section provides a general analysis of project-induced influx risks and impacts.

Various positive and negative environmental and social impacts can be a result of influx, this include and not limited to the following:

- Greater economic linkages and monetisation of rural economies can lead to increased purchasing power and trade opportunities for local communities and new markets for local products and services (IFC, 2009);
- **Individual, household, and community empowerment:** Increased technical capacity, earning capacity, wealth accumulation, and purchasing power can provide new opportunities and power to local people (IFC, 2009);
- **Access to, and expansion of, infrastructure and public services:** Migrant-based population growth may serve as the basis for greater national allocation of resources to a region, thereby stimulating the development or expansion of infrastructure and public services. A more world-wise and articulate migrant population allows for the development of a more empowered and articulate population, capable of placing greater demands on local government for: (i) better infrastructure, public services, and utilities; (ii)



INFLUX MANAGEMENT PLAN

access to the legal justice system; and (iii) more responsive and effective public security forces (IFC, 2009);

- **Business opportunities:** Both the arrival and the activities of migrants have the potential to stimulate business development by introducing or increasing demand for goods and services in the area. Migrants' need for transportation, accommodation, and food stimulates the local economy, and additional development of new businesses may create further demand for goods and services, fuelling more local business and infrastructure development (IFC, 2009);
- **Improved range, availability, and accessibility of goods and services:** Local employment provides the local population with increased disposable income, leading to increased demand for goods and services. Such demand is often met by migrant entrepreneurs and traders who establish commercial facilities within the area. Competition among migrants can facilitate market structure, promote competition, increase variety, and reduce the prices of certain goods (IFC, 2009);
- **Higher skill base:** Migrants bring new skill sets into a project area. By employing and working with the local population, they can contribute to building the capacity, skills and knowledge of local people (IFC, 2009); and
- **Increased local employment:** The development of small and medium enterprises by migrants is often associated with increased demand for a local workforce. While much of this employment relies on the transfer of wealth from the project to the enterprise and onto the workforce, project development often leads to further unrelated development, through improved access and communication, introduction of and/or links to other markets, and provision of enough demand to guarantee expansion and capture of other markets (IFC, 2009).

Negative environmental and social impacts resulting from the influx. These impacts include, but are not limited to the following:

- Pollution (air, noise, water and soil), Logging, deforestation, exploitation and loss of biodiversity, land degradation, depletion of natural resources (fuelwood, water, aquatic resources, etc.), erosion and loss of soil productivity and disruption of waterways (backwaters, rivers, tributaries) (IFC, 2009);
- Infrastructure, services and utilities viz., increased the pressure on existing roads and transportation systems, education and health services, waste management systems, electricity, water supplies, and sanitation, housing, communication networks and Unplanned and uncontrolled development of squatter settlements (IFC, 2009);
- Local economy and livelihood strategies viz., Increased poverty, increased cost of living (inflation), competition for economic resources and employment, reduced availability and increased cost of land, food, fuel and housing, reduced reliance on local subsistence production systems, increased dependence on broader cash-based economy to meet needs and increased economic vulnerability for marginal groups (women, elderly, minorities, etc.) (IFC 2009);
- Health viz., increased incidence of accidents and fatalities associated with project traffic proliferation of communicable diseases (including sexually transmitted infections, respiratory infections, water-borne diseases), an insufficient number of health centres, staff and medical supplies, inadequate public hygiene facilities and changes in nutrition status (IFC, 2009); and
- Social dynamics viz., impacts on traditional beliefs, damage to cultural heritage, loss of knowledge, skills, and experience related to traditional livelihood activities, upheaval in traditional leadership, behaviour, customs, values, and norms, changes in power relationships, including undermining and changing of leadership and traditional authority structures. welfare imbalances and differential wage incomes, wealth accumulation and opportunities, dilution of social cohesion and cultural disruption (separation of households and communities), changing relationships between groups (gender, age, socio-economic status, ethnicity), possible marginalisation of women, ethnic minorities, and other vulnerable groups, loss of local identity, creation of land markets leading to changes in traditional land tenure systems, increased tension, disputes, and conflicts between locals and migrants concerning, natural resources, employment





opportunities, and other project benefits, increased incidence of social ills, including alcoholism, drug abuse, prostitution, gambling, increase in domestic violence, increase in criminality, decrease in law and order and increased ethnic tension and violence (IFC, 2009).

4.0 PROPOSED INFLUX MANAGEMENT APPROACHES

This plan adopts an influx management approach as proposed by the IFC to develop an influx management strategy aimed at managing project-induced in-migration while taking into consideration the following aspects:

- Minimising in-migration into the project area; and
- Managing the migrant physical and social footprint.

4.1 Proposed key influx management approaches

The key approaches to reducing potential influx risk and impacts as proposed by the IFC include following;

4.1.1 Promotion of regional diversified growth strategies

CNOOC could support the development and implementation of regional growth strategies that create alternative economic opportunities distant from the project area of influence. Thus support could ensure that the project does not become the sole focus of economic development and attraction. To successfully develop regional diversified growth strategies, collaborate with various stakeholders such as national, regional, and local government, the private sector, civil society, and local communities. Should no regional growth strategy exist, CNOOC could directly contribute to the promotion and development of multiple regional economic poles as this may still reduce medium-to-long-term project costs. Contributions to the development of public infrastructure, services, and utilities outside of the project requirements may stimulate economic development, while innovative approaches to ensuring that a broader population can access and benefit from infrastructure, services, and utilities that are developed in support of the project may address the discrepancies between the project, the project area, and more distant locations.

4.1.2 Local recruitment and workforce management

CNOOC could develop a “local-first recruitment policy” aimed at ensuring the use of local recruitment centres rather than recruitment centres distant from the project location. The use of project transport, hiring policy and practice for day and casual labourers, medium-to-long-term localisation plans and worker mobilisation and demobilisation strategies, need to be defined at an early stage. CNOOC needs to work with local government to help ensure that local people can obtain identification cards. Where government systems are weak, high levels of internal migration may impose high costs on project human resource management, and also require capacity building of the relevant government bodies.

Projects which may also experience and benefit from international (cross-border) migration should be aware of country policies and requirements for recruitment of migrant labour.

4.1.3 The use of a buffer zone

CNOOC may decide to include buffer zones in its design, spatially separating the project from existing and migrant populations. Such buffer zones may exist as exclusion zones into which entry is forbidden or as zones with designated (and restricted) occupation and land use rights. Use of buffer zones may pre-empt the development of fence-line settlements proximate to construction and operations and, together with appropriate workforce recruitment policies, may encourage settlement in the nearest villages and towns.

4.1.4 Initial project footprint

The location of the logistical base of the proposed KFDA project (project footprint) determines the target destination of potential in-migrants. CNOOC should decide whether to operate one or multiple offices, and whether to locate and operate a logistical base on the project site, in the nearest town with adequate infrastructure, or in the nearest centre that can function as a service centre for the project as this can contribute to the influx.



4.1.5 Access control

To protect the host community from the speculative land acquisition, CNOOC may decide to secure all required land up-front. During this intervening period, the CNOOC may permit PAPs to use the land through the development of annual land use agreements. Additionally, a “minimal impact policy” that includes the adoption of an “offshore inland operations” approach to minimise the need to open access roads and discourage unplanned population influx to the affected communities can be developed by CNOOC. Compared to opening access roads, air and river transportation of material, equipment, and personnel can be maximised using lake barges and helicopters. When temporary access roads are required, the CNOOC may implement access control measures for those roads, and once they are no longer required, they are re-vegetated.

4.1.6 Spatial planning, administration and resource allocation

To avoid spontaneous and unplanned growth in housing, CNOOC may work together with local government to develop and implement master urban/spatial plans for existing and new settlements within the project area of influence. The proposed plans should allow for controlled development through zoning and regulation, for instance, by directing development and in-migration to defined nodes. In this way, they will promote better management in the development of infrastructure, services, and utilities. Appropriate “pull” factors, such as demarcated housing sites, roads, water supplies, schools, and clinics, should be included in the definition and preparation of sites.

4.1.7 Planning infrastructure, services and utilities

The availability of infrastructure, services, and utilities can affect settlement patterns. For example, project development of infrastructure, services, and utilities for its use often requires the development of these facilities outside of the project site (IFC, 2009). Both the infrastructure and the increased availability of services and utilities may lead to considerable social pressure being placed on the project to either share their resources or meet the cost of providing resources to the public. Alternatively, project resources may also be tapped illegally or otherwise utilised (IFC, 2009). An assessment of current capacity against predicted population increases will allow strategic planning and resource allocation decisions.

4.1.8 Provision of worker transportation and worker housing

The provision of transportation services for a project workforce living within a 50 - 100-km radius of the project may reduce the need for migration toward the project site, reduce the demand for local housing, reduce the pressure on local infrastructure, services, and utilities, and thus pre-empt the development of larger population centres close to the site. CNOOC should note that decisions regarding the provision of worker housing have the potential to affect local demand for housing, pressure placed on existing infrastructure, services, and utilities, the development of local economies to support the workforce and the development of local level jealousies regarding standards of housing, utilities, and services, as well as post-project disposal of housing.

4.1.9 Procurement of goods and services

It is proposed that CNOOC procures goods and services locally, localisation will create service towns entirely dependent upon the project for employment and the procurement of goods and services. To mitigate dependency, the development and use of more distant and, perhaps, established supply centres that serve multiple sectors within the region should be considered, with a full accounting of the medium-to-long-term economic, financial, and social costs and benefits. In the case of the KFDA project, the centre can be located either at Kyangwali Sub-county Headquarters, Kabwoya Township or Hoima Municipality.

4.1.10 Building multi-stakeholder frameworks and capacity

CNOOC should include several stakeholders in managing project-induced in-migration, these may include local, regional and national government; non-government organisations; community-based organisations; religious groups; and affected communities themselves. Stakeholder roles and responsibilities should be identified, CNOOC should take the lead role and should ensure the following:

- All stakeholders speak with one voice in support of the agreed policies and programmes;



- All stakeholders contribute resources to the implementation of recommended actions;
- Where appropriate, management responsibilities are assumed by the relevant stakeholder; and
- Systems promoting accountability and responsibility are adopted.

4.1.11 Definition of project affected people (PAPs), compensation and benefits

CNOOC should clearly define PAPs, compensation and benefits for the Kingfisher Project. The population within the project area of influence needs to understand the process of identifying project PAPs. Their understanding will reduce expectations concerning entitlement to project benefits and further protect local benefits from in-migration.

5.0 STAKEHOLDER ENGAGEMENT AND MONITORING OF THE MIGRANT POPULATION

CNOOC should engage various stakeholders when deciding which of the key approaches will be applicable for the Kingfisher oil project. Stakeholder engagement and monitoring aim to ensure the following:

- SEP addresses influx related issues;
- CNOOC selects and implements relevant key approaches; and
- Early and effective monitoring systems are in place.

The SEP encapsulates the stakeholders who have been identified as part of the project and stipulates overall engagement strategy with various project stakeholders.



INFLUX MANAGEMENT PLAN

Key identified stakeholders can be consulted for further development and consequent management and implementation of the influx management plan. Table 3 shows identified stakeholders.

Table 3: Identified stakeholders

| National level | District level | County level | Sub-country level | Parish level | Village level |
|--|--|---|--|---|--|
| <ul style="list-style-type: none"> ■ Ministry of Lands, Housing and Urban Development; ■ Ministry of Local Government; ■ Ministry of Education and Sports; ■ National Environmental Management Authority; ■ Wildlife Department; ■ Water Resources Department; ■ Donors such as the World Bank and others; ■ NGOs with programmes in Kikuube and Hoima Districts; ■ Ministry of Energy and Mineral Development; ■ Ministry of Internal Affairs; ■ Ministry of Defence; and ■ Ministry of Finance, Planning and Economic Development. | <ul style="list-style-type: none"> ■ Chief Administrative Officer (CAO); ■ Local Council V Chairman and executive committee; ■ District Land Officer; ■ Head of Department: Planning; ■ Head of Department: Environment; ■ Head of Department: Health; ■ Head of Department: Education; ■ Natural Resources Department; ■ Local Government Council; and ■ Administrative Unit Council. | <ul style="list-style-type: none"> ■ Assistant Administrative Officer (AAO). | <ul style="list-style-type: none"> ■ Sub-county Chief; and ■ Local Council III Chairman and executive committee. | <ul style="list-style-type: none"> ■ Parish Chief; and ■ Local Council II Chairman and executive committee. | <ul style="list-style-type: none"> ■ Village Chiefs; ■ CBOs; and ■ Ad-hoc groups (women, fisheries, business etc.). |



- The monitoring of influx and its impacts must be carried out regularly by CNOOC. An influx monitoring plan should be developed by CNOOC, the parameters that should be included in the monitoring plan include and not limited to the following:
 - Aerial imagery of project affected areas;
 - Employment and unemployment rates;
 - Grievances related to the influx;
 - Total number of in-migrants within each project affected area;
 - Waste management;
 - Evidence of conflicts or tensions with or within host communities;
 - Evidence of social ills viz., problems with alcohol, drugs, gambling and prostitution;
 - Crime statistics recorded by local police; and
 - Health statistics.

6.0 CONCLUSION

This plan has specified the IFC performance standards which apply to the proposed key approaches. Project affected areas, the status of influx in project affected area, areas likely to be affected by influx and influx impacts, the proposed IFC key approaches to reduce potential influx risk and impacts, stakeholder engagement and monitoring parameters have been defined in this plan. However, the proposed influx management plan needs to be:

- Further developed in consultation with government, key donors, affected people and other key stakeholders;
- Integrated into the company and contractor social management plans for the proposed project;
- Implemented in tandem with CNOOC's CDP with a focus on establishing synergies between the two plans; and
- Implemented in tandem with and as supporting activities to donor and government initiatives for the affected area.

7.0 REFERENCES

- 1) Golder Associates, 2014. Socio-economic impact assessment for the proposed KFDA project.
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- 3) Hoima District Local Government, 2011. District Development Plan 2011/12 - 2015/16.
- 4) IFC, 2009. *Projects and People: A Handbook for Addressing Project-Induced In-migration*. www.ifc.org
- 5) IFC, 2007. *Stakeholder Engagement - A Good Practice Handbook for Companies Doing Business in Emerging Markets*.
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APPENDIX A

Influx Impacts in Project-Affected Areas



INFLUX MANAGEMENT PLAN

| Category | Impacted areas | Applicability | Probability | Timeframe | Severity |
|--|----------------|---------------|-------------|-----------|----------|
| | | Y/N | L/M/H | S/M/L | L/M/H |
| Positive Impacts | | | | | |
| Increased links to the mainstream economy | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | L | S | L |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | M | M | M |
| Increased local skills base | Area 1 | Y | H | L | M |
| | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | L | S | L |
| | Area 5 | Y | M | L | L |
| | Area 6 | Y | M | L | L |
| Business development opportunities | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | L | S | L |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | M | L | M |
| Employment creation | Area 1 | Y | H | L | M |
| | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | M |
| | Area 4 | Y | M | S | M |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | M | L | M |
| | Area 1 | Y | H | L | H |



INFLUX MANAGEMENT PLAN

| Category | Impacted areas | Applicability | Probability | Timeframe | Severity |
|---|----------------|---------------|-------------|-----------|----------|
| The increased local labour pool | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | M | M | M |
| | Area 5 | Y | H | L | M |
| | Area 6 | Y | M | L | M |
| The opening of new markets for local products and services | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | M | M |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | H | M | M |
| | Area 5 | Y | H | L | M |
| | Area 6 | Y | M | L | M |
| Increased accessibility and availability of goods and services | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | M |
| | Area 4 | Y | M | M | L |
| | Area 5 | Y | M | M | M |
| | Area 6 | Y | M | L | M |
| Alternate livelihood opportunities | Area 1 | Y | M | L | H |
| | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | M | M | M |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | M | L | M |
| Improved wage and income levels | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | M |
| | Area 4 | Y | M | M | M |





INFLUX MANAGEMENT PLAN

| Category | Impacted areas | Applicability | Probability | Timeframe | Severity |
|---|----------------|---------------|-------------|-----------|----------|
| | Area 5 | Y | M | M | M |
| | Area 6 | Y | M | M | L |
| Increased local tax revenue levels | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | M | M | M |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | M | L | M |
| Increased individual, household, and community empowerment | Area 1 | Y | M | L | M |
| | Area 2 | Y | M | M | L |
| | Area 3 | Y | H | L | M |
| | Area 4 | Y | M | L | M |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | M | L | L |
| Improved local training and skills development opportunities | Area 1 | Y | M | M | M |
| | Area 2 | Y | L | M | L |
| | Area 3 | Y | M | L | M |
| | Area 4 | Y | L | M | L |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | L | S | L |
| The monetisation of remote rural economies | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | M | M | M |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | M | M | M |
| | Area 1 | Y | H | L | H |



INFLUX MANAGEMENT PLAN

| Category | Impacted areas | Applicability | Probability | Timeframe | Severity |
|---|----------------|---------------|-------------|-----------|----------|
| Opportunities to build community organisational structures | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | M |
| | Area 4 | Y | L | M | L |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | L | L | L |
| Improved access through the development of road systems | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | M |
| | Area 4 | Y | M | L | M |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | M | L | M |
| Improved information and communication | Area 1 | Y | H | L | M |
| | Area 2 | Y | L | L | M |
| | Area 3 | Y | H | L | M |
| | Area 4 | Y | L | M | M |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | L | M | M |
| Improved housing, water, and sanitation | Area 1 | Y | L | L | L |
| | Area 2 | Y | L | L | L |
| | Area 3 | Y | L | L | L |
| | Area 4 | N | - | - | - |
| | Area 5 | Y | L | L | L |
| | Area 6 | N | - | - | - |
| Improved access to and expansion of infrastructure and public services | Area 1 | Y | M | L | M |
| | Area 2 | Y | M | L | L |
| | Area 3 | Y | M | L | M |
| | Area 4 | Y | M | L | M |



INFLUX MANAGEMENT PLAN

| Category | Impacted areas | Applicability | Probability | Timeframe | Severity |
|--|----------------|---------------|-------------|-----------|----------|
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | L | L | L |
| Increased attention and input by government authorities, NGOs, etc. | Area 1 | Y | M | L | L |
| | Area 2 | Y | L | L | L |
| | Area 3 | Y | M | L | L |
| | Area 4 | Y | L | L | L |
| | Area 5 | Y | M | L | L |
| | Area 6 | Y | L | L | L |
| Increased political power | Area 1 | Y | L | L | L |
| | Area 2 | Y | L | L | L |
| | Area 3 | Y | L | L | L |
| | Area 4 | Y | L | L | L |
| | Area 5 | Y | L | L | L |
| | Area 6 | Y | L | L | L |
| Adverse Impacts | | | | | |
| Environmental | | | | | |
| Logging | Area 1 | Y | H | L | H |
| | Area 2 | Y | H | L | M |
| | Area 3 | Y | H | L | M |
| | Area 4 | Y | H | M | M |
| | Area 5 | Y | H | L | M |
| | Area 6 | Y | H | L | M |
| Deforestation | Area 1 | Y | H | L | H |
| | Area 2 | Y | H | L | M |
| | Area 3 | Y | H | M | H |
| | Area 4 | Y | H | L | M |





INFLUX MANAGEMENT PLAN

| Category | Impacted areas | Applicability | Probability | Timeframe | Severity |
|--|----------------|---------------|-------------|-----------|----------|
| | Area 5 | Y | H | L | M |
| | Area 6 | Y | H | L | M |
| Exploitation and loss of biodiversity | Area 1 | Y | H | L | H |
| | Area 2 | Y | H | L | H |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | H | L | H |
| | Area 5 | Y | H | L | M |
| | Area 6 | Y | H | L | M |
| Land use change | Area 1 | Y | M | L | M |
| | Area 2 | Y | H | L | M |
| | Area 3 | Y | H | L | M |
| | Area 4 | Y | M | L | M |
| | Area 5 | Y | H | L | M |
| | Area 6 | Y | M | L | L |
| Land degradation | Area 1 | Y | H | L | M |
| | Area 2 | Y | H | L | H |
| | Area 3 | Y | H | L | M |
| | Area 4 | Y | M | M | M |
| | Area 5 | Y | H | L | M |
| | Area 6 | Y | M | M | M |
| Depletion of natural resources | Area 1 | Y | H | L | H |
| | Area 2 | Y | H | L | M |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | H | L | M |
| | Area 5 | Y | H | L | M |
| | Area 6 | Y | H | L | M |
| | Area 1 | Y | H | L | M |





INFLUX MANAGEMENT PLAN

| Category | Impacted areas | Applicability | Probability | Timeframe | Severity |
|--|----------------|---------------|-------------|-----------|----------|
| Erosion and loss of soil productivity | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | M | L | M |
| | Area 5 | Y | H | L | H |
| | Area 6 | Y | M | M | M |
| Air, water, and soil pollution | Area 1 | Y | H | L | H |
| | Area 2 | Y | H | L | M |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | M | L | M |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | M | M | M |
| Disruption of waterways | Area 1 | Y | H | L | H |
| | Area 2 | Y | H | L | M |
| | Area 3 | N | - | - | - |
| | Area 4 | N | - | - | - |
| | Area 5 | N | - | - | - |
| | Area 6 | N | - | - | - |
| Increased pressure on, and possible disputes over, land use and common property natural resources | Area 1 | Y | H | L | H |
| | Area 2 | Y | H | L | M |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | H | M | M |
| | Area 5 | Y | H | M | H |
| | Area 6 | Y | H | M | M |
| Project Security | | | | | |
| Reduced ability to protect the workforce | Area 1 | Y | M | L | M |
| | Area 2 | Y | L | L | L |
| | Area 3 | Y | M | L | M |





INFLUX MANAGEMENT PLAN

| Category | Impacted areas | Applicability | Probability | Timeframe | Severity |
|---|----------------|---------------|-------------|-----------|----------|
| | Area 4 | Y | M | M | M |
| | Area 5 | Y | L | M | L |
| | Area 6 | Y | L | M | L |
| Reduced ability to safeguard physical assets | Area 1 | Y | M | L | M |
| | Area 2 | Y | L | M | M |
| | Area 3 | Y | M | M | M |
| | Area 4 | Y | L | M | L |
| | Area 5 | Y | L | M | L |
| | Area 6 | Y | L | M | L |
| Increased threats to business continuity | Area 1 | Y | L | M | L |
| | Area 2 | Y | L | M | L |
| | Area 3 | Y | L | M | L |
| | Area 4 | Y | L | M | L |
| | Area 5 | Y | L | M | L |
| | Area 6 | Y | L | M | L |
| Increased threats to corporate reputation on the project (social licence to operate) | Area 1 | Y | M | L | L |
| | Area 2 | Y | L | L | L |
| | Area 3 | Y | M | L | L |
| | Area 4 | Y | L | L | L |
| | Area 5 | Y | L | L | L |
| | Area 6 | Y | L | L | L |
| Infrastructure, Services, and Utilities | | | | | |
| Increased use of existing roads and transportation systems | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | M | L | M |
| | Area 5 | Y | H | L | M |





INFLUX MANAGEMENT PLAN

| Category | Impacted areas | Applicability | Probability | Timeframe | Severity |
|--|----------------|---------------|-------------|-----------|----------|
| | Area 6 | Y | H | L | H |
| Increased pressure on education and health services | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | M | L | L |
| | Area 5 | Y | H | L | M |
| | Area 6 | Y | M | L | L |
| Increased demand for electricity, water supplies, and sanitation | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | M | L | M |
| | Area 5 | Y | H | L | M |
| | Area 6 | Y | M | L | M |
| Increased pressure on waste management systems | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | M | L | L |
| | Area 5 | Y | H | L | M |
| | Area 6 | Y | M | L | L |
| Unplanned and uncontrolled development of squatter settlements | Area 1 | Y | H | L | H |
| | Area 2 | Y | H | L | M |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | M | L | M |
| | Area 5 | Y | H | L | M |
| | Area 6 | Y | M | L | M |
| Increased demand for communications networks | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | M |



INFLUX MANAGEMENT PLAN

| Category | Impacted areas | Applicability | Probability | Timeframe | Severity |
|---|----------------|---------------|-------------|-----------|----------|
| | Area 3 | Y | H | L | M |
| | Area 4 | Y | M | L | M |
| | Area 5 | Y | H | L | M |
| | Area 6 | Y | M | L | M |
| Increased demand for housing | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | M | L | M |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | M | L | L |
| Increased use/demand for community, religious, and recreational facilities | Area 1 | Y | H | L | M |
| | Area 2 | Y | L | L | L |
| | Area 3 | Y | M | L | M |
| | Area 4 | Y | L | M | L |
| | Area 5 | Y | M | L | L |
| | Area 6 | Y | L | L | L |
| Economics and Livelihood Strategies | | | | | |
| The increased cost of living (inflation) | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | M | L | M |
| | Area 5 | Y | H | L | H |
| | Area 6 | Y | M | L | L |
| Reduced availability and increased cost of land, food, fuel, and housing | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | M | L | M |



INFLUX MANAGEMENT PLAN

| Category | Impacted areas | Applicability | Probability | Timeframe | Severity |
|--|----------------|---------------|-------------|-----------|----------|
| | Area 5 | Y | H | L | M |
| | Area 6 | Y | M | L | L |
| Increased dependence on the broader cash-based economy to meet needs | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | M | L | M |
| | Area 5 | Y | H | L | M |
| | Area 6 | Y | M | L | L |
| Reduced reliance on local subsistence production systems | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | M | L | M |
| | Area 5 | Y | H | L | M |
| | Area 6 | Y | M | L | L |
| Competition for economic resources | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | M | L | L |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | M | L | L |
| Increased economic vulnerability for marginal groups (women, elderly, minorities, etc.) | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | L |
| | Area 3 | Y | H | L | M |
| | Area 4 | Y | M | L | L |
| | Area 5 | Y | M | L | L |
| | Area 6 | Y | M | L | L |
| | Area 1 | Y | H | L | H |





INFLUX MANAGEMENT PLAN

| Category | Impacted areas | Applicability | Probability | Timeframe | Severity |
|---|----------------|---------------|-------------|-----------|----------|
| “Boom /Bust” cycles associated with initial construction, eventual closure | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | M |
| | Area 4 | Y | M | L | M |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | M | L | L |
| Health | | | | | |
| The proliferation of communicable diseases | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | L |
| | Area 3 | Y | H | L | H |
| | Area 4 | Y | M | L | M |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | M | L | L |
| Inadequate public hygiene facilities | Area 1 | Y | H | L | M |
| | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | M |
| | Area 4 | Y | M | L | L |
| | Area 5 | Y | M | L | L |
| | Area 6 | Y | M | L | L |
| Pollution (air, water, dust, noise, traffic) | Area 1 | Y | H | L | M |
| | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | M |
| | Area 4 | Y | M | L | L |
| | Area 5 | Y | M | L | L |
| | Area 6 | Y | M | L | M |
| Increased incidence of accidents and fatalities | Area 1 | Y | H | L | H |
| | Area 2 | Y | L | L | L |
| | Area 3 | Y | M | L | M |





INFLUX MANAGEMENT PLAN

| Category | Impacted areas | Applicability | Probability | Timeframe | Severity |
|---|----------------|---------------|-------------|-----------|----------|
| | Area 4 | Y | M | L | M |
| | Area 5 | Y | L | L | L |
| | Area 6 | Y | M | L | M |
| Changes in nutrition status | Area 1 | Y | M | L | M |
| | Area 2 | Y | M | L | L |
| | Area 3 | Y | M | L | M |
| | Area 4 | Y | L | L | L |
| | Area 5 | Y | M | L | L |
| | Area 6 | Y | L | L | L |
| Social Dynamics | | | | | |
| Increased poverty | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | L |
| | Area 3 | Y | H | L | M |
| | Area 4 | Y | M | L | M |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | L | L | L |
| Loss of local identity | Area 1 | Y | M | L | M |
| | Area 2 | Y | L | L | L |
| | Area 3 | Y | M | L | M |
| | Area 4 | Y | L | L | L |
| | Area 5 | Y | M | L | L |
| | Area 6 | Y | L | L | L |
| Loss of knowledge, skills, and experience related to traditional livelihood activities | Area 1 | Y | M | L | M |
| | Area 2 | Y | L | L | L |
| | Area 3 | Y | M | L | M |
| | Area 4 | Y | M | L | L |
| | Area 5 | Y | M | L | L |





INFLUX MANAGEMENT PLAN

| Category | Impacted areas | Applicability | Probability | Timeframe | Severity |
|---|----------------|---------------|-------------|-----------|----------|
| | Area 6 | Y | L | L | L |
| Upheaval in traditional leadership, behaviour, customs, values, and norms | Area 1 | Y | M | L | M |
| | Area 2 | Y | L | L | L |
| | Area 3 | Y | M | L | M |
| | Area 4 | Y | M | L | L |
| | Area 5 | Y | L | L | L |
| | Area 6 | Y | M | L | L |
| Changing relationships between groups (gender, age, socio-economic status, ethnicity) | Area 1 | Y | H | L | M |
| | Area 2 | Y | L | L | L |
| | Area 3 | Y | M | L | M |
| | Area 4 | Y | M | L | L |
| | Area 5 | Y | M | L | L |
| | Area 6 | Y | M | L | L |
| Dilution of social cohesion and cultural disruption (separation of households and communities) | Area 1 | Y | H | L | M |
| | Area 2 | Y | M | L | L |
| | Area 3 | Y | M | L | M |
| | Area 4 | Y | M | L | L |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | M | L | L |
| Increased incidence of social ills, including alcoholism, drug abuse, prostitution, gambling | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | M |
| | Area 4 | Y | M | L | M |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | M | L | L |
| | Area 1 | Y | H | L | M |



INFLUX MANAGEMENT PLAN

| Category | Impacted areas | Applicability | Probability | Timeframe | Severity |
|--|----------------|---------------|-------------|-----------|----------|
| Creation of land markets leading to changes in traditional land tenure systems | Area 2 | Y | M | L | M |
| | Area 3 | Y | H | L | M |
| | Area 4 | Y | M | L | L |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | M | L | L |
| Increased tension, disputes, and conflicts between locals and migrants concerning natural resources, employment opportunities, and other project benefits | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | L |
| | Area 3 | Y | M | L | M |
| | Area 4 | Y | M | L | L |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | M | L | L |
| Welfare imbalances and differential wage incomes, wealth accumulation and opportunities | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | L |
| | Area 3 | Y | M | L | M |
| | Area 4 | Y | M | L | L |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | M | L | L |
| The marginalisation of women, ethnic minorities, and other vulnerable groups | Area 1 | Y | H | L | M |
| | Area 2 | Y | L | L | L |
| | Area 3 | Y | M | L | M |
| | Area 4 | Y | M | L | L |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | M | L | L |
| Increase in domestic violence | Area 1 | Y | M | L | M |
| | Area 2 | Y | L | L | L |
| | Area 3 | Y | M | L | M |
| | Area 4 | Y | M | L | L |





INFLUX MANAGEMENT PLAN

| Category | Impacted areas | Applicability | Probability | Timeframe | Severity |
|---|----------------|---------------|-------------|-----------|----------|
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | L | L | L |
| Increase in crime | Area 1 | Y | H | L | M |
| | Area 2 | Y | M | L | L |
| | Area 3 | Y | M | L | M |
| | Area 4 | Y | M | L | M |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | M | L | M |
| Increase in ethnic tension and violence | Area 1 | Y | H | L | H |
| | Area 2 | Y | M | L | L |
| | Area 3 | Y | M | L | M |
| | Area 4 | Y | M | L | M |
| | Area 5 | Y | M | L | L |
| | Area 6 | Y | M | L | L |
| The decrease in law and order | Area 1 | Y | H | L | M |
| | Area 2 | Y | M | L | L |
| | Area 3 | Y | M | L | M |
| | Area 4 | Y | M | L | L |
| | Area 5 | Y | M | L | M |
| | Area 6 | Y | M | L | L |

Key

| Applicability | Probability | Timeframe | Severity |
|---------------|------------------|-------------------|------------------|
| ■ Y: Yes; and | ■ L: Low; | ■ S: Short-term; | ■ L: Low; |
| ■ N: No. | ■ M: Medium; and | ■ M: Medium-term; | ■ M: Medium; and |
| | ■ H: High. | ■ L: Long-term. | ■ H: High. |



November 2019

REPORT – VOLUME 4, STUDY 12



CNOOC UGANDA LIMITED

**KINGFISHER FIELD
DEVELOPMENT PROJECT,
UGANDA - CULTURAL
HERITAGE ASSESSMENT**

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Executive Summary

An assessment of the potential impacts of CNOOC's proposed KFDA project (the Project) on cultural heritage is presented in this chapter. The focus of the assessment is on cultural heritage sites within the Project footprint encompassing the Central Processing Facility (CPF), the four new well pads, all associated infrastructure and the feeder pipeline to Kabaale. The study of the baseline cultural heritage environment was completed between February and March 2014 and, following updates to the Project design, November 2017. This document supersedes a previous version submitted in June 2014.

The study of cultural heritage encompasses all elements as defined by Ugandan law and the International Finance Corporation's Performance Standard 8 (IFC PS 8), including: archaeology, palaeontology, historic sites, cemeteries and sacred places as well as related traditional practices, local taboos and intangible heritage. Disturbance within the Project footprint has the potential to permanently remove legally protected, unique cultural heritage features of high sensitivity.

The identified key issues relating to cultural heritage are:

- loss of, or damage to, fixed cultural heritage sites (e.g., archaeological remains, spiritual and sacred sites, natural resources of cultural significance) through direct physical disturbance (e.g., earth moving activities, vibration) during construction activities;
- damage to a sacred watercourses or ritual sites (e.g., increased sedimentation) via construction and operation activities;
- impacts on the environmental setting of a cultural heritage site via dust-induced disturbance, visual disturbance, changes in air quality, or increased noise levels, that result in a change in the site character impairing its local value (e.g., a ritual/ceremonial area may be valued for its peaceful nature);
- disruption of access to cultural sites that will limit a site's value for the duration of inaccessibility and inhibit normal cultural activity (e.g., during pipeline construction); and
- related impacts upon local cultural institutions, beliefs, taboos, and traditions (i.e., intangible heritage practice).

The baseline archaeological evidence postulates that the area has been occupied, to some degree since the Ugandan Early Stone Age and Neolithic periods. In particular, the pottery artefacts recorded highlights the potential of Project to provide a complete cultural and chronological sequence that has been lacking not only in Uganda but the Great Lakes region as a whole.

The impact assessment has flagged up 32 locations of archaeological potential (surface scatter) directly within elements of the proposed Project footprint at the Buhuka Flats with a further six similar sites identified along the pipeline route. Centres of heightened archaeological potential have identified in the vicinity of Pad 3, Pad 4A and the where the pipeline traverses the escarpment top for the first 2 – 4 km¹ (including Stone Age – Iron Age pottery and lithic artefacts). It is considered that archaeological receptors identified include 'non-replicable' cultural heritage assets (as defined by IFC PS8, 2012a).

The concentrations of artefacts identified (through visual inspection) at present amount purely to surface scatter and without additional (subsurface) investigation, it is not known whether the scatter is associated with any below-ground archaeological sites. Furthermore, there is potential for previously unidentified archaeological and historic sites to exist throughout the Study Area, particularly given the nature of the non-intrusive survey to date and as not all areas of the Project development were accessible to the field team (e.g., sections of the pipeline route).

¹ The Escarpment Road was subject to baseline study in 2014 and, although not assessed in this Impact report, is also considered to have heightened archaeological potential evidenced by the Early Stone Age artefacts and Neolithic – Iron Age pottery. The escarpment is likely to have provided a (seasonal/ transitory) vantage point for early hunter-fisher-gatherer communities exploiting the Flats and lakeshore.





The baseline information pertaining to sacred areas and ritual sites is considered to be particularly sensitive, a number of these site locations are considered secret, with their details provided to the field team in confidence. Receptors have been identified which are used by local communities (either collectively from one particular village, or from a number of community groups) for unique cultural activities. Sacred sites identified during the baseline cultural study include those natural features embodying spiritual values (e.g., sacred trees and watercourses).

Cemeteries, churches, and mosques have also been identified throughout the Study Area, potentially directly and indirectly impacted by the proposed development. A number of unique intangible cultural heritage practices, associated with natural features, have also been identified in consultation with those communities potentially affected by the Project. These belief systems form the basis of local relationships with, and understanding of, the physical and spiritual world, upon which a shared cultural identity has been built, how the local society is organised, and the community is able to deal with change and shocks.

A total of 17 directly impacted cultural sites have been highlighted through the impact assessment process pertaining to the KFDA. In addition, a further 36 are considered to lie within close proximity (c. 250m) to the Project footprint and potentially indirectly impacted by a change in environmental setting (e.g., noise and dust levels) or through loss of site access. Highly sensitive sites (including burials and sacred places) in proximity to Pad 3 and Pad 4A, the in-field pipelines, new road segments, the jetty and the airstrip/laydown area are flagged up in this regard. These cultural sites are considered to be 'non-replicable' (and potentially immovable) cultural heritage sites as defined by IFC (PS 8, 2012).

The baseline information received in relation to cultural and religious sites is limited to the information which the communities were willing to share with the field team and to those villages accessed during the community consultations and cultural site survey. As such, there remains a potential for as yet unrecorded sacred sites (and related intangible activity and taboo), cemeteries, churches and mosques to exist throughout both the Buhuka Flats and the pipeline route. Survey gaps along the pipeline route are highlighted to follow.

Mitigation measures for cultural heritage are vital, in accordance with international best practice, Ugandan, and IFC guidelines (PS 8, 2012b). These should be incorporated in a detailed, site-ready, standalone Cultural Heritage Management Plan (CHMP) for the Project as soon as possible.

Furthermore, as preparation works and environmental studies are ongoing at the Project site there is the potential for the disturbance of previously unidentified cultural heritage materials during the Pre-construction phase. Between 2014 and 2017 one particularly sensitive sacred tree was felled near Nsunzu. Immediate implementation of the Cultural Heritage Management Plan (as related to the findings of this ESIA) is vital to ensure such issues are adequately managed in participation with the local community.

Archaeological site mitigation for the Flats and the Pipeline should include:

- The preparation of a detailed and Project-specific, Chance Find Procedure (CFP), as a priority. The CFP will form a component of a Cultural Heritage Management Plan (CHMP) which will seek to manage and monitor all cultural heritage effects for the Project lifetime as specified by IFC Performance Standard 8 (2012) and to fulfil the requirements of the Ugandan Monuments Act 1968, which seeks to protect all 'protected, disturbed or discovered' objects of ethnographic, traditional or historical interest.
- Targeted, small-scale, hand dug 'test pit' investigations pre-construction. In order to establish the association (if any) between the identified artefact scatters (e.g., pottery, bone, lithics) and any below ground archaeological sites (indicative of settlement/industry) so as to prepare any project-specific mitigation measures to follow (e.g., archaeological watching brief during construction);
- Avoidance (through preservation in-situ) of the areas of heightened archaeological potential within the proposed development, as deemed necessary, and as informed by the 'test-pit' evaluation phase; and
- In the event that preservation in-situ is not possible, then "preservation by record" through systematic recording (i.e., archaeological excavation) is the only recourse. Such work, where required, will be



described in appropriate detailed work programmes and specifications to be prepared by the cultural heritage specialist. To meet the requirements of Ugandan law this work should be carried out by a suitably qualified person under a licence for archaeological survey as issued by the Minister (Historical Monument's Act, 1967 p.3). In the event of artefact recovery, all materials should be surrendered to the local authority (*ibid*).

Cultural site and Intangible Heritage mitigation for the Flats and the Pipeline should include:

Immediate preparation of a Cultural Heritage Management Plan, to detail mitigation requirements specific to each site, organised on a village by village basis.

This must include:

- Demarcation of 'no go' sensitive areas (e.g., sacred sites, cemeteries) will provide mitigation by avoidance. Provisions for mitigation of the three potentially directed impacted cemetery sites will need to be discussed with the affected community if avoidance is not possible;
- Enhancement or protection of the environmental setting for sacred sites close to construction / operation areas (e.g., through planting/screening) and demarcation of areas to be avoided (e.g., by noisy, dust-inductive) site vehicles at certain times of the day/year);
- Maintaining community access to sacred sites and facilitating respect for local intangible cultural heritage, tradition and taboo will ensure that the negative socio-cultural effects are effectively managed during predicted population influxes and Project-induced disturbance – regular platforms for community liaison are recommended in this regard (provisions to be made within the CHMP and Project Stakeholder Engagement Plan); and
- It is also suggested that the presence of culturally significant places are highlighted to contractors at an early stage and further managed (e.g., demarcation/signage) as required. Provisions for this should be incorporated into the 'site induction' process, to include cultural sensitivity training, and detailed fully within the Cultural Heritage Management Plan (CHMP).

Other site specific mitigation may be required as the infrastructure is finalised. The details of such mitigation should be prepared for inclusion within the CHMP.



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APPENDICES

APPENDIX A

2014 Cultural Heritage Baseline Report

APPENDIX B

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APPENDIX C

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APPENDIX D

2017 Archaeological Site Map - overview

APPENDIX E

2017 Cultural Site Map: Overview

APPENDIX F

2017 Cultural Heritage Baseline Update - Field Survey Data





ABBREVIATIONS AND ACRONYMS

| | |
|--------|---|
| AD | Anno Domini |
| BC | Before Christ |
| c. | Circa |
| CFP | Chance Find Procedure |
| CLO | Community Liaison Officer |
| CPF | Central Processing Facility |
| CHMP | Cultural Heritage Management Plan |
| EIA | Early Iron Age |
| ESIA | Environmental and Social Impact Assessment |
| GPS | Geographical positioning system |
| IFC | International Finance Corporation |
| LIA | Late Iron Age |
| LSA | Later Stone Age |
| m | Meters |
| MIA | Middle Iron Age |
| Mya | Million years ago |
| UNESCO | United Nations Scientific and Cultural Organization |
| UTM | Universal Transverse Mercator |



GLOSSARY

| | |
|------------------------------------|---|
| Acheulian: | An archaeological industry of stone tool manufacture associated with early humans in Africa, which started c. 1.5 million BC (Lower Palaeolithic). |
| Animism: | The attribution of a living soul to plants, animals, inanimate objects and natural phenomena. A belief in a supernatural power that orchestrates the material universe. |
| Archaeology: | The study of the material remains of human's past experience |
| Archaeological Sites: | Any locality where traces of old human activities are evident (i.e., accumulation of artefacts, remains of buildings and structures, as well as the associated presence of organic elements, rock paintings, etc.) |
| Artefact: | An object used (and/or made by) humans. |
| Chance Find Procedure: | The chance find procedure is a project-specific procedure that outlines what will happen if previously unknown heritage resources, particularly archaeological resources, are encountered during project construction or operation (PS 8 Guidance Note, IFC 2012). |
| Critical Cultural Heritage: | The internationally recognised heritage of communities who use, or have used within living memory, the cultural heritage for long-standing purposes. It also applies to legally protected cultural heritage areas and those proposed for such designated status (IFC 2012). |
| Cultural Landscape: | As defined by the UNESCO World Heritage Committee: 'cultural properties [that] represent the combined works of nature and of man'. Three categories are identified: a 'landscape designed and created intentionally by man'; an 'organically evolved landscape' and an 'associative cultural landscape' (the latter valued because of the 'religious, artistic or cultural associations of the natural element.' (UNESCO, 2005) |
| Cultural Heritage: | Defined in accordance to IFC PS 8 (2012) to include (i) tangible forms e.g. objects, pottery, sites and structures with archaeological (prehistoric), paleontological, historical, cultural, artistic or religious values; (ii) natural features which embody cultural values e.g. sacred groves, water bodies, rocks; and (iii) the intangible cultural heritage of communities e.g. festivals, taboos, oral history |
| Cultural Sites: | Natural and manmade works that are of outstanding universal value from the historic, aesthetic, ethnological or anthropological point of view. |
| Field survey: | A non-intrusive walkover exercise to identify cultural heritage sites and related objects through visual surface inspection. |
| Flake: | A lithic artifact taken from a core that is not modified/retouched/ shaped. |
| Heritage: | Tangible and intangible realities that communities, groups and individuals recognize and cherish as part of their lifestyle. Heritage items can be tangible such as artifacts, traditional dress or intangible such as language, oral traditions, customs, music, dance and rituals |
| In situ: | Being in its original position; not having been moved or transferred to another location. |
| Intangible Heritage: | The traditional practices, cultural norms and knowledge transmitted from one generation to the next, which communities or individuals recognise as |



CULTURAL HERITAGE ASSESSMENT

| | |
|------------------------------------|---|
| | part of their cultural heritage e.g. belief systems, cultural taboos, songs and dances, language, medicinal knowledge (IFC, 2012) |
| Iron Age: | The prehistoric period in human cultural development characterized by the introduction of iron metallurgy. |
| Lithic: | Artefact of, or pertaining to, stone. |
| Material Remains: | Objects produced by man, as stone or iron instruments or artefacts, ceramics, kitchen remains, construction, building and works remains, amongst others. |
| Mammillated: | Pottery design of rounded bulges. |
| Non-replicable assets: | Non-replicable cultural heritage may relate to the social, economic, cultural, environmental, and climatic conditions of past peoples, their evolving ecologies, adaptive strategies, and early forms of environmental management, where the (i) cultural heritage is unique or relatively unique for the period it represents, or (ii) cultural heritage is unique or relatively unique in linking several periods in the same site. |
| Potsherd: | A broken fragment of pottery. |
| Replicable Cultural Assets: | Tangible forms of cultural heritage that can themselves be moved to another location or that can be replaced by a similar structure or natural features to which the cultural values can be transferred by appropriate measures. Archaeological or historical sites may be considered replicable where the particular eras and cultural values they represent are well represented by other sites and/or structures (IFC, 2012). |
| Scatter: | A surface collection of artefacts, the occurrence of five or more items of cultural material within an area of about 100 square metres. |
| Slag: | Partially vitrified waste by-product of ore processing. |
| Stone Age: | The earliest known period of human culture, characterized by the use of stone tools. |
| Test Pit | Small scale, hand dug excavations to investigate archaeological survival below ground |
| Trial Trenching: | A rapid, usually small scale and inexpensive excavation technique using targeted hand- or machine-dug sections. |



1.0 INTRODUCTION

CNOOC Uganda Limited (“CNOOC”) has identified an opportunity to develop the KFDA on the eastern shore of Lake Albert, Kikuube District, Uganda. In accordance with Ugandan law it is necessary for CNOOC to determine the potential environmental and social impacts of the project and to demonstrate how these will be mitigated and managed. This chapter of the Environmental and Social Impact Assessment (ESIA) presents an assessment of the potential impacts of the KFDA project (the Project) on cultural heritage and sets out recommendations for their avoidance and reduction where necessary.

This report separately considers the main components of the Project in relation to cultural heritage receptors, namely:

- The production facility, which will be located on the Buhuka Flats along the eastern escarpment of Lake Albert. The facility will consist of the central processing facility (CPF) and four well pads which will be drilled consecutively, as well as a permanent worker camp and other supporting infrastructure; and
- The distribution pipeline, which will connect the production facility with a proposed refinery to be located at Kabaale, c46 km to the east.

This ESIA is compiled with reference to the baseline cultural heritage survey, completed between February and March 2014 and during November 2017 (following an update in the Project design). The baseline was required to enable an appropriate assessment of the Project’s potential impacts on the cultural heritage environment. The detailed results of the 2014 baseline survey are included in APPENDIX A while APPENDIX F includes the 2017 update results, these are collectively summarised in Section 5.0 to follow.

For the purposes of this assessment ‘cultural heritage’ encompasses archaeology, cultural sites (e.g., sacred sites) and related intangible practice, in line with the definitions set out by the Ugandan Culture Policy (2006), the Historical Monuments Act 1968, and IFC Performance Standard 8 (2012). Further clarification is set out in Section 0.

This specialist study report includes the following sections:

- Section 2.0 describes the terms of reference for the report;
- Section 3.0 presents the methods used for the study that entail examining the study objectives, the approach employed and the limitations encountered;
- Section 4.0 sets out the legislative background applicable to the study;
- Section 5.0 summaries the results of the baseline study;
- Section 6.0 assesses the cultural heritage impacts of the infrastructure proposed on the Buhuka Flats;
- Section 7.0 assesses the cultural heritage impacts of the infrastructure proposed on the pipeline to Kabaale;
- Section 8.0 recommends mitigation and management measures; and
- Section 9.0 includes a complete list of references consulted.





2.0 TERMS OF REFERENCE

The cultural heritage potential of the Project area (including the Buhuka Flats and the pipeline) was largely unstudied prior to the completion of the baseline survey in 2014. Although a number of development-related environmental studies have been carried out in the Albertine Graben region of western Uganda, to date none have considered the full scope of cultural heritage assets in any detail.

In determining the requirements of the cultural heritage assessment, reference was made to the appropriate legislation and guidance. National policy pertaining to the Project is detailed fully in Section 4.0. In summary, 'cultural heritage' has been considered with appreciation of The Ugandan Cultural Policy's definition² (2006) and the International Finance Corporation (IFC) Performance Standard 8. The IFC defines cultural heritage as:

"Cultural heritage refers to (i) tangible forms of cultural heritage, such as tangible moveable or immovable objects, property, sites, structures, or groups of structures, having archaeological (prehistoric), paleontological, historical, cultural, artistic, and religious values; (ii) unique natural features or tangible objects that embody cultural values, such as sacred groves, rocks, lakes, and waterfalls; and (iii) certain instances of intangible forms of culture that are proposed to be used for commercial purposes, such as cultural knowledge, innovations, and practices of communities embodying traditional lifestyles"

(IFC, PS8, 2012a)

The Historical Monuments Act for Uganda (1968) provides guidance for the survey, documentation and preservation of objects of historic interest. 'Objects' are considered as follows:

'...of archaeological, palaeontological, ethnographical or historical interest includes any site, place, structure, erection of building, memorial, tumulus, cairn, pit dwelling, trench, fortification, irrigation work, cave, rock sculpture, inscription, monolith, fossil remains of man or animal or plant or any object which is of historical interest, or any part of such object'

Historical Monuments Act for Uganda (1968)

Consequently, and with reference to both national and international guidance, the following elements are considered applicable to this study:

- Archaeological sites and artefacts;
- Historical structures;
- Historic districts;
- Cultural landscapes;
- Intangible heritage;
- Religious sites;
- Cultural and sacred sites; and
- Paleontological Sites.

IFC Performance Standard (PS) 8 requires the investor (i.e., CNOOC) to identify and reduce or avoid adverse impacts upon identified cultural heritage resources. The IFC also provides guidance specifying the participation of affected communities in the identification of, and potential mitigation of, cultural heritage resources recommending appropriate strategies for impact reduction and long term cultural heritage management (IFC PS 8, 2012b).

² "...artistic and cultural expressions. These are: language and literary arts, performing arts, visual arts and handicrafts, indigenous knowledge, cultural beliefs, traditions and values, cultural sites, monuments and antiquities" (Ugandan Cultural Policy, 2006, para. 2.3)





Cognisant of these necessities Work Plans were prepared for each phase of field work which set out to capture all elements of the cultural heritage baseline, against which adequate assessment of the Project's predicted impacts could be made (as described in Section 3.0: Methodology).

The survey of the baseline cultural heritage environment was carried out by a joint field team (Golder Associates and Ugandan-based Eco and Partner) between January and February 2014 and by Dr Elizabeth Kyazike (Ugandan-based, previously of Eco and Partner) in November 2017. The findings of the baseline survey have been analysed and incorporated in this ESIA (Section 5.0). The detailed baseline cultural heritage report is presented in APPENDIX A, with details of the additional data collected in 2017 included in APPENDIX F.

2.1 Scope of Work

The scope of the baseline study was to identify the tangible and intangible cultural heritage resources within the defined Study Area in accordance with the Ugandan Culture Policy 2006 (para. 2.3.) definition of cultural heritage:

"...artistic and cultural expressions. These are; language and literary arts, performing arts, visual arts and handicrafts, indigenous knowledge, cultural beliefs, traditions and values, cultural sites monuments and antiquities".

The aim was to collect scientifically defensible, high quality data of sufficient breadth that could be used to characterise the baseline conditions of the project area. This was achieved with reference to the IFC's Performance Standard 8: Cultural Heritage (2012) which seeks to protect cultural heritage from the adverse impacts of project activities, support its preservation and promote the equitable sharing of benefits from the use of cultural heritage.

The key aims of the cultural heritage baseline study were to:

- Undertake a non-intrusive ground survey of the Project area to identify and describe the tangible cultural heritage resource (to include archaeological, historical and cultural sites and associated artefacts);
- Obtain co-ordinates/GPS readings to delineate site boundaries so that accurate data sets could be created for GIS applications;
- Investigate and describe the intangible cultural heritage resource (the oral traditions, linguistic identities, traditional practices and belief systems) of the communities within the Project area; and
- Provide analysis which characterizes the significance of the entire cultural heritage resources identified by the survey.

The objectives of this impact assessment report are:

- To summarily describe the results of the baseline data collection;
- To identify the nature, location and status of any receptors of cultural heritage importance which may be affected by the Project;
- To assess the extent of potential Project impacts on these cultural heritage resources; and
- To identify the scope of any mitigation in advance of, or during, the construction phase.

2.2 Delineation of the Study Area for Cultural Heritage

The study area for cultural heritage (the Study Local Area (LSA)) comprised all proposed (new) project-related elements and those affected communities within the immediate area. More specifically the Study Area comprised:

- The new infrastructure proposed at KFDA at the Buhuka Flats, Lake Albert (as shown in blue on Figure 1) including:





- Four onshore well pads (Pad 1-KF, Pad 2-KF, Pad 3-KF and Pad 4A-KF);
- A total of 31 wells will be drilled (20 of which will be production wells and 11 water injection wells);
- Central Processing Facility (CPF); and
- Supporting infrastructure, including in-field access roads and flowlines, an upgraded jetty and water abstraction station on Lake Albert, a permanent camp, a material yard (or 'supply base'), a safety check station at the top of the escarpment, construction camps located on the Buhuka flats and midway along the feeder pipeline and a laydown area.

An airstrip suitable for light aircraft, established in 2006 by Heritage Oil and Gas Limited to support exploration drilling in the Kingfisher Field Development Area. Due to safety considerations during operation of the plant (a hazardous installation) and the limited projected usage for the airstrip, the airstrip will be converted into a materials lay down area for the construction phase. The northern end of the airfield may continue to be used for parking during the operational phase, but the remainder will be returned to community grazing use. Provision elsewhere will be made for a helipad (location still to be determined at a location near the CPF).

- The villages and settlements that lie in close proximity to the Kingfisher Field Development area as indicated on Figure 1:
 - Kyakapere;
 - Kyabasambu;
 - Nsonga; and
 - Nsunzu.

The proposed 46 km feeder pipeline route linking the CPF at Kingfisher to Kabaale (Figure 2); and

- The villages and settlements within a 1 km buffer surrounding the pipeline route (as listed in F).



Figure 1: Kingfisher Field Development Area





CULTURAL HERITAGE ASSESSMENT

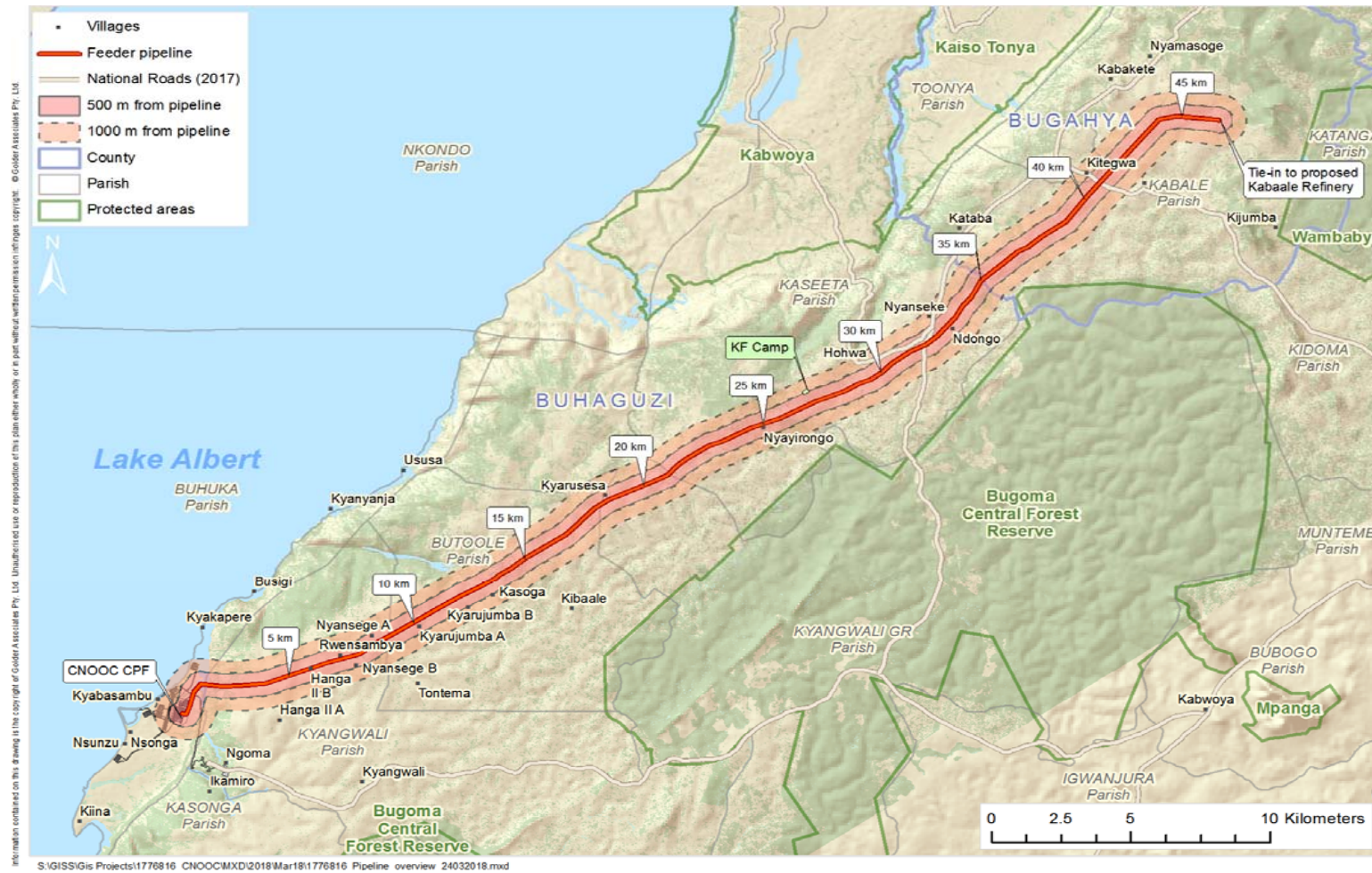


Figure 2: Figure 2: Feeder Pipeline to Kabaale





3.0 METHODOLOGY

The Work Plans prepared by Golder Associates (2013 and 2017) set out the proposed methodology for the compilation of the baseline cultural heritage environment. This determined a staged approach to identify, record and assess cultural heritage resources that were likely to be affected by the Project, comprising:

- A desk-top study and literature review of readily available cultural heritage information pertinent to the Project area (2014); and
- A non-invasive field survey to record all cultural heritage sites within the Study Area (2014 and 2017).

Both stages of the 2014 remit were completed by a team of four cultural heritage experts, from Golder (Ms. Alice Hobson) and from Eco and Partner (Dr. Elizabeth Kyazike, Mr. Robert Ssemulende and Ms. Fatumah Mirembe). Field work was conducted for 14 days between 20 January and 2 February 2014. Dr. Kyazike presented a report on the survey work to Golder in April 2014, the complete baseline results are set out within the Section 5.0 of this ESIA.

Following alterations to the site layout and overall project design, Dr. Elizabeth Kyazike, Mr. Robert Ssemulende, returned to site between 7 and 10 November 2017, to update the baseline survey. The field data collected during this supplementary phase (including a log of sites and interview transcripts) is presented in APPENDIX F.

- Desk-top study

The desk-top study included examination of the existing dataset on Ugandan cultural heritage, focusing on Kikuube and Hoima Districts in particular. This review was limited to the libraries and archives held within Kampala (at the National Museum) and those journals and articles readily available online. Previous (and available) environmental studies undertaken in the region were also analyzed. A full list of references is included in Section 8.0.

- Non-invasive field survey

The survey comprised two phases:

- **Archaeological Field Survey:** a non-intrusive reconnaissance mission to capture the *visible* cultural heritage resource (archaeological sites and artefacts). The survey focused on those areas of heightened potential (e.g. favourable for historic settlement) and where Project infrastructure is proposed (i.e. where direct impacts to archaeology are anticipated); and
- **Cultural Field Survey:** consultation with the affected communities (those villages within the Study Area) took the form of transcribed interviews in order to capture places of local cultural and/or sacred importance (e.g. ritual sites, burial grounds, churches and mosques) and any related intangible heritage practice (taboo, oral history etc.).

3.1 Archaeological Field Survey

Sites of archaeological, historic and palaeontological interest were investigated through field-walking. This comprised a visual screening of the land surface. Areas were targeted for their predicted potential and where new Project-related infrastructure is proposed. There was no intention to undertake any below ground investigation, although limited manual clearance of vegetation was necessary in some places. It was beyond the scope of this survey to remove surface objects en masse from sites; this will be undertaken during further stages of work if necessary.

A 'Cultural Heritage Site Record Sheet' for the sites identified during the field survey was devised as conditions warranted. These were used to record the form, nature and the accurate UTM 36 co-ordinates of the sites and objects discovered by the field team. Hand held GPS' (Garmin and Magellan eXplorist 110) were used to navigate and record the survey routes taken. The GPS points and routes were downloaded daily to a laptop computer, together with digital photographic images.





Each archaeological site (e.g., an individual artefact or a collection of artefact ‘surface scatter’) was given a ‘waypoint’ number for ease of reference. Sites were photographed and recorded (in a notebook, for later digitization) with the site name description and coordinates. Once the survey was complete, an assessment was made on the sensitivity of the recorded sites.



Figure 3: Archaeological Field Survey within the proposed CPF

3.2 Cultural Field Survey

For purposes of ascertaining the location and nature of cultural, religious and unique natural sites and intangible heritage, community consultation sessions were held by the team. This survey focused on the villages and settlements within the Study Area.

Generally consultation took the form of transcribed interviews (examples are included within APPENDIX C (2014) and APPENDIX F (2017)). The conversations were facilitated by CNOOC’s Community Liaison Officer (CLO).

Initially interviews were conducted as village meetings (focus groups) where the community was asked to provide details of their knowledge of sites of cultural importance such as the churches, cemeteries, and traditional practice areas. As it became apparent that community members were unwilling to discuss (sensitive) cultural practices and (secret) places of traditional religious importance, consequently the field team resorted to one to one (private) interviews with Key Informants (KIs). These proved much more successful.

Where appropriate, culturally significant sites were sensitively mapped and recorded (e.g. photographed) with the approval of the local community. Each cultural site was given a unique identifier and the relevant GPS co-ordinates were recorded. Notes were also taken with regard to any related intangible heritage a practice (e.g., taboos that may govern certain spaces).



Figure 4: Cultural Heritage Community Consultation in the Kingfisher Field Development Area

3.3 Limitations

The extent of the Study Area was defined with consideration of the breadth of the Project footprint at the time the field surveys were completed (January - February 2014 and November 2017). Any subsequent design changes and or alterations may require new surveys to be conducted (e.g. if infrastructure lay out is changed and extended beyond the Study Area).

The site work and the survey coverage were, in parts, subject to the constraints imposed by:

- Health and safety considerations such as sanitation, wild animals and the lake;
- Poor ground visibility like dense vegetation cover; and
- Inaccessibility especially due to the steep slopes of the escarpment.

These constraints are typical of baseline field data collection and as a whole did not negatively impact on the objectives of this survey. However, gaining access in dense vegetation and at remote areas following heavy rainfall along the pipeline was a considerable issue and it should be noted that there remains a potential for (as yet unrecorded) features of cultural heritage interest across the pipeline route in particular.

Survey gaps along the pipeline are highlighted in this regard:

- Between Kyarujumba and the Kabaale terminus;
- Around Ndongo;
- Kamwokoya and
- Those villages in proximity to Kitegwa.

Furthermore, although this survey provides useful baseline data of the visible cultural heritage, it cannot discount the possibility that other (potentially important) remains may survive in below-ground deposits or in areas inaccessible to survey. The scope and suitability of additional work that may be required in order to further investigate identified sites and/or additional areas will be developed as information from this survey is assessed and disseminated.



In addition, the information gathered in relation to traditional cultural places and intangible heritage is limited to that which the community was willing to share with the field team. A number of the recorded sites are considered 'secret', and although access was granted to the team, there may be places known only to a small section of the community and/or some which are too sensitive to share. Consequently there is a potential for unidentified features of cultural importance to exist within the Study Area.

4.0 RELEVANT LEGISLATION

4.1 Uganda's Policy, Legal and Institutional Framework on Cultural Heritage

4.1.1 The Laws and Acts of Uganda

4.1.1.1 *The Constitution of the Republic of Uganda (as at 15 February 2006)*

Social and Economic Objective (XIV)

Under the general social and economic objective the State shall endeavor to fulfill the fundamental rights of all Ugandans to social justice and economic development and shall in particular ensure that all developmental efforts are directed at ensuring the maximum social and cultural well-being of the people.

Cultural Objective (XXIV)

Cultural and customary values which are consistent with fundamental rights and freedoms, human dignity, democracy and with the Constitution may be developed and incorporated in aspects of Ugandan life. The State shall promote and preserve those cultural values and practices which enhance the dignity and well-being of Ugandans. Cultural Objective (XXV): Preservation of Public Property and Heritage:

The State and citizens shall endeavor to preserve and protect and generally promote the culture of preservation of public property and Uganda's heritage.

4.1.1.2 *The Historical Monuments Act 1968 Cap. 46*

The Act provides for the survey, collection, documentation, preservation, and protection of historical monuments and objects of archaeological, palaeontological, ethnographical, and traditional interest. Provisions are set out for the declaration and protection of 'preserved', 'protected' and 'discovered' objects. The Minister may, by statutory instrument, declare any object of archaeological, palaeontological, ethnographical, traditional or historical interest to be a preserved object for the purposes of this Act.

Objects are defined as:

'of archaeological, palaeontological, ethnographical or historical interest includes any site, place, structure, erection of building, memorial, tumulus, cairn, pit dwelling, trench, fortification, irrigation work, cave, rock sculpture, inscription, monolith, fossil remains of man or animal or plant or any object which is of historical interest, or any part of such object'

The Act sets out the process in the event of Object discovery:

'Any person who discovers any object which may reasonably be considered to be of archaeological, palaeontological, ethnographical, historical or traditional interest shall, within fourteen days, report to the conservator of antiquities or a district commissioner or the curator of the museum' and 'Any person who discovers any such object shall take such measures as may be reasonable for its protection. Where the conservator of antiquities is satisfied that any object discovered is an object of archaeological, palaeontological, ethnographical, traditional or historical interest, he or she shall report the discovery of the object to the Minister who, for the purposes of this Act, may, by statutory instrument, declare it to be a preserved or protected object'.

Unless a person is authorised by a license issued by the Minister, no person shall whether on his or her own land or elsewhere—excavate any object of archaeological, palaeontological, ethnographical or traditional interest; or remove any object hitherto undiscovered from any site, place or monument or collect or remove





any object which he or she knows or has reasonable cause to believe is an object of archaeological, ethnographical, historical or traditional interest.

Any person who destroys, alters, defaces, removes, repairs, injures or imperils any preserved or protected or discovered object; contravenes any of the terms and conditions imposed in a license issued under this Act; or contravenes any of the provisions of this Act, commits an offence and is liable on conviction to a fine not exceeding two thousand shillings or to imprisonment for a period not exceeding six months or to both such fine and imprisonment.

4.1.1.3 Decree No.12 of 1977

This Decree abolished the Board of Trustees of the Uganda Museum which had been a semi-autonomous body since 1934 and amalgamated the services of the Uganda Museum within the Department of Antiquities to form the Department of Antiquities and Museums. A Museums and Monuments Policy is in process which addresses most of the policy issues that concern cultural heritage.

4.1.2 The Environmental Policy Framework

The principle legislation guiding cultural heritage impact assessment is the National Environmental Statute (NES) of 1995. For matters pertaining to Cultural Social Impact Assessment (CSIA), the NES is operational through the Guidelines for Environmental Impact Assessment in Uganda (1997) and the Regulations of 1998. As far as the regulations stipulate, the Project to be undertaken falls within Category I, which require a mandatory Environmental and Social Impact Assessment study entailing screening, scoping exercise, public consultation, SWOT analysis, identifying cumulative, direct and indirect cultural and social impacts and proposing mitigation measures.

4.1.3 The Uganda National Culture Policy, 2006

The policy provides the framework for the promotion of culture. The core principle underlying this Policy is respect for all cultures. The policy is all inclusive and advocates of rights of indigenous groups in Uganda. The Culture Policy promotes social change and encourages new ideas and approaches within the laws of Uganda.

Cultural Heritage is defined as (paragraph 2.2):

“The cultural heritage of Uganda includes artistic and cultural expressions. These are; language and literary arts, performing arts, visual arts and handicrafts, indigenous knowledge, cultural beliefs, traditions and values, cultural sites monuments and antiquities”.

4.1.4 Other Relevant Ugandan Provisions

In addition to the Ugandan Constitutional provisions, Government has in place initiatives to ensure the preservation, promotion and development of Uganda’s cultural heritage. These include the establishment of statutory institutions such as the National Library of Uganda and the Uganda National Cultural Centre, which are responsible for promoting cultural heritage. There are also laws that address specific aspects of culture. These include: Uganda National Culture Centre (Cap 50), The Copyright and Neighboring Rights Act 2006, the Stage Plays and Public Entertainment Act (Cap 49) and the Traditional Rulers Restitution of Assets and Properties Act (Cap 247).

4.2 International Guidance

Uganda is a signatory to the Universal Declaration of Human Rights (UDHR) and therefore has a moral obligation to advance the Rights spelt therein. In addition, Uganda is bound by the International Covenant on Economic, Social and Cultural Rights (ICESCR) which it ratified in 1987. Article 27 of UDHR and Article 15 of ICESCR recognize everyone’s right to freely participate in cultural life.

4.2.1 International Finance Corporation’s Performance Standards

The most pertinent Performance Standard (PS) is PS 8: Cultural Heritage. PS 8 defines cultural heritage as archaeology, historic sites, cultural sites (sacred places) and related intangible heritage practice. The PS requires the investor to identify and reduce or avoid adverse impacts upon cultural heritage resources. The





PS provides guidance which specifies the participation of affected communities in the identification of, and potential mitigation of, cultural heritage resources recommending appropriate strategies for impact reduction and long term cultural heritage management (e.g., implementation of a Cultural Heritage Management Plan and a Chance Find Procedure).

4.2.2 The Convention for the Protection of the World's Cultural and Natural Heritage (1972)

Uganda is a signatory to the Convention on the Protection of the World Cultural and Natural Heritage (1972). To date Uganda has three sites on the list of the World heritage sites namely; Kasubi tombs, enlisted in 2001, Bwindi Impenetrable Forest National Park and Ruwenzori Mountains National Park. In 2005, UNESCO proclaimed the art of backcloth making in Uganda a masterpiece of the Oral and Intangible Heritage of Humanity. Currently five sites are on the World Heritage nomination list including the ancient salt making sites at Kibiro that lies within the Albertine Graben, approximately 45 km north east of the Kingfisher Field development area.

4.2.3 The Convention for the Safeguarding of the Intangible Cultural Heritage (2003)

Uganda has been a signatory to the United Nations Educational, Scientific and Cultural Organisation's (UNESCO's) Convention for the Safeguarding of Intangible Cultural Heritage since 2009. The Convention seeks to raise awareness of threats to intangible heritage and encourages member states in the identification, protection and management of such assets, ensuring respect for those individuals and communities concerned.

4.2.4 Regional Frameworks

At the regional level, Uganda is a member of the African Union and one of its objectives is to promote sustainable development at the economic, social and cultural level. In the East African region, Uganda is obliged to implement the articles of the Treaty for the establishment of the East African Community, which it ratified together with other member states in 2000. In article 119, Partner States agreed to promote close cooperation in culture and sports.

The key actors are; Ministry of Gender, Labor and Social Development and other Government Ministries, the National Planning Authority, Local Governments, the National Culture Forum, Development Partners, the Private Sector, Civil Society Organizations, Faith Based Organizations, Traditional/Cultural Institutions and Households. The institutions and their responsibilities are as listed as per the Uganda culture policy, 2006.





5.0 BASELINE ENVIRONMENT

A total of 393 tangible cultural heritage resources (including archaeological, historic, cultural and sacred sites) were identified in the LSA during the field survey phase. In addition, a range of intangible heritage activities were observed and recorded. The following Sections (5.1 – 5.5) summarise the results of the baseline surveys, including a synopsis of the historic and archaeological background. The full details (accompanied by a comprehensive Catalogue of Sites) are included within APPENDICES A (2014) and F (2017). The maps in APPENDIX D and APPENDIX E depict the locations of the identified sites in relation to the proposed development. Due to the confidential nature of some of the cultural sites some site locations have been mapped using redacted buffers. The accurate site location will be provided, as requested, to the Project design team.

5.1 Cultural Heritage Background and Settlement History

There has been a significant lack of research in to the history of western Uganda and Kikuube and Hoima Districts in particular. Kikuube and Hoima Districts lie within the extent of the former Bunyoro Kitara Empire which extended throughout parts of Masindi, Hoima, Kibaale, Kabarole and Kasese and engulfed parts of present day Kenya, Tanzania and The Democratic Republic of Congo. Following the disintegration of the Bunyoro Kitara Empire in the 19th Century, smaller kingdoms rose up, including the Bunyoro, whose leader Kabalega, is renowned for resisting British colonial rule. The one previously documented heritage site in proximity to the Study Area is associated with the colonial period – Baker's View, where explorer Samuel Baker first had a view of Lake Albert while looking for the source of River Nile. The site is noted on Uganda's Inventory of Sites (held by the National Museum in Kampala).

The pre-colonial history of the Bunyoro Kitara Kingdom is poorly studied with most written from oral traditions recorded at court (Robertshaw, 1999). Analysis of the records appear to reveal that the Bunyoro were one is a succession of small scale polities, akin to chiefdoms, across the region (*ibid*). There is some debate regarding the Bunyoro's origins, some historians believe the Bunyoro are decedents of the Bachwezi. The Bachwezi are however, surrounded by obscurity with some historians dismissing them as purely mythical, while others credit them with the introduction of long horn cattle and salt extraction, both of which came to dominate the economy of the Great Lakes region (Tumusiime, 1993, Robertshaw, 1999).

The settlement history of the Study Area is not known. The archaeological evidence gathered during this study (Section 5.3) provides some clarity that the region has been occupied to some degree from at least the Iron Age. Earlier, Neolithic-dated artefacts, are more likely indicative of transient, seasonal activity on the escarpment (as discussed below). The community interviews undertaken by the cultural heritage team suggest that the current lakeside population may be the 5th or 6th generation and potentially 150 – 200 years old. This is attested by the oral traditions of the communities (e.g., with recollections of grandparents' making pottery; stories associated with the area during the colonial wars and/or the number of chairmen that the village has had). Further details are provided in APPENDIX C and APPENDIX F (Interview Transcripts for 2014 and 2017). The oral history recorded along the villages of the pipeline route suggests that many are more recently settled (further details are provided in APPENDIX F (2017 interview transcripts)).

5.2 Paleontological Sites

Although a number of animal bones were recovered (Section 5.3) no fossilised remains were identified within the Study Area during the purely visual / non-intrusive baseline survey. The paleontological potential of the area is however considered to be reasonably high with well-studied fossil sites in the near vicinity (e.g., faunal remains at Kaiso, approximately 35 km northeast, on the eastern shore of Lake Albert). In the wider vicinity of the Great African Rift, the Kikorongo Crater, near Lake George, has revealed debated evidence of a fossilized hominoid femur, potentially *homo sapiens*, tentatively dated 8,000-10,000 BP (NEMA, 2001, 2009, De Silva et al, 2005).

5.3 Archaeological and Historic Sites

A total of 245 archaeological and historic sites were identified throughout the LSA during the two phases of cultural heritage field survey. This section aims to summarise those sites which are particularly significant and/or within close proximity to areas of proposed development elements, either on the Buhuka Flats or





along the feeder pipeline route. A full account of the identified baseline archaeological and historic environment is included within APPENDIX A (2014) and APPENDIX F (2017).

For ease of reference all identified site locations have been assigned a unique identification number (ID) in the text and maps, for example, all pottery sites have been numbered and prefixed with 'PO'. The categorization system is explained fully in APPENDIX A. All archaeological and historic site locations have been mapped, in relation to the proposed development (APPENDIX D).

Neolithic and Stone Age Periods

Archaeological evidence of early (potentially pre-Neolithic) occupation is provided by a number of lithic artefacts encountered throughout the LSA. These include typical Middle to Later Stone Age lithics, **LI-37** and **LI-38**, recorded directly within the footprint of the proposed permanent camp (materials yard) and site **LI-39**, within the vicinity of the proposed CPF and associated with a metal findspot (**ME-04**) possibly associated with an ancient burial. Find spots **LI-45** (a Middle Stone Age discoid) and **LI-46** (a multi-platform core) were also recorded within the footprint of Pad 4A. Concentrated lithic scatter and debitage was also recovered south of the Airstrip (site **LI-04**, Figure 5), potentially associated with bone fragments (**BO-27**).

Further evidence gathered in 2014 tentatively suggests human utilization of the wider area³ dating to the Ugandan Neolithic (6000 to 5000 BC). The evidence relates to sherds of Kanyore pottery (characterized by incised wavy lines) observed 300 m from the Escarpment Road (**PO-182**) and site **PO-161** between Kabaale and Kitegwa (1,200 m from the current Pipeline route) (APPENDIX D).



Figure 5: Lithic scatter (LI-04) within the LSA

Along the proposed pipeline route, four lithic scatter sites were noted within 15 m of the route, including **LI-47** (multi-platform core) and **LI-51 – LI-53** (flake fragments and discoid). The latter three were found in close proximity to Nyantai village (APPENDIX D)

Although these are isolated finds their presence in the wider vicinity is important; Kanyore pottery in particular is a significant indicator of cultural interaction across the East African region. It has been identified in Sudan (referred to as 'Khartoum Neolithic' pottery) and in several parts of Kenya and Tanzania. The presence of the sherds is likely indicative of others in proximity with both sherds found in conjunction with

³ These sites, part of the 2014 baseline, are now outside the 2017 LSA yet are still appropriate to consider in terms of understanding the wider archaeological context of the Project and local chronology, furthermore these sites are likely indicative of others in the vicinity.



other (unidentifiable/undateable) pottery scatters. The Kanyore pottery is potentially associated with early transitory, hunter-fisher-gatherer communities for whom the escarpment/ escarpment top would have provided a favorable (perhaps seasonal) position.

Iron Age - Modern Periods

Iron Age activity (from 500 BC) was found to be particularly prevalent across the LSA and wider area with evidence asserted by concentrations of pottery scatter on the shore of Lake Albert. Three Iron Age pottery traditions were subsequently identified – ‘Urewe’ (Early Iron Age, c. 500 – 700 AD); ‘Bourdine’ (Middle Iron Age, undated); and ‘Roulette’ (Late Iron Age, undated). These typologies are further detailed and illustrated in APPENDIX A. A large concentration of Roulette pottery was noted within and surrounding proposed Well Pad 3 (APPENDIX D). The footprint of proposed Well Pad 4A also yielded a significant amount of Iron Age pottery scatter (APPENDIX D).



Figure 6: Late Iron Age ‘Roulette’ Pottery PO-52 (Nsunzu Village)

In summary, the artefactual evidence identified is a significant indicator of extensive settlement and potential industry, particularly where concentrated pottery scatters were found associated with other artefacts. On the northern end of the proposed Pipeline Route near Kitewga and Nyanseke pottery scatter sites were found associated with iron slag, potentially indicative of Iron Age activity. It is notable that these areas along were more easily accessible to the survey team and are likely representative of similar archaeological evidence in the wider vicinity / other sections of the pipeline. Further investigation will be required to determine whether these remains are indicative of past activity in the immediate project locality or purely representative of ephemeral, possibly migratory, landscape exploitation.

Iron slag and iron objects were recorded at four locations within the Flats. Site **ME-04** (bangle fragment), is associated with lithic scatter **LI-39**, recorded within the proposed CPF footprint and potentially indicative of an ancient burial (APPENDIX D).



Figure 7: Metal Bangle Fragment (ME-04) associated with site LI-39, CPF

Three historic sites were identified within the LSA including an ancient salt-making site close to Nsonga village (HI-03) and an abandoned settlement (HI-02). Both are well known to the lakeside communities and HS-02 is in close proximity to the in-field pipeline and the existing road north of the temporary camp. Site HI-01 is a stone-walled structure, possibly house foundations (Figure 8) noted at Kyakapere Village (APPENDIX D). The site is particularly unusual in the lake side communities, where no other stone walled structures were recorded. There may be some potential links with (Iron Age) stone building traditions in central and southern Africa (e.g., Zimbabwe enclosures). Although the site is beyond the proposed infrastructure developments it highlights a potential for sub-surface stone structures in the wider vicinity.



Figure 8: Stone-walled Structure at Kyakapere Village (HI-01)



The location of historic (abandoned) quarry sites were identified in the wider area (**QU-01** and **QU-02**), these are approximately 200 m from the Escarpment Road route and may be representative of other quarrying and/or settlement activity in the escarpment area.

Faunal artefacts (i.e., bones and shells) were recorded throughout LSA with three sites (**BO-25**, **BO-30** and **BO-31**) within the pipeline footprint. Most of the bones were in a fragmentary state and could not be analysed. However, fish vertebrae and cow bones were noted. No fossilized bone was identified. Analysis of the shell sites did not reveal any evidence that they were part of any midden deposits (rubbish dump) and consequently their anthropogenic nature is unproven. However, until any further analysis takes place (e.g., targeted trial trenching) these sites may have archaeological potential, particularly where found in association with pottery and/or lithics.

5.4 Cultural Sites

The results of the cultural site survey are summarised in this section. This is drawn from the data collated during the community consultation surveys. In total 148 sites of cultural importance were identified within the Study Area. A thorough account is provided within APPENDIX A (2014) and APPENDIX F (2017). The cultural sites comprise nine categories: religious sites (churches and mosques), cemeteries, ritual sites, ritual objects, sacred rivers, sacred trees, cultural trees (bark cloth), cultural landscapes and medicinal plants.

Many of these sites were disclosed in confidence and are considered secret and highly sensitive. During disclosure the interviewees often made reference to the rituals they would have to perform as a result of their discussions with the field team (and the site's exposure). Consequently (where appropriate) sacred sites are discussed with limited reference to their geographic location. A complete list of site grid references and location maps will be presented to the client to assist Project planning and these will be disseminated purely on a 'need to know' basis.

Where appropriate, each site location has been mapped in relation to the proposed Project infrastructure on, APPENDIX E. For ease of reference each site has been assigned a unique identification number (ID) prefixed with the appropriate site category (e.g., CH for church, RS for ritual sites and ST for sacred tree).

5.4.1 Churches and Mosques

A total of 59 churches and two mosques were identified within the LSA and 19 of these sites are situated within 250 m of proposed infrastructure developments. **CH-16** – **CH-17** and **CH-43** – **CH-44** in proximity to the proposed Material Yard; **CH-01** – **CH-03**, **CH-06** – **CH-08**, **CH-30** – **CH-35** and **CH-40** at Nsunzu, east of Pad 3.

Along the proposed Pipeline route, two churches were identified within 250 m. These include **CH-42** and **CH-50** in proximity to the new road section to Pad 4A. The buildings recorded on the pipeline recorded are indicative of those throughout the LSA in general, particularly given that not every village was surveyed (i.e., those inaccessible areas along the pipeline route). Unrecorded churches and mosques are possible throughout the LSA, potentially within the development footprint.

5.4.2 Cemeteries and Burials

A total of 25 burial/cemetery sites were recorded within the Study Area. These do not include burials within, or within very close proximity to, houses⁴. Of the 25 recorded, 14 were noted to be within, or in close proximity (within c 250 m) to the proposed project footprint. These include **CE-04** – **CE-06** at Nsunzu village, east of Pad 3 and **CE-17** 100 m from the pipeline as it leaves the CPF; **CE-22** – **CE-23** and **CE-37** in close proximity to the airstrip and **CE-32** – **CE-35** within and surrounding Well Pad 4A. Site **CE-36** is also adjacent to the new road section to Pad 4A (APPENDIX E).

⁴ Burials within houses were noted in the cultural heritage community interviews (see APPENDIX F-iv – interview transcripts)





The cemeteries and burials are indicative of those throughout the Study Area in general – both traditional (spoil-heaped) and modern (cemented) graves were observed (Figure 9). The burials recorded were dependent on those areas accessible for survey and consequently there remains a potential for unrecorded graves throughout the LSA, potentially within the development footprint.



Figure 9: Traditional Burial Grounds and Cemented Burial on the Buhuka Flats

5.4.3 Ritual Sites - confidential

Animist activity and areas set aside for traditional ceremonies (tied to a particular natural place of cultural significance e.g. Lake Albert) were observed during the field survey programme and disclosed to the field team during the community consultation phase.

The cultural site maps (APPENDIX E) include redacted buffers to give an idea of the distribution of sensitive sacred sites throughout the Study Area. An accurate depiction of individual sacred site locations (using GPS coordinates) in relation to the Project development will be presented to the client to assist in Project planning.

The sites included below are those within relative proximity to proposed Project infrastructure (within the footprint, or within c. 250m). A comprehensive discussion of ritual sites (identified in the Study Area) is included within APPENDIX A.

■ Luzira / Iziba Iya Wamara

A ritual and historic site (**RS-03**), sited within the area known locally as 'Luzira' was identified as a sacred area for the lakeside communities at the Buhuka Flats. The site is a traditional place of worship characterized by its inaccessibility (the name 'Luzira' is also that of Uganda's main prison). The pool and the surrounding reed bed are an active place of traditional worship, particularly for seasonal ceremonies related to fishing. The **RS-03** site was also identified as the historic centre of cultural activity of the wider LSA with many myths and taboos surrounding the locality (described fully in APPENDIX A). The site is also referred to as Iziba Iya Wamara, the name used by the Bunyoro (original settlers). The Jetty is currently sited within approximately 200 m of site **RS-03**. It is marked with a redacted buffer in APPENDIX E. The exact GPS location of the site will be provided to the design team as required.

■ Akasonga / Kasonga Beach and Kagera Well

The Lake Albert beachfront area lying around the Jetty site (**RS-02**), Nsonga Village and heading south towards Nsunzu (**RS-01**), was also identified as an area of traditional activity associated with Luzira. Ceremonies (as described in APPENDIX A) take place specifically for fish catches in the vicinity of the beach i.e. when fish stocks appear low and/or the fishermen have any trouble. The site is known locally as 'Akasonga' or 'Kasonga' Beach (**RS-01** and **RS-02**) and is shown on APPENDIX E. Site **RS-02** is potentially



within the footprint of the area proposed for the Jetty. Furthermore, the nearby marshy area (adjacent to the River Kamansiniga (**SR-02**)) in the vicinity of the proposed Jetty site is known locally as 'Kagera' and is a focus for ritual and sacrificial activities.



Figure 10: Akasonga Beach (RS-02 and RS-01)

■ Sacred Pool

A secret site of ritual activity (**RS-04** and **RS-05**) was highlighted to the field survey team during the community consultation phase. The site is well known by the elders of the community, and it is considered taboo for the younger members to go here. The site is utilized during cholera outbreaks in particular, and if required, the local cultural leader travels from his village to oversee the rituals. This site is on the River Masika and is marked on Appendix E. The exact GPS location of the site will be provided to the design team as required.

■ Family Shrines

Secret shrine sites exist within individual houses. These are controlled by the head of the family and are not for public viewing or discussion. No sites were specifically identified by the field team however they were mentioned to exist within the lakeside communities. A secret shrine site known as "Ochaka" was also mentioned to exist within Kyakapere village, popular with the village as a whole (as described in APPENDIX F).

■ Swamp Site

The swamp (**RS-08**) south of Nsunzu Village and adjacent to the road/infield pipeline to Pad 3, is associated with the Afrocreed / *Lam-the-Kwar* cult (prevalent at Kyakapere) and is used to extract holy water for ritual



purposes and other associated cultural activities⁵. This site is approximately 350 m north east of Well Pad 3 (APPENDIX E) and is described further in APPENDIX F.

■ Riverside Site

Site **RS-09** is a ritual site associated with the river immediately north of Pad 4A (APPENDIX E). A recent cow skull was recorded here during the field survey with locals attesting to the stream's use for ritual purposes during Key Informant Interviews (2017).

■ Cultural Site

Site **RS-10** is a sacred site known as 'coet' or 'Kuwait' situated approximately 300 m south of Pad 4A and 125 m west of the in-field pipeline (APPENDIX E). Little is known about the site which was raised in 2017 community interviews and warrants further investigation, locals mentioned that it was forbidden to settle in the area, believing it to belong to 'the spirits'.

5.4.4 Ritual Objects – confidential sites

One ritual object (**RO-01**) a feet-washing stone, was identified in Kyakapere village within c 250 m of Pad 4A. Two other ritual objects (**RO-02** and **RO-03**) in the LSA comprise stones used for worship. **RO-03** is sited over 500 m from the proposed Pipeline route, north of Kyarusesa. These sites are unlikely to be unique and considered indicative of others potentially in the vicinity. Their locations are confidential.

5.4.5 Sacred Rivers – confidential sites

■ River Masika

The cultural importance of the River Masika (**SR-01**) was highlighted by those communities local to the Project in 2014 and 2017, particularly at Nsonga. Areas on the river bank are used regularly for ceremonies to improve fish catches (in February / March) and occasionally to cure sick children. The mouth of the River is considered especially significant in this regard. The river is highlighted on Maps in APPENDIX E and E. The Masika River is approximately 1 km south of proposed Well Pad 3.

■ River Kamansiniga

The significance of the River Kamansiniga was also highlighted during interviews on the Buhuka Flats in 2017. The water, extracted from point **SR-02** is used for ritual purposes, during ceremonies to increase fish catches etc. The river flows south of the CPF, Camp and Pad 1, reaching Lake Albert immediately west of the proposed Jetty upgrade site (APPENDIX E).

⁵ This is contested by residents at Nsunzu who intimated that the leaders of the Lam-the-Kwar were claiming association with the swamp in order to receive compensation in an event that the location is affected by the Project (see APPENDIX F)





Figure 11: River Kamansiniga (SR-02) and associated marshy area known as 'Kagera'

5.4.6 Sacred / Cultural Trees – confidential sites

■ Site of Sacred Tree 1

A particularly sensitive tree (**ST-01**) was located in the vicinity of the lake shore. The tree, identified during the 2014 baseline study, was very important for Nsunzu village, respected and feared as a place 'where bad things happen'. The site remains associated with a number of myths and oral histories (as detailed in APPENDIX A). A number of significant taboos (rules) relate to this site including:

- i) People do not walk near the tree site;
- ii) If you need to get to the land behind the tree site, you must take a big diversion around it;
- iii) No women should ever go near the site; and
- iv) You must never point at the site. If a child accidentally points at the site a special ceremony takes place to protect that child.

■ Sacred Tree 2

A tree of cultural importance (**ST-02**) was identified in the vicinity of the Escarpment Road, where it crosses the existing footpath.

■ Cultural Tree 1

The village assembly tree at Nsonga (**CT -01**) was highlighted by the community as an important cultural point for village meetings and related ceremonial matters. The tree is over 500 m from the permanent camp and associated facilities.

■ Bark Cloth Trees

Three bark cloth trees (**BC-01 – BC-03**) were recorded during the Pipeline field survey. Tree **BC-01** appears to be located 250 m northwest of the proposed Pipeline route with **BC-02** and **BC-03** at Hohwa, c 500 m, also to the northwest (APPENDIX E)

The location of these trees was given to the field team in confidence. The exact GPS location of the sites will be provided to the design team as required.



5.4.7 Cultural Landscapes

■ Lake Albert and the Escarpment

Three areas of cultural landscape (**CL-01** - **CL-03**) were identified within the Study Area during the baseline field survey. These have been recognised with reference to the UNESCO definition of an ‘associative cultural landscape’: “...justifiable by virtue of the powerful religious, artistic or cultural associations of the natural element” (<http://whc.unesco.org/en/culturallandscape/#2>).

Lake Albert (**CL-01**), The Escarpment (**CL-02**) and the viewpoint (**CL-03**), on the escarpment road, are iconic features of the natural landscape, defining the local (communal) sense of place and apparent (traditional) cultural associations of the natural (rivers, lakes, trees). These sites provide a strong historic and religious focus for the lakeside communities in particular, evident within the oral traditions (as detailed in Section 5.5) and the sacred places associated with both locations. The value of the sites is heightened by their palaeontological, archaeological and historic potential. The extents of both **CL-01** and **CL-02** and the location of **CL-03**, are highlighted within APPENDIX E.

Further investigation is necessary in order to determine the local significance of these landscapes and to fully understand their character.



Figure 12: The Escarpment, viewed from Nsunzu Village

5.5 Intangible Cultural Heritage

In the context of the Project area intangible heritage is defined as the traditional practices, cultural norms and knowledge transmitted from one generation to the next, which communities or individuals recognise as part of their cultural heritage. These elements are recognised by Uganda’s Cultural Policy (2006) and IFC PS 8 (2012a).

A full account of the intangible heritage observed in the Study Area is presented in APPENDIX A and APPENDIX F. It should be noted that this is collated from that information that the community was willing to



share, there may be rules governing certain places, or ceremonial practices that were considered too sensitive to share with the field team. A summary is included below:

- **Making Ghee:** as practiced by The Balalo pastoralist community (Figure 13).



Figure 13: Traditional Gourds for making ghee

- **Animal Husbandry and Architecture:** hand built shelters for poultry were observed within the villages surveyed by the field team. Traditionally built houses, without any manmade materials, were also prevalent amongst the isolated communities on the Buhuka Flats. Although not unique in remote Uganda, these structures are representative of traditional lifestyles and knowledge that may change as a result of the Project (and related economic development, increased availability of other (manmade) building materials etc.)
- **Revered Species:** Snakes, pythons in particular, were mentioned as special and revered by all lakeside communities within the Study Area. A giant lucky snake can be seen bring good fortune to those who see it (once the elders have carried out the right rituals). A fire-breathing snake can also be seen swimming in Lake Albert and along the shore. A giant crocodile, swimming along the lake shore can bring or take away the fish as he chooses.
- **Beliefs associated with the Escarpment:** particular 'no go' areas were mentioned (but not specified). There are stories of white people or white smoke appearing in the ravines and deep in the bush, but they always disappear. Historically it was also unlucky to walk up the escarpment at midday as the path (and you) would disappear. There is a speed boat sound, commonly heard out on the lake, in the bush or up on the escarpment, the noise is unlucky. There is a tradition that, as a sign of respecting the fish and ensure their continued supply from the lake, if a woman comes from the escarpment top with cassava flour, it's up to her husband to prepare it to accompany a fish. When the woman leaves the lake shore to return she is then given a fish to take back up the escarpment top.
- **Beliefs associated with Lake Albert:** specific rituals (and seasonal ceremonies) are required to increase fish stocks in the lake. Ceremonies are also carried out on the lake in the event of sickness. At the new moon (when rituals may take place at Luzira), fishing on the Lake is forbidden. Historically,



pregnant women were not allowed to fetch water from the lake, especially during mid-day and late evening for fear of evil spirits roaming the area which would cause miscarriages. It is also traditionally taboo for women to fish or bathe in the Lake, particularly in the area surrounding site **RS-03** and in the vicinity of **RS-01** and **RS-02**. Sometimes it sounds like there are people drowning on the water but when people go to rescue, there is never anyone there. The appearance of a fire moving along the water the in the evening was also mentioned.

■ **Taboos**

Traditional sacred sites and cultural practices identified during the baseline study were found to incorporate a number of unique local taboos or rules. Those recorded by the field team are summarized below:

- No go areas surrounding sacred sites;
- No go areas for women on Lake Albert (including the shoreline / around the Jetty area);
- Historically, pounding cassava, splitting firewood and fetching water during the night was forbidden for fear of upsetting ancestors;
- No pointing at sacred sites;
- Twins born into local communities will undergo the '*kuturuka mahasa*' ceremony and will stay indoors until they got the first teeth;
- Women who bring cassava down the escarpment should return with fish; and
- Do not kill pythons.

■ **Traditional Religious Cults**

A traditional local religion called '*Lam-the-Kwar*' or , which has its roots in the Nebbi district (Northern Uganda) and Afrocreed religion, is led by a priest in Kyakapere (previously known as 'Kuwait'). Ceremonial activities and worship take place in the building north of the village (called the 'Ugonjo' shrine or '*Lam-the-Kwar* church, **CH-49**) on a Tuesday, Friday and Sunday (with drums, singing and dancing). During prayer, should one be possessed by spirits they would use holy water from the lakeside swamp/well site **RS-08** (further details are in APPENDIX F).

■ **Medicinal plants**

It was noted by the field team that many of the grasses, trees and shrubs present within the Study Area are being used locally as medicine. These sites are mapped in APPENDIX E, following local consultation (sites **MP-01 – MP-42**). APPENDIX A includes the local plant names identified and the specific disease they treat within Section 4.2.4. These are considered representative traditional healing sites across the Study Area and there is a potential for unrecorded sites to remain. A significant number of plants were recorded within the Pad 4A footprint (**MP-10 – MP-13**).

5.6 Baseline Conclusions

The baseline studies have determined that the Study Area has a high potential for cultural heritage receptors entailing a wide variety of unique, sensitive and significant elements in a location with a distinct paucity of previous cultural heritage research.

Archaeological Receptors

The archaeological evidence is a valued component representing the ancient and as yet unpublished, history of the region. Archaeological artefacts of national importance have been recovered during the baseline study. Although little is known locally of the ancient historical past, archaeological findings will likely have an increasing role as studies are undertaken and the findings presented to the community. They are also a valued asset for the prosperity of future generations, potentially reinforcing local identity and influencing research and education, both locally and nationally.





The tangible archaeological evidence postulates that the area has been occupied, to some degree since the Early Stone Age and Neolithic periods. In particular, the pottery artefacts highlight the potential of the Project to provide a cultural and chronological sequence that has been lacking not only in Uganda but the wider Great Lakes region as a whole (Kyazike, 2014).

However, the concentrations of artefacts identified (through visual inspection) at present amount purely to surface scatters and without additional sub-surface investigation, it is not known whether the scatters are associated with any below-ground archaeological sites. Furthermore, there is potential for previously unidentified archaeological and historic sites to exist throughout the Study Area, particularly given the nature of the non-intrusive surveys to date (e.g., not all areas of the Project development were accessible to the field team). Gaps along the pipeline route have been highlighted in this regard.

There are particular areas of potential archaeological significance, highlighted during the baseline study along the shoreline of Lake Albert, where concentrated pottery scatters are suggestive of large scale production and/or industrial activity, whereas the dispersed scatters throughout the Study Area as a whole may be indicative of more localized settlement. Particular centres of heightened archaeological potential have also been identified in the vicinity of Pad 3, Pad 4A and the Production Facility⁶ (pottery and lithic finds).

It is considered that those archaeological receptors identified include 'non-replicable' cultural heritage assets comprising tangible assets relating to the *'social, economic, cultural, environmental, and climatic conditions of past peoples, their evolving ecologies, adaptive strategies [and is] unique or relatively unique for the period it represents'* (IFC, 2012).

Cultural and Religious Receptors

The information pertaining to sacred areas and ritual sites is considered to be particularly sensitive. Receptors have been identified which are used by local communities (either collectively from one particular village, or from a number of community groups) for unique cultural activities. Sacred sites identified during the baseline cultural study include those natural features embodying spiritual values (e.g., sacred trees and watercourses). Three sites in particular, the lagoon or the Eye of the Lake known as 'Luzira' (**RS-03**), the surrounding shoreline beach (**RS-01 and RS-02**), between the Jetty and Nsonga, and the site of a sacred tree at Nsunzu village (**ST-01**) are highlighted in this regard. They were noted by communities throughout the Buhuka Flats for their enduring spiritual significance. Collectively, the cultural landscape pertaining to the Buhuka Flats and escarpment is highlighted as an additional unique cultural feature.

These sites are considered to be 'non-replicable' (and potentially immovable) cultural heritage sites as defined by IFC (PS 8, 2012). Related intangible cultural heritage practice is considered to be a significant element of the baseline cultural heritage resource within the Study Area, as discussed below.

Cemeteries, churches, and mosques have also been identified throughout the Study Area. Cemeteries are mostly associated with particular villages although a small number are recognised as traditional cemeteries, associated with a particular lineage. These sites are important because they provide a direct link with the communal past and religious activity.

The baseline information received in relation to cultural and religious sites is limited to the information which the communities were willing to share with the field team and to those villages accessed during the community consultations and cultural site survey. As such, there remains a potential for as yet unrecorded sacred sites (and related intangible activity and taboo), cemeteries, churches and mosques to exist throughout the LSA and in proximity to, or within, proposed development areas.

Intangible Cultural Heritage

Intangible cultural heritage practice represents the local cultural norm, relating to traditional forms of social organisation. It includes unique belief systems which form the basis of people's relationships with, and

⁶ The Escarpment Road, although not assessed in this Impact report, is also considered to have heightened archaeological potential evidenced by the ESA artefacts and Neolithic – Iron Age pottery. The escarpment is likely to have provided a (seasonal/ transitory) vantage point for early hunter-fisher-gatherer communities.





understanding of, the physical and spiritual world. Sacred sites are therefore intrinsic to local intangible practice and together form the basis upon which a shared cultural identity is built, the society is organised, and the community is able to deal with change and shock.

5.6.1 Baseline Sensitivity Assessment

For the purposes of cultural heritage impact assessment to follow the identified receptors were assigned sensitivity values using a four-point scale (high, medium, low and very low), the criteria for which is illustrated in Table 1. Where individual artefacts (e.g., pot sherds, small amounts of plain/undecorated pottery, bone and single lithic finds) were recorded these sites have **not** been carried through to the impact assessment stage. Pottery scatters **are** included where individual archaeological finds are found (*in situ*) with other surface scatters (e.g., single pot sherds associated with lithic and/or faunal remains). These scatter sites may be indicative of sub-surface material.

The sites are listed in Table 2, Table 3 and Table 4. A full explanation of this process is included within APPENDIX A. In summary, site sensitivity is derived from the consideration of each receptor’s form, survival, condition, complexity, context and period.

Table 1: Sensitivity Criteria for Cultural Heritage

| Sensitivity | Description |
|-------------|--|
| High | Archaeological and historic sites considered to be of national or international importance with the greatest potential for further, significant discoveries to be made. Also, rare and previously unstudied features with a high potential for further research. Cultural sites which have been frequented by the local community for longstanding cultural purposes and those which attract visitors from further afield. Sites associated with oral history and which are representative of a number which no longer exist. Sites which are non-moveable (associated with natural features or the physical landscape), ‘critical’ or ‘non-replicable’ cultural heritage sites. The value of a sacred site for example may be tied to its environmental setting which would not be easily re-established elsewhere. |
| Medium | Archaeological and historic sites considered to be of regional or national importance with some potential for further discoveries and research value. Cultural sites which may be no longer in use but are known to the community and associated with settlement history/oral history. Cultural sites which are common and potentially ‘replicable’, medicinal plants for example. |
| Low | Archaeological and historic sites considered to be of local importance. Features which are very common or poorly preserved with very limited research potential, or those which are common and very well researched. Cultural sites which are very common and ‘replicable’ - in the sense that new buildings can be established. With churches for example, it is most often the building rather than the site/location that is of significance, and the physical ground does usually not contribute to its value. |
| Very Low | Archaeological and historic sites which are considered to be of very limited importance. Features which are mostly already destroyed and/or with no research potential (e.g. single sherds of plain pottery). Cultural sites which have been defunct for a number of years / generations, with no local importance or historic value. |

Table 2: Sensitivity Assessment for archaeological / historic receptors identified within, or adjacent to (within 15 m of), the proposed Project footprint

| Proposed Development | Site ID | Description | Sensitivity |
|-----------------------------------|---------|-------------|-------------|
| <i>Production Facility</i> | | | |





CULTURAL HERITAGE ASSESSMENT

| Proposed Development | Site ID | Description | Sensitivity |
|-----------------------------------|--|---|-------------|
| Materials Yard | BO-14, BO-18, LI-36, PO-75 | Dispersed bone, lithic and pottery find spots | Low |
| Pad 4A | LI-45, LI-46, PO-185, PO-186, PO-187, PO-188, PO-189, PO-192 | Middle Stone Age lithic scatter and Iron Age pottery scatter | Medium |
| CPF | ME-04, LI-39 | Metal object, possible ancient burial, lithics | High |
| Temporary Camps / Permanent Camps | LI-37, LI-38 | Late Stone Age Lithics | Medium |
| Pad 3 and associated new road | PO-197, PO-198, PO-199, PO-201, PO-202, PO-204, PO-205, PO-208, PO-210, PO-211, PO-12, PO-213, PO-214, PO-215, PO-216 | Very large concentration of Pottery Scatter including Iron Age Roulette / decorated pottery | High |
| Jetty | PO-85 | Undated Pottery Scatter | Low |
| Feeder Pipeline Facility | | | |
| Pipeline | PO-226, PO-235, PO-236 | Undated Pottery Scatter | Low |
| | LI-51, LI-52, LI-53 | Lithic Scatter | Medium |

Table 3: Cultural Sites identified within, or immediately adjacent to (within 15 m of), the proposed Project footprint⁷

| Proposed Development | Site ID | Description | Sensitivity |
|---------------------------------------|--|------------------------------|-------------|
| Production Facility | | | |
| Pad 4A | CE-32, CE-34, CE-35 | Burial | High |
| | MP-10, MP-11, MP-12, MP-13, MP-14, MP-15 | Medicinal Plants | Medium |
| CPF | MP-25, MP-27, MP-28 | Medicinal Plants - Kulumbero | Medium |
| In-field Pipeline / New Road Segments | MP-15 | Medicinal Plant - aloe vera | Medium |
| | RS-08 | Ritual Site | High |
| | CE-36 | Burial | High |

⁷ Where a site is potentially directly within the footprint of more than one proposed project component it is included at each appropriate row. These potential accumulative or combined impacts are considered in the impact assessment to follow.



CULTURAL HERITAGE ASSESSMENT

| Proposed Development | Site ID | Description | Sensitivity |
|---------------------------------|-----------------------------------|--------------------|-------------|
| Production Facility | | | |
| Jetty | CL-01, CL-02 | Cultural Landscape | High |
| Feeder Pipeline Facility | | | |
| Pipeline | | | |
| | MP-29, MP-34, MP-35, MP-36, MP-39 | Medicinal Plants | Medium |

Table 4: Cultural Sites identified within approximately 15 - 250 m of the proposed Project footprint⁸

| Proposed Development | Site ID | Description | Sensitivity |
|---------------------------------------|---|--------------|-------------|
| Production Facility | | | |
| Materials Yard | CH-16, CH-17, CH-43, CH-44 | Churches | Low |
| Pad 3 | CE-04, CE-05, CE-06, CE-31 | Cemeteries | High |
| | CH-01, CH-02, CH-03, CH-30, CH-31, CH-33, CH-34, CH-35, CH-39 | Churches | Low |
| | RS-01 | Ritual Site | High |
| Pad 4A | CH-50 | Church | Low |
| | RS-09, RS-10 | Ritual Sites | High |
| In-field Pipeline / New Road Segments | CH-07, CH-08, CH-32, CH-33, CH-34, CH-35, CH-39, CH-40, CH-42 | Churches | Low |
| | | | |
| Jetty | RS-03, RS-02 | Ritual Sites | High |
| Airstrip laydown area | CE-22, CE-23, CE-37 | Cemeteries | High |
| | SR-02 | Sacred River | High |
| Feeder Pipeline Facility | | | |
| Pipeline | CE-17 | Cemetery | High |

⁸ Where a site is potentially within 250 m of a number of different proposed project components it is included at each appropriate row. These potential accumulative / combined impacts are considered in the impact assessment to follow.





6.0 IMPACT ASSESSMENT

6.1 Impact Assessment Methodology

The impact assessment process compares the magnitude of the effect with the sensitivity of the receiving environment (i.e. the cultural heritage receptor). This method relies on a detailed description of both the impact and the environmental or social component that is the receptor.

The magnitude of an effect depends on its characteristics and the degree of change, which may include such factors as:

- **Duration:** how long an effect lasts i.e. Short-term – effect is limited to the construction period (~2 years), or the period of decommissioning activities (~2 years); Medium-term – effect extends throughout the project operations, that is, 25 years; Long-term – effect extends beyond the 25 years of operation; and Far future– effect extends more than 30 years after closure;
- **Reversibility:** whether the effect can be reversed, partly reversed or is permanent. Direct archaeological effects will always be permanent;
- **Scale of Impact:** whether the impact will be felt at the site level, the local level, nationally internationally. This is usually related to the significance of the cultural heritage feature i.e. whether it is of local value or is nationally protected; and
- **Probability:** the probability of occurrence is a description of the probability of the impact actually occurring i.e. it is assumed that archaeological impacts will be limited to the construction footprints (direct impact) only.

6.2 Description of Potential Impacts

Interactions between the proposed Project activities and cultural heritage have been identified through a review of the Project Description (Golder Associates, 2017) and the identified baseline environment (APPENDIX A and APPENDIX F). In summary, Project activities will change the physical and socio-economic landscape, which will result in direct and indirect impacts to cultural heritage.

The key Project activity affecting the physical landscape will be ground intrusive disturbances associated with facilities within the Kingfisher Field / Buhuka Flats, the oil feeder pipeline to Kabaale, and all associated infrastructure.

- Intrusive activities will directly change the land surface and will potentially interact with cultural heritage features - these are ‘direct impacts’, these are likely to occur to receptors within or adjacent to the project footprint.
- Activities that will not affect the land surface directly may indirectly alter the setting in which a site is experienced (e.g., by related dust and noise disturbance) – these are ‘indirect impacts’. These are likely to occur to receptors within close proximity to the development (e.g., within c. 250 m or wider depending on the nature of the receptor or the combined Project activities in the vicinity).

The types of potential Project impacts considered appropriate for the cultural heritage assessment are summarised in Table 5.

Table 5: Types of Cultural Heritage Impact

| | |
|------------------------|---|
| Direct Impact | Impacts that result from a direct interaction between a planned project activity and the receiving environment/receptors (i.e., destruction of an archaeological feature or sacred site). |
| Indirect impact | Secondary impacts that result from project activity and affect the environment in which the receiving receptor is experienced (i.e., an increase in noise/dust at a sacred site, a loss of access to cultural sites). |





| | |
|--------------------------|--|
| Cumulative impact | Impacts that act together with other impacts (including those from concurrent or planned activities) to affect the same resources and/or receptors as the Project. |
|--------------------------|--|

Once the magnitude of the impact and the sensitivity of the receiving environment have been described, the severity of the potential impact can be determined. The determination of significance of an impact is largely subjective and primarily based on professional judgment.

To provide a relative illustration of impact significance, it is useful to assign numerical descriptors to the impact magnitude and receptor sensitivity for each potential impact. Each is assigned a numerical descriptor of 1, 2, 3, or 4, equivalent to very low, low, medium or high. The significance of impact is then indicated by the product of the two numerical descriptors, with significance being described as negligible, minor, moderate or major, as in Table 6. This is a qualitative method designed to provide a broad ranking of the different impacts of a project. Table 7 provides illustrations of the types of impact that would be assigned to the different grades of severity.

Table 6: Determination of impact severity for cultural heritage

| | | | Sensitivity of receptor* | | | |
|---------------------|----------|---|--------------------------|---------------|---------------|---------------|
| | | | Very low | Low | Medium | High |
| | | | 1 | 2 | 3 | 4 |
| Magnitude of Impact | Very low | 1 | 1 Negligible | 2 Minor | 3 Minor | 4 Minor |
| | Low | 2 | 2 Minor | 4 Minor | 6 Moderate | 8 Moderate |
| | Medium | 3 | 3 Minor | 6 Moderate | 9 Moderate | 12 Major |
| | High | 4 | 4 Minor | 8 Moderate | 12 Major | 16 Major |

* as defined in Table 1: Sensitivity Criteria for Cultural Heritage

Table 7: Impact assessment criteria and rating scale specific to Cultural Heritage

| Criteria | Rating scales |
|---|---|
| Magnitude (the expected magnitude or size of the impact) | Negligible - where the impact affects the environment in such a way that natural, and /or cultural and social functions and processes are negligibly affected and valued, important, sensitive or vulnerable systems or communities are negligibly affected. |
| | Low - where the impact affects the environment in such a way that natural, and/or cultural and social functions and processes are minimally affected and valued, important, sensitive or vulnerable systems or communities are minimally affected. No obvious changes prevail on the natural, and / or cultural/ social functions/ process as a result of project implementation |





| Criteria | Rating scales |
|----------|---|
| | <p>Medium - where the affected environment is altered but natural, and/or cultural and social functions and processes continue albeit in a modified way, and valued, important, sensitive or vulnerable systems or communities are moderately affected.</p> |
| | <p>High - where natural and/or cultural norms or social functions and processes are altered to the extent that they will temporarily or permanently cease, and valued, important, sensitive or vulnerable systems or communities are substantially affected. The changes to the natural and/or cultural / social- economic processes and functions are drastic and commonly irreversible</p> |

6.3 Construction Phase Impacts

The following Construction Phase activities have been considered:

- Site preparation works, including ground clearance, scrub removal, surface levelling and compaction of all temporary and permanent Project sites;
- An influx of workers / people seeking employment or indirect benefits;
- Excavation and laying of the foundations for components of the plant, flowlines and other infrastructure, including levelling, terracing and civil works;
- Well pad expansion and airstrip laydown area;
- Linking of support infrastructure (access roads, water and power lines) to respective facilities; and
- An influx of workers / people seeking employment or indirect benefits.

During the Construction Phase it likely that heavy machinery (e.g., bulldozers, excavators, dump trucks, vibrating roller, crane and other equipment and machines) will be used (Golder Associates, 2017). Construction activity may therefore result in the direct destruction of archaeological and cultural/sacred sites through a change in the land surface and the direct destruction of the site’s environmental context, and therefore, its material value. Construction activity may also result in ground compaction or vibration impacts (e.g., as heavy equipment is transported). Such activity may directly affect a known site’s context through the laydown of heavy equipment for example (e.g., on a road side burial).

Indirect impacts will affect religious, cultural, ritual and sacred sites. Indirect impacts may result from the dust, noise, and visual impacts associated with construction activity (e.g., haulage) and interact with the setting of a cultural site, changing the normal atmosphere, thereby affecting intangible practice within, and the value of that site. To adequately consider the indirect impacts from construction related activities on cultural sites, a buffer from 15 m to 250 m around all proposed project components has been considered⁹.

Cumulative or combined impacts are particularly significant in this regard where for example, a sacred site, though not directly impacted by the development footprint, is within proximity to a number of proposed Project components and may therefore, experience indirect impacts from multiple sources (from noise or dust) during ground preparation works across the Production Facility area. A buffer of 250 m surrounding all project infrastructure has therefore been considered for the appropriate assessment of indirect effects on cultural receptors during pre-construction.

Potential cultural heritage construction phase impacts appropriate to the Project are summarised in Table 8.

Table 8: Potential Construction Impacts for Cultural Heritage

⁹ A 15 m buffer surrounding all Project components has been included in order to capture direct impacts to cultural heritage sites within the boundaries of servitude and access (as detailed in the CNOOC ESIA, Volume 2, Chapter 2 Project Description, Golder Associates, 2018)





| Potential Impact | Description of potential construction impact |
|---------------------------------|---|
| Change to the land surface | Surface material (artefacts) will be re-deposited, damaged or destroyed as a result of any ground works. Land will be cleared (e.g., of medicinal plants, archaeological remains), levelled, excavated and compacted (as a result of vehicle movements). Sites of cultural significance (e.g., sacred trees, ritual objects) will be destroyed. Subsurface remains (e.g., burials) will be compacted and damaged by vehicles. |
| Ground pollution | Physical pollution can arise from construction-related materials or other non-natural materials. |
| Change in environmental setting | Construction activity can result in increased noise levels, dust and visual disturbance. The physical setting of a cultural or religious site (e.g., sacred area) could be disturbed as a result. Intangible cultural heritage practice may be consequently affected. |
| Demographic changes | Construction activity in the area may instigate demographic change through worker influx or general in-migration (e.g., increased income, education, healthcare and in-migration) and affect change in local belief systems and intangible heritage. |

During the three year construction phase of the Project, 60 (previously identified) tangible cultural heritage receptors (both archaeological and cultural) are potentially directly affected by Project related activities across the Buhuka Flats and the feeder pipeline. These are located within, or immediately adjacent to, the proposed Project development¹⁰.

During the construction phase there are also 36 cultural receptors within 250 m of the proposed infrastructure on the Buhuka Flats which may be indirectly affected as a result of anticipated changes to their environmental setting. It is not considered that there will be any indirect impacts to archaeological receptors beyond the proposed footprints considered.

These construction phase impacts are considered according to each relevant proposed Project component in listed in Tables 11 and 12.

6.3.1 Kingfisher Field Development Area: Construction Phase Impacts

Ground clearance and preparation works have the potential to directly affect 32 archaeological and 17 cultural receptors identified within the proposed footprints of Project associated infrastructure on the Buhuka Flats. All are depicted on the maps within Appendices D and E.

Archaeological Sites

These include concentrations of artefacts including a number of regionally rare and poorly studied Stone Age lithic scatter sites of medium archaeological sensitivity across the Materials Yard, Camps and Pad 4A (as listed in Table 12). Bone scatter and pottery in the vicinity may be indicative of increased sub-surface archaeological potential. Likewise, a large concentration of Iron Age pottery scatter, recovered in the vicinity of Well Pad 3 may be related to a historic settlement / production site.

These sites maybe destroyed during construction related activity without mitigation. The duration of this effect will be ‘far future’, permanent, and potentially national in scale due to the loss of research potential. This will result in impacts of major severity without mitigation.

Construction related vegetation clearance, preparation groundworks / excavations are likely to directly affect those two archaeological receptors identified directly within the proposed CPF footprint (**ME-04, LI-39**). These sites relate to a possible ancient burial site of high archaeological sensitivity. The surface scatter is also indicative of increased sub-surface archaeological potential in the vicinity of the CPF site. The

¹⁰ A 15 m buffer surrounding all Project components has been included in order to capture direct impacts to cultural heritage sites within the boundaries of servitude and access (as detailed in the CNOOC ESIA, Volume 2, Chapter 2 Project Description, Golder Associates, 2018)





receptors will be permanently destroyed during construction related activity. This will result in an impact of major severity without mitigation.

Changes to the land surface as a result of clearance, levelling, new road construction and associated enabling works are also likely to adversely impact any unknown archaeological resources across the LSA. There is therefore, a potential for previously unidentified receptors of high value and sensitivity to be accidentally disturbed. These sites will be destroyed without mitigation. This would result in an impact of major severity without mitigation.

Cultural Sites and Intangible Heritage

Medicinal plants within and around the CFP and Pad 4A footprints are also at risk of direct impacts during the construction phase through ground clearance activities and other intrusive groundworks. The effect would be long term, permanent and local-level in scale. It is possible that a number of other sources of medicinal plants exist locally, though this is not yet proven. It is considered therefore, that on a 'worst-case' basis that the loss of these resources would result in an impact of medium severity without mitigation¹¹.

Construction impacts also have the potential to directly impact four burial sites in the vicinity (c. 15m) of the Pad 4A footprint (**CE-32, CE-34 – CE-36**). These are sites of high value. Burials may also be at risk from direct compaction from heavy construction traffic during road construction (e.g., ground compaction during heavy plant traffic used for site clearing and also while gaining access to the road route). Direct impacts through physical disturbance would result in an irreversible effect of high magnitude.

It is also possible for indirect effects to occur to nine additional cemeteries and 23 churches within 250 m of the proposed Project infrastructure during construction works. The combined noise and dust effects, coupled with the overall change in site setting through increased traffic in the vicinity, would result in temporary, indirect impacts on receptors of high (cemeteries) and low (churches) sensitivity.

Due to the temporary and indirect nature of these effects, the impact severity is predicted to be moderate to major in significance without mitigation.

Four ritual sites, the Afrocreed Swamp site (**RS-08**) (for the extraction of holy water) and the lagoon or 'Eye of the Lake' (*Luzira*) (**RS-03**), Kasonga Beach (**RS-01** and **RS-02**) (between the jetty and Nsonga) and the ritual site known as *Coet/Kuwait* (**RS-10**) are also considered vulnerable to combined construction activities due to their proximity to a number of infrastructure components. Furthermore, the swamp site (**RS-08**) may be directly affected by servitude preparation for the new in-field pipeline to Well Pad 3 south of Nsunzu and permanently destroyed.

The Luzira site (**RS-03**) and the Kasonga Beach site, between the Jetty and Nsonga (**RS-01, RS-02**) may be indirectly affected by pre-construction works for the Jetty site upgrade in particular. In these instances effects may result from noise, dust and possible loss of access associated with construction works. Dust levels may also increase during construction, leading to potential increases in sedimentation in the watercourses. The residual impact of noise and dust related to heavy machinery used during the construction phase for the Well Pads and CPF - as cited in Volume 4, Chapter 6 (Noise) and Chapter 1 (Air Quality), is particularly noteworthy. These effects would be short term, but potentially of medium magnitude through changes to site setting and access, resulting in an impact of major significance on features of high value and sensitivity.

The Kamansiniga River (**SR-02**), south of the airstrip and in proximity to Well Pad 1 and the Jetty upgrade site is of high value and sensitivity. This site may be affected during construction particularly through combined or cumulative noise, visual and dust impacts. There is also the potential for direct impacts through activities related to the completion of the Airstrip and Well Pad 1, resulting in an impact of major significance.

The cumulative effects of changes to noise levels, visual setting and air quality through the construction phase also have the potential to impact upon identified cultural landscape features and local belief systems and intangible heritage. The cultural landscape of Lake Albert for example (**CL-01**), in the vicinity of the

¹¹ A number of medicinal plant resources were located within 250 m of the proposed infrastructure, these sites have not been carried forward for impact assessment.





processing facility will be impacted by increased noise, dust etc. but in consideration of the scale of the disturbance (relative to the size of the Lake) this impact is considered to be low in magnitude.

In the wider project area there is therefore a potential for all remaining cultural sites to be affected by cumulative indirect Project impacts during combined construction activities e.g. through noise/dust inducted disturbance as result of numerous Project activities nearby resulting in changes in environmental setting and site sanctity. These sites are all of high value and potential impacts would be of moderate/medium term significance. Sacred River Masika (**SR-01**) and the site of the Nsunzu Sacred Tree (**ST-01**) and wider extent of Lake Albert Cultural Landscape (**CL-01**) are highlighted in this regard though due to their distance, indirect impacts are predicted to be low.

It is difficult to predict how and when changes to intangible heritage will occur and some cultural change is inevitable. During the construction phase, the influx of workers or those seeking indirect benefits and socio-economic impacts that may result, together with any loss of access or changes in environmental setting of sites used for traditional activities, is likely to have an impact. An influx of migrants is anticipated during the construction phase. The extent of influx related impacts is discussed in Volume 4, Specialist Study 10 (Socio-Economic Assessment). Selecting the severity of this impact is subjective with deviation from the local cultural norm perceived as either positive or negative by different people. Furthermore, an influx of migrants may either strengthen or weaken local cultural practices over the Project lifetime. In the recent short term, between the two phases on baseline study (in 2014 and 2017), it is the case that cultural sites (including both sacred sites and churches) have been added to the local landscape. If impacts were to occur they would be of unknown and therefore, major impact (on a worst case basis) and medium term in duration during the construction phase.

Table 9: Construction Phase Impacts for Cultural Heritage: Kingfisher Development Facility

| Receptor | Description | Sensitivity* | Type of Impact** | Magnitude of Impact | Severity (pre-mitigation) |
|---|--|--------------|------------------|---------------------|---------------------------|
| Materials Yard | | | | | |
| BO-14, BO-18, LI-36, PO-75 | Bone, lithic and pottery scatter | Low | Direct | High | 8 Moderate |
| CH-16, CH-17, CH-43, CH-44 | Churches | Low | Indirect | High | 8 Moderate |
| Central Processing Facility | | | | | |
| LI-39, ME-04 | Metal object and lithics (possible ancient burial) | High | Direct | High | 16 Major |
| MP-25, MP-27, MP-28 | Medicinal Plants | Medium | Direct | High | 12 Major |
| Temporary and Permanent Camps | | | | | |
| LI-37, LI-38 | Late Stone Age Lithics | High | Direct | High | 16 Major |
| Pad 4A and Associated Roads / Infield Pipeline | | | | | |
| LI-45, LI-46, | Middle Stone Age lithics and | Medium | Direct | High | 12 Major |





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| Receptor | Description | Sensitivity* | Type of Impact** | Magnitude of Impact | Severity (pre-mitigation) |
|---|--|--------------|-------------------------------------|---------------------|---------------------------|
| PO-185 – PO-189, PO-192 | Iron Age pottery scatter | | | | |
| CE-32, CE-34, CE-35, CE-36 | Burial sites | High | Direct | High | 16 Major |
| CH-50 | Church | Low | Indirect | High | 8 Moderate |
| RS-09, RS-10 | Ritual Sites | High | Indirect / cumulative | High | 16 Major |
| Pad 3 and Associated Roads / Infield Pipeline | | | | | |
| PO-197, PO-198, PO-199, PO-201, PO-202, PO-204, PO-205, PO-208, PO-210 – PO-216 | Large concentration of Pottery Scatter including Iron Age Roulette / decorated pottery | High | Direct | High | 16 Major |
| CE-04, CE-05, CE-06, CE-31 | Burials | High | Indirect | Medium | 12 Major |
| CH-01, CH-02, CH-03, CH-30, CH-31, CH-33, CH-34, CH-35, CH-39 | Churches | Low | Indirect | High | 8 Moderate |
| RS-01 | Ritual site | High | Indirect / cumulative | Medium | 12 Major |
| In-field Pipeline / New Road Segments | | | | | |
| MP-15 | Medicinal Plant | Medium | Direct | High | 16 Major |
| RS-08 | Ritual Site | High | Direct and/or Indirect / cumulative | High | 16 Major |
| CH-07, CH-08, CH-32, CH-33, CH-34, CH-35, CH-39, CH-40, CH-42 | Churches | Low | Indirect | High | 8 Moderate |





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| Receptor | Description | Sensitivity* | Type of Impact** | Magnitude of Impact | Severity (pre-mitigation) |
|--|---|--------------|---|---------------------|---------------------------|
| CE-36 | Burial sites | High | Direct | High | 16 Major |
| Jetty | | | | | |
| PO-85 | Plain Pottery Scatter | Low | Direct | High | 8 Moderate |
| RS-01, RS-02, RS-03 | Ritual Sites | High | Indirect and / or Indirect / cumulative | High | 16 Major |
| CL-01, CL-02 | Cultural Landscapes | High | Indirect / cumulative | Low | 8 Moderate |
| Airstrip Laydown Area | | | | | |
| CE-22, CE-23, CE-37 | Cemeteries | High | Indirect | Low | 8 Moderate |
| SR-02 | Sacred River | High | Indirect / cumulative | Low | 8 Moderate |
| All infrastructure components on the Buhuka Flats | | | | | |
| SR-01 | Sacred River Masika | High | Indirect / cumulative | Low | 8 Moderate |
| ST-01 | Site of sacred tree | High | Indirect / cumulative | Low | 6 Moderate |
| Unknown sites of cultural heritage value | There is a high potential for sites for artefacts of archaeological, paleontological and/ or cultural sensitivity within and immediately surrounding the proposed footprint | High | Direct and / or Indirect | High | 16 Major |
| Intangible cultural heritage | Local belief systems and cultural norms | High | Indirect / cumulative | Unknown / Medium | 16 Unknown / major |

*based on the criteria specific for Cultural Heritage, as in Section Table 1

**based on the criteria specific for Cultural Heritage, as in Table 2

6.3.2 Feeder Pipeline – Construction Phase Impacts

Enabling works and Construction Phase activities on the pipeline route will involve:

- Vegetation clearance of a 30 m servitude surrounding the proposed trench location (Golder Associates, 2017); and





- Excavation to facilitate feeder pipeline laydown.

Six archaeological and seven cultural receptors were identified directly within the pipeline route. All are depicted on the maps in APPENDIX D and APPENDIX E.

Archaeological Sites

The clearance works (involving scrub removal and access facilitation) would permanently destroy the lithic and pottery scatter sites previously identified along the escarpment tope (in the first 2 – 4 km of the route). The surface scatter is potentially indicative of increased sub-surface archaeological potential in the vicinity with the sites themselves of medium – high archaeological sensitivity. The pipeline construction works will result in their permanent destruction resulting in an impact of major severity without mitigation.

Changes to the land surface through clearance and levelling are also likely to adversely impact any unknown archaeological resources (i.e. those yet to be identified) across the pipeline footprint and Right of Way. For example, there are large sections of the pipeline route that have not been thoroughly surveyed for the presence of archaeological and historic resources (primarily due to accessibility issues). There is therefore, a high potential for archaeological receptors of significant value and sensitivity to be accidentally disturbed. These sites will be destroyed or indirectly affected during construction related activities without mitigation. This will result in an impact of moderate – major significance.

Cultural Sites and Intangible Heritage

The five cultural receptors were identified within the pipeline footprint which may be directly destroyed as a result of construction ground works – include medicinal plants (**MP-29, MP-34, MP-35, MP-36 and MP-39**). These receptors are likely indicative of others in the immediate vicinity. It may be therefore that other resources are available to the local communities for their utilization. As this is not yet known. It is assumed that any loss of resource is felt locally and permanently. Clearance of these resources would therefore result in an impact of medium severity without mitigation.

In addition, one cemetery site (**CE-17**) was identified within the indirect zone of influence (within 250 m) and likely impacted by a change in environmental setting during noisy, dust inducive construction works. This site is of high value and may be temporarily subject to changes in environmental setting and access during construction phase works.

It is difficult to predict how and when changes to intangible heritage will occur and some cultural change is inevitable. During the construction phase, an influx of workers or those seeking indirect benefits and socio-economic impacts that may result is believed to be more limited for the pipeline (compared to the Buhuka Flats). Furthermore, interviews conducted along the pipeline route in 2014 and 2017 suggest that communities generally are more recently established here, with a reduced emphasis on traditional cultural activities and religion relative to those (more isolated) communities on the shore of Lake Albert. At any rate, selecting the severity of this impact is subjective with deviation from the local cultural norm perceived as either positive or negative by different people.

Table 10: Construction Phase Impacts: Feeder Pipeline

| Receptor | Description | Sensitivity* | Type of Impact** | Magnitude of Impact | Severity (pre-mitigation) |
|----------------------------------|---|--------------|------------------|---------------------|---------------------------|
| LI-47 LI-51 LI-52 LI-53 | Lithic scatters | High | Direct | High | 16 Major |
| PO-226 PO-235 | Plain and roulette (IA) pottery scatter | Medium | Direct | High | 12 Major |





| Receptor | Description | Sensitivity* | Type of Impact** | Magnitude of Impact | Severity (pre-mitigation) |
|--|--|--------------|--------------------------|---------------------|---------------------------|
| PO-236 | | | | | |
| MP-29, MP-34, MP-35, MP-36, MP-39 | Medicinal Plants | Medium | Direct | High | 12 Major |
| CE-17 | Cemetery | High | Indirect | Low | 8 Moderate |
| Unknown sites of cultural heritage value | There is a high potential for sites for artefacts of archaeological, paleontological and/ or cultural sensitivity within and immediately surrounding the proposed pipeline footprint | High | Direct and / or Indirect | High | 16 Major |
| Intangible cultural heritage | Local belief systems and cultural norms | High | Indirect / cumulative | Unknown / Medium | 16 Unknown / major |

*based on the criteria specific for Cultural Heritage, as in Section Table 1 **based on the criteria specific for Cultural Heritage, as in Table 2

***as described above, undated artefacts of unknown value are assessed on a 'worst-case' basis

6.4 Operation Phase Impacts

During the operation phase of the project, 46 previously identified cultural receptors (sacred sites, ritual sites, churches and cemeteries) are potentially impacted by Project production activities across the LSA. These constitute indirect impacts to receptors in proximity to the proposed Project development (i.e., within c. 250 m) including, potential loss of access, ground pollution, change in site setting and potential demographic changes resulting in deviation for local cultural norms. During the operations phase there is also a potential for the accidental disturbance of previously unknown receptors.

Table explains these operation impacts in more detail.

Table 11: Potential operation phase impacts to cultural heritage

| Potential Impact | Description of potential operation impact |
|---|---|
| Accidental disturbance of cultural heritage | There is a potential for artefacts to be disturbed or destroyed during the operation phase as a result of transportation and machinery movements. Site workers may also remove artefacts by chance. |
| Change in Environmental Setting | Operation activity can result in increased noise levels, dust and visual disturbance. The physical setting of a cultural or religious site could be disturbed as a result. |





| | |
|---------------------|---|
| Demographic changes | Operational activity in the area may instigate demographic change (e.g., increased income, education, healthcare and in-migration) and can affect change in local belief systems and intangible heritage. |
|---------------------|---|

6.4.1 Operation Phase impacts for Cultural Heritage: Kingfisher Field Development Area

The following Operation Phase activities have been considered for the Kingfisher Field Development Area / processing facility and all associated infrastructure on the Buhuka Flats.

- Traffic movements and increases in traffic volumes across the Flats;
- Utilisation of the local airstrip;
- Drilling operations;
- The processing of materials; and
- An influx of workers / people seeking employment or indirect benefits.

Cultural Sites and Intangible Heritage

The drilling of wells during the operational phase will be a 24/7 impact with noise effects considered the greatest impact to those cultural sites in the wider vicinity. The major residual impact of noise related to heavy machinery used during the operational as highlighted in Volume 4, Chapter 6 (Noise) and Chapter 1 (Air Quality), is particularly noteworthy. These effects would be short term, but potentially of medium magnitude through changes to site setting and baseline noise levels, resulting in an impact of major severity on features of high value / sensitivity, including sites **RS-01, RS-02, RS-03, RS-08 and RS-09**. The operational impact on **RS-08** could only occur if the site is not destroyed by construction activities (see Section 6.3.1).

Three ritual sites, the Afrocreed Swamp site **RS-08** (for the extraction of holy water) and the 'Eye of the Lake' **RS-03** (Luzira), ritual site **RS-10**, and Kasonga Beach sites **RS-01** and **RS-02** (between the jetty and Nsonga) are also considered particularly vulnerable to combined operational activities, primarily 24/7 drilling noise, due to their proximity to a number of infrastructure components.

Traffic at the newly improved airstrip lay down area is likely to result in increased noise levels and visual disturbance during operation. This may result in indirect disturbances to all cultural sites in the project area. It is anticipated that the ritual sites on the lake shore (**RS-01, RS-02** and **RS-03**) may also be impacted in such a way.

The Kamansiniga River (**SR-02**), south of the airstrip and in proximity to Well Pad 1 and the Jetty upgrade site is of high value and sensitivity. This site may be affected during operation particularly through combined or cumulative noise, visual and dust impacts. There is also the potential for direct impacts through activities related to the completion of the Airstrip and Well Pad 1, resulting in an impact of major significance.

Combined operational impacts, particularly drilling noise, across the Flats are also likely to affect features like the River Masika (**SR-01**) and the site of the Sacred Tree at Nsunzu (**ST-01**) which, although they are approximately 1 km south of Well Pad 3, are highly sensitive sacred sites. Operational impacts may result in indirect changes to their environmental setting e.g. through noise, dust and visual changes plus the general disturbance of the site's sanctity due to increased numbers of Project personnel in the vicinity. Changes of this nature would alter environmental setting and may consequently impact upon the cultural functions of these sites and related intangible heritage activities.

During operation Project roads are predicted to experience a considerable amount of vehicle traffic which may result in indirect impacts to cultural sites in close proximity including for example, four cemetery sites (**CE-36, CE-39, CE-35, CE-33** and **CE-34**) and two churches (**CH-42** and **CH-50**) on the road to Pad4A. In addition, cemetery site **CE-32** may also be subject to the indirect effects of vehicle traffic if it is not lost (i.e.





avoided) during the construction phase of the Project¹². The effects on these sites will be long term (throughout the Operational phase) and medium in intensity.

In the Project area there is a potential for all remaining and as yet unknown cultural sites to be affected by indirect Project impacts during operation e.g. through noise/dust inducted disturbance as result of Project activity in nearby resulting in a change in environmental setting and site sanctity. These sites are of high value and potential impacts would be of moderate/medium term severity.

An influx of migrants is likely at operation phase. The extent of influx related impacts is discussed in Volume 4, Specialist Study 10 (Socio-Economic Assessment). As previously suggested, this is difficult to characterise or assess in terms of change to cultural practice with deviation from the cultural norm perceived as either positive or negative, conflict could occur through lack of respect for local belief systems, specifically taboos related to locations of the Lake shore affected by the Project (the beach around the Jetty for example, has restricted access taboos). An influx of migrants may either strengthen or weaken local cultural practices. If impacts were to occur during project operation they would be of unknown/medium term severity.

Table 12: Operation Phase Impacts: Kingfisher Field Development Area

| Receptor | Description | Sensitivity* | Type of Impact** | Magnitude of Impact | Severity (pre-mitigation) |
|---|--------------|--------------|-----------------------|---------------------|---------------------------|
| Pad 4A | | | | | |
| CE-32, CE-34, CE-35, CE-36 | Burial sites | High | Indirect cumulative / | Medium | 12 Major |
| CH-50 | Church | Low | Indirect cumulative / | Medium | 6 Moderate |
| RS-09, RS-10 | Ritual Sites | High | Indirect cumulative / | High | 16 Major |
| Pad 3 and Associated Roads | | | | | |
| CE-04, CE-05, CE-06, CE-31 | Burials | High | Indirect cumulative / | Medium | 12 Major |
| CH-01, CH-02, CH-03, CH-30, CH-31, CH-33, CH-34, CH-35, CH-39 | Churches | Low | Indirect | Medium | 6 Moderate |
| RS-01 | Ritual site | High | Indirect cumulative / | Medium | 12 Major |
| In-field Pipeline / New Road Segments | | | | | |
| RS-08 | Ritual Site | High | Indirect cumulative / | High | 16 Major |

¹² As discussed in Section 7.0 the primary goals of cultural resource management for the Project should be their physical preservation/ avoidance, in accordance with The Historical Monuments Act of Uganda (1968) and IFC guidelines.





| Receptor | Description | Sensitivity* | Type of Impact** | Magnitude of Impact | Severity (pre-mitigation) |
|---|---|--------------|---------------------------------------|---------------------|---------------------------|
| CH-07, CH-08, CH-32, CH-33, CH-34, CH-35, CH-39, CH-40, CH-42 | Churches | Low | Indirect cumulative / | Medium | 6 Moderate |
| Jetty | | | | | |
| RS-02, RS-03 | Ritual Sites | High | Indirect and or Indirect cumulative / | High | 16 Major |
| CL-01, CL-02 | Cultural Landscapes | High | Indirect cumulative / | High | 16 Major |
| Airstrip/lay down area | | | | | |
| CE-22, CE-23, CE-37 | Cemeteries | High | Indirect cumulative / | Low | 8 Moderate |
| SR-02 | Sacred River | High | Indirect cumulative / | High | 16 Major |
| Combined infrastructure components on the Buhuka Flats | | | | | |
| SR-01 | Sacred River Masika | High | Indirect cumulative / | High | 16 Major |
| ST-01 | Site of sacred tree at Nsunzu | High | Indirect cumulative / | High | 16 Major |
| Intangible cultural heritage | Local belief systems and cultural norms | High | Indirect cumulative / | Unknown / Medium | 16 Unknown / major |

*based on the criteria specific for Cultural Heritage, as in Section Table 1

**based on the criteria specific for Cultural Heritage, as in Table 2

6.4.2 Decommissioning Phase Impacts: Kingfisher Field Development Area

There is a potential for increased traffic, particularly heavy vehicles initiating surface compaction and accidental damage to cemetery sites during project decommission. Increased heavy traffic may lead to a change in environmental setting of both cemetery sites and ritual sites, particularly those close to in-field roads. Impacts to sites **RS-08** and **CE-32** would only occur if they are not lost (i.e. avoided) during the construction phase of the Project¹³.

Table 13: Decommission Phase Impacts: Kingfisher Field Development

¹³ As discussed in Section 7.0 the primary goals of cultural resource management for the Project should be their physical preservation / avoidance in accordance with The Historical Monuments Act of Uganda (1968) and IFC guidelines.





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| Receptor | Description | Sensitivity* | Type Impact** | of | Magnitude Impact | of | Severity (pre-mitigation) |
|---|---------------------|--------------|-------------------------------------|----|------------------|----|---------------------------|
| Pad 4A | | | | | | | |
| CE-32, CE-34, CE-35, CE-36 | Burial sites | High | Indirect cumulative | / | Medium | | 12 Major |
| CH-50 | Church | Low | Indirect cumulative | / | Medium | | 6 Moderate |
| RS-09, RS-10 | Ritual Sites | High | Indirect cumulative | / | Medium | | 12 Major |
| Pad 3 and Associated Roads | | | | | | | |
| CE-04, CE-05, CE-06, CE-31 | Burials | High | Indirect cumulative | / | Medium | | 12 Major |
| CH-01, CH-02, CH-03, CH-30, CH-31, CH-33, CH-34, CH-35, CH-39 | Churches | Low | Indirect | | Medium | | 6 Moderate |
| RS-01 | Ritual site | High | Indirect cumulative | / | Medium | | 12 Major |
| In-field Pipeline / New Road Segments | | | | | | | |
| RS-08 | Ritual Site | High | Indirect cumulative | / | Medium | | 12 Major |
| CH-07, CH-08, CH-32, CH-33, CH-34, CH-35, CH-39, CH-40, CH-42 | Churches | Low | Indirect cumulative | / | Medium | | 6 Moderate |
| Jetty | | | | | | | |
| RS-02, RS-03 | Ritual Sites | High | Indirect and or Indirect cumulative | / | Medium | | 12 Major |
| CL-01, CL-02 | Cultural Landscapes | High | Indirect cumulative | / | Low | | 8 Moderate |
| Airstrip/lay down area | | | | | | | |
| CE-22, CE-23, CE-37 | Cemeteries | High | Indirect cumulative | / | Low | | 8 Moderate |



| Receptor | Description | Sensitivity* | Type of Impact** | Magnitude of Impact | Severity (pre-mitigation) |
|--|---|--------------|-----------------------|---------------------|---------------------------|
| SR-02 | Sacred River | High | Indirect / cumulative | Medium | 12 Major |
| All infrastructure components on the Buhuka Flats | | | | | |
| SR-01 | Sacred River Masika | High | Indirect / cumulative | Medium | 12 Major |
| ST-01 | Site of sacred tree at Nsunzu | High | Indirect / cumulative | Medium | 12 Major |
| Unknown sites of cultural heritage value | There is a high potential for sites for artefacts of archaeological, paleontological and/ or cultural sensitivity within and immediately surrounding the proposed footprint | High | Indirect / cumulative | Medium | 12 Major |
| Intangible cultural heritage | Local belief systems and cultural norms | High | Indirect / cumulative | Unknown / Medium | 16 Unknown / major |

*based on the criteria specific for Cultural Heritage, as in Section Table 1 **based on the criteria specific for Cultural Heritage, as in Table 2

6.4.3 Combined or Cumulative Impacts to Cultural Heritage

In the wider project area there is a potential for all cultural sites to be affected by cumulative indirect Project impacts. These impacts may occur through accumulative visual, noise and /or dust induced disturbance created and escalated by Project activities. Cumulative impacts are predicted for the following cultural receptors:

- Cultural Landscapes (CL-01 and CL-02);
- The Sacred Rivers (SR-01, SR-02);
- The site of Sacred Tree (ST-01); and
- Ritual Sites (RS-01, RS-02, RS-03, RS-08, RS-09, RS-10).

7.0 RECOMMENDATIONS FOR MITIGATION AND MONITORING

A total of 244 locations of archaeological and historic significance have been identified within the study area. These assets are non-renewable resources and the primary goal of cultural resource management should be their physical preservation (i.e. to avoid direct or indirect impact where practicable). This is in accordance with IFC guidance (PS 8, 2012) which states that:

“Most cultural heritage is best protected by preservation in its place, since removal is likely to result in irreparable damage or destruction of the cultural heritage. The client will not remove any non-replicable cultural heritage, unless all of the following conditions are met: i) there are no technically or financially feasible alternatives to removal; ii) the overall benefits of the project conclusively outweigh the anticipated cultural





heritage loss from removal; and iii) any removal of cultural heritage is conducted using the best available technique”.

In addition, cultural heritage assets are protected by The Historical Monuments Act of Uganda (1968). The Act specifies that:

“Any person who destroys, alters, defaces, removes, repairs, injures or imperils any preserved or protected or discovered object...commits an offence and is liable on conviction to a fine not exceeding two thousand shillings or to imprisonment for a period not exceeding six months or to both such fine and imprisonment”.

7.1 Pre-construction Phase Mitigation

7.1.1 Archaeological Mitigation

Archaeological Mitigation for the Kingfisher Field Development Area

In order to adequately mitigate archaeological risks to the client the following strategies are proposed:

- As preparation works and environmental studies are presently ongoing at the Project site, particularly in the Kingfisher Field Development Area where highly sensitive artefacts have now been recorded, there is potential for the disturbance of previously unidentified archaeological materials (i.e., accidental or chance finds). **The preparation of a Project-specific, ‘site ready’ Chance Find Procedure (CFP) is recommended as a priority** to detail the requirements of The Historical Monuments Act of Uganda (1968). The CFP will be updated during the lifetime of the Project to make provisions for a course of action in the event that any cultural heritage artefacts are recovered. The CFP will be presented to the relevant local authority and the National Museum for approval. The CFP should be provided to all contractors and consultants on the Project site during all pre-construction activity and incorporated within the Project’s ‘site induction’ process. It will remain in place for the lifetime of the Project. The CFP will form a component of a detailed Cultural Heritage Management Plan (CHMP) (as required by IFC PS 8 and in line with the objectives of Ugandan cultural heritage policy).
- An urgent discussion should be held with CNOOC to determine strategies for avoidance of those potentially highly sensitive archaeological sites identified within, or in close proximity to, the Project footprint, these include sites within the Central Processing Facility; Pads 3 and 4A; the Materials Yard/ the Camps; and the Jetty area.
- It is recommended that a further stage of cultural heritage study is completed, as a priority, in order to verify the association (if any) of those surface artefacts recovered and potential sub-surface archaeological features indicative of settlement/industry. This would comprise a scheme of shallow, targeted, hand-dug test pits (e.g., 1 m x 1 m in size) through which the archaeological potential could be firmly established and any further material analysis undertaken. This scheme will seek to eliminate the risk of archaeological induced hold ups during the construction phase.
- In the event that these targeted sites yield archaeological material it will necessary to implement a programme of pre-construction mitigation. Avoidance (preservation *in situ* is preferred). Where this is not possible, “preservation by record” through systematic recording (e.g., archaeological excavation) is the only recourse. Such work, where required, will be described in appropriate detailed work programmes and specifications to be prepared by the cultural heritage specialist.
- **To meet the requirements of Ugandan law this work should be carried out by a suitably qualified person under a licence for archaeological survey as issued by the Minister. In the event of artefact recovery, all materials should be surrendered to the National Museum.**

Archaeological Mitigation for the Feeder Pipeline

- As preparation works and environmental studies are presently ongoing along the pipeline route there is potential for the disturbance of previously unidentified archaeological materials (i.e., accidental or chance finds). **The preparation of a Project-specific, ‘site ready’ Chance Find Procedure (CFP) is recommended as a priority.** The CFP will be updated during the lifetime of the Project to make provisions for a course of action in the event that any cultural heritage artefacts are recovered. The





CFP will be presented to the relevant local authority and the National Museum for approval. The CFP should be provided to all contractors and consultants on the Project site during all pre-construction activity and incorporated within the Project's 'site induction' process. It will remain in place for the lifetime of the Project. The CFP will form a component of a detailed Cultural Heritage Management Plan (CHMP) (as required by IFC PS 8).

- Where there are known gaps in the archaeological field survey, specifically those inaccessible areas along the Pipeline route, it is recommended that these are assessed immediately in order to fully capture a complete archaeological baseline for the Project and eliminate the risk of archaeological induced hold ups during the construction phase.
- Avoidance of those potentially highly sensitive archaeological sites identified within, or in close proximity to, the route between 2 and 4 km from the CPF (lithic and pottery scatter).
- It is recommended that a further stage of cultural heritage study is completed, as a priority, in order to verify the association (if any) of those surface artefacts recovered and potential sub-surface archaeological features indicative of settlement/industry. This would comprise a scheme of shallow, targeted, hand-dug test pits (e.g., 1 m x 1 m in size) through which the archaeological potential could be firmly established and any further material analysis undertaken. This scheme will seek to eliminate the risk of archaeological induced hold ups during the construction phase.
- In the event that these targeted sites yield archaeological material it will necessary to implement a programme of pre-construction mitigation. Avoidance (preservation *in situ* is preferred). Where this is not possible, "preservation by record" through systematic recording (e.g., archaeological excavation) is the only recourse. Such work, where required, will be described in appropriate detailed work programmes and specifications to be prepared by the cultural heritage specialist.
- To meet the requirements of Ugandan law this work should be carried out by a suitably qualified person under a licence for archaeological survey as issued by the Minister. In the event of artefact recovery, all materials should be surrendered to the National Museum.

Cultural Site and Intangible Heritage Mitigation for the KFDA

A number of highly sensitive, unique cultural and sacred sites were identified during the baseline survey. Mitigation measures should be considered at the earliest possible stage.

- **A bespoke 'site ready' Cultural Heritage Management Plan (CHMP) should be prepared urgently for the Project area** (as required by IFC PS 8 and in line with the objectives of Ugandan cultural heritage policy). The CHMP will highlight the presence of culturally significant places to contractors at any early stage and specify further management necessary (e.g., demarcation/ signage) as required for individual sites. The CHMP will seek to manage and mitigate the identified impacts on cultural resources throughout the Project lifetime in participation with local communities and appropriate site guardians identified. The Management Plan will set out a strategy for maintaining community access to sacred sites and facilitating respect for local intangible cultural heritage, tradition and taboo will ensure that the negative socio-cultural effects are effectively mitigated – regular platforms for community liaison are recommended in this regard. This will help to prevent any further (accidental) loss of sensitive cultural assets throughout the pre-construction phase (and beyond).
- The preferred mitigation for all directly affected cemetery sites is avoidance. Where avoidance is not possible, a full mitigation strategy should be developed in conjunction with affected communities and the guardians of those sites. If the cemetery sites are found to be adjacent (rather than within) the areas of proposed activity appropriate signage and demarcation is recommended to protect these sites. It will remain important, as the Project progresses to consult with local communities to potential further impacts to other cultural sites in the vicinity.
- Where other sacred sites have been identified within the Study Area these may require demarcation and provisions for site-specific monitoring as the Project is finalised (within the CHMP). These may be





affected by (as yet undefined) Project access routes. Where a change in a site's setting is anticipated, planting (e.g., screening) may be considered to minimise adverse visual impacts. Any mitigation measures must be agreed in conjunction with the affected community.

- This next stage of work should also seek to incorporate the views of stakeholders beyond the Study Area including the National Museum; the cultural advisors for the Bunyoro Kitara Kingdom; and the regional cultural leaders (as identified during the community interview phase). A complete baseline can therefore be established and further necessary mitigation prepared (if necessary) and in participation with all parties. The details of such mitigation will be prepared for inclusion within the Cultural Heritage Management Plan (CHMP).

Cultural Site and Intangible Heritage Mitigation for the Feeder Pipeline

- Where there are known gaps in the field survey, specifically those inaccessible areas along the Pipeline route, it is recommended that these are assessed immediately in order to fully capture a complete cultural heritage baseline and eliminate the risk of hold ups during the construction phase.
- A bespoke 'site ready' Cultural Heritage Management Plan (CHMP) should be prepared for the feeder pipeline. The CHMP will highlight the presence of culturally significant places to contractors at any early stage and specify further management necessary (e.g., demarcation/ signage) as required for individual sites – i.e. those cemetery sites within close proximity to the route. The CHMP will seek to manage and mitigate the identified impacts on cultural resources throughout the Project lifetime in participation with local communities and appropriate site guardians (as listed in APPENDIX F).
- The Management Plan will set out a strategy for maintaining community access to cemetery sites and facilitating respect for local intangible cultural heritage, tradition and taboo will ensure that the negative socio-cultural effects are effectively mitigated – regular platforms for community liaison are recommended in this regard.

7.2 Construction Phase Mitigation

7.2.1 Archaeological Mitigation

Archaeological Mitigation for the Kingfisher Field Development Area

- The results of the cultural heritage field survey have highlighted a potential for surface scatter of high archaeological significance. These materials may relate to substantial below-ground features.
- The Chance Finds Procedure (as discussed in Section 7.1.1) will provide the necessary mitigation strategy for those accidental finds recovered during construction site work. The CFP should sit within the Project's Cultural Heritage Management Plan and provided to all construction workers during site induction.
- Once the (pre-construction) test pitting exercise has better established or dismissed the extent of any below-ground archaeological potential, it may be recommended that archaeological monitoring in the form of a 'watching brief' take place. The watching brief will occur during all ground intrusive activity which forms part of the construction phase and comprise an archaeologist in attendance. The specifics of the investigation will be included within the CHMP.
 - To meet the requirements of Ugandan law this work should be carried out by a suitably qualified person under a licence for archaeological survey. In the event of artefact recovery, all materials should be surrendered to the National Museum.
 - The watching brief will involve monitoring soil removal / land take for the presence of cultural heritage material. The archaeologist must have the authority to stop construction work in the event that significant materials (e.g., burial sites, iron furnaces) are exposed. These sites will be recorded in full employing 'preservation by record'.
 - The results of the watching brief will be presented to the relevant local authority. Provisions should be made to exhibit materials to interested stakeholders, including the local community.





Archaeological Mitigation for the Feeder Pipeline

- The results of the cultural heritage field survey have highlighted a potential for surface scatter of high archaeological significance. These materials may relate to substantial below-ground features.
- The Chance Finds Procedure (as discussed in Section 7.1.1) will provide the necessary mitigation strategy for those accidental finds recovered during construction site work. The CFP should sit within the Project's Cultural Heritage Management Plan and provided to all construction workers during site induction.
- Once the (pre-construction) test pitting exercise (as discussed in Section 7.1.1) has better established or dismissed the extent of any below-ground archaeological potential, it may be recommended that archaeological monitoring in the form of a 'watching brief' take place. The watching brief will occur during all ground intrusive activity which forms part of the construction phase and comprise an archaeologist in attendance. The specifics of the investigation will be included within the CHMP.
 - To meet the requirements of Ugandan law this work should be carried out by a suitably qualified person under a licence for archaeological survey. In the event of artefact recovery, all materials should be surrendered to the National Museum.
 - The watching brief will involve monitoring soil removal / land take for the presence of cultural heritage material. The archaeologist must have the authority to stop construction work in the event that significant materials (e.g., burial sites, iron furnaces) are exposed. These sites will be recorded in full employing 'preservation by record'.
 - The results of the watching brief will be presented to the relevant local authority. Provisions should be made to exhibit materials to interested stakeholders, including the local community.

Cultural Site and Intangible Heritage Mitigation for the KFDA

Once the Project infrastructure is finalised, site specific mitigation may be required during construction. The details of such mitigation should be prepared for inclusion within the Project specific Cultural Heritage Management Plan (CHMP).

This may include:

- Demarcation of 'no go' sensitive areas e.g. sacred trees, ritual sites, cemeteries (i.e. mitigation by avoidance). Although these sites may or may not be directly affected by construction activities there is a potential for disturbance of community access routes to cultural sites and to the environmental setting of the sites themselves;
- The owners/custodians of the graves and sites of high cultural value that will have been identified by studies and verified by relevant authorities will be fully compensated and facilitated to relocate the graves where land will be procured and re-burial expenses met by the project;
- It may be necessary to demarcate areas to be avoided by noisy, dust inducing construction vehicles at certain times of the week/year so as to avoid disturbance of traditional ceremonial activities in close proximity of construction routes;
- Maintaining community access to sacred sites and facilitating respect for local intangible cultural heritage, tradition and taboo will ensure that the negative socio-cultural effects are effectively managed – regular platforms for community liaison are recommended in this regard (and detailed within the CHMP); and
- It is suggested that the presence of culturally significant places are highlighted to contractors at any early stage and further managed (e.g., demarcation/ signage) as required. Provisions for this should be incorporated into the 'site induction' process and detailed fully with the CHMP.





Cultural Site and Intangible Heritage Mitigation for the Feeder Pipeline

Once the Project infrastructure is finalised, site specific mitigation may be required during construction. The details of such mitigation should be prepared for inclusion within the Project specific Cultural Heritage Management Plan (CHMP).

This may include:

- Demarcation of 'no go' sensitive areas e.g. cemeteries (i.e. mitigation by avoidance). Although these sites may not be directly affected by construction activities there is a potential for disturbance of community access routes to cultural sites and to the environmental setting of the sites themselves;
- The owners/custodians of the graves and sites of high cultural value that will have been identified by studies and verified by relevant authorities will be fully compensated and facilitated to relocate the graves where land will be procured and re-burial expenses met by the project;
- It may be necessary to demarcate areas to be avoided by noisy, dust inducing construction vehicles at certain times of the week/year so as to avoid disturbance of traditional ceremonial activities in close proximity of construction routes;
- Maintaining community access to sacred sites and facilitating respect for local intangible cultural heritage, tradition and taboo will ensure that the negative socio-cultural effects are effectively managed – regular platforms for community liaison are recommended in this regard (and detailed within the CHMP); and
- It is suggested that the presence of culturally significant places are highlighted to contractors at any early stage and further managed (e.g., demarcation/ signage) as required. Provisions for this should be incorporated into the 'site induction' process and detailed fully with the CHMP.

7.3 Operation phase

Archaeological Mitigation for the Kingfisher Field Development Area

The results of the cultural heritage field survey have highlighted a potential for surface scatter of archaeological significance, these maybe accidentally disturbed by operation workers during production. These archaeological materials may relate to substantial below-ground features, as individual artefacts some also have significant research potential.

- The Chance Finds Procedure (as discussed in Section 7.1.1) will provide the necessary mitigation strategy for any accidental finds recovered during operations site work.

Cultural Site Mitigation for the Kingfisher Field Development Area

Site specific mitigation may be required during Project operation as the infrastructure is finalised and potentially refined. The details of such mitigation should be prepared for inclusion within the project specific Cultural Heritage Management Plan, prepared in participation with affected communities and stakeholders.

This may include:

- Demarcation of 'no go' sensitive areas (e.g., sacred sites, cemeteries) where mitigation will be via avoidance of impacts;
- Site induction to include introduction on cultural sensitivity/ taboo to the workforce;
- Enhancement or protection of environmental setting (e.g., through planting/screening); and
- Demarcation of areas to be avoided (e.g., by noisy, dust inducing) site vehicles at certain times of the day/year.





7.4 Decommission phase

Archaeological Mitigation for the Kingfisher Field Development Area

The results of the cultural heritage field survey have highlighted a potential for surface scatter of archaeological significance, these may be accidentally disturbed by workers during decommissioning and closure.

- The Chance Finds Procedure (as discussed in Section 7.1.1) will provide the necessary mitigation strategy for any accidental finds recovered during decommission works.

Cultural Site Mitigation for the Kingfisher Field Development Area

No additional decommission-specific mitigation measures are anticipated for cultural / sacred sites. The Cultural Heritage Management Plan, prepared in participation with affected communities and stakeholders should make provisions for long term management where required. For example, this might include provisions for highlighting culturally sensitive areas to decommissioning workers.

7.4.1 Summary of Residual Impacts to Cultural Heritage

A summary of the impact assessment, post-mitigation, for all cultural heritage receptors is included in Table 14. The levels of impact intensity are considered on a 'worst case scenario' basis.

Table 14: Summary Impact Assessment Ratings: Cultural Heritage

| Phase | Location | Before mitigation* | | | After mitigation | | |
|-----------------------------------|------------------------|--------------------|-------------|----------|------------------|-------------|----------|
| | | Intensity | Sensitivity | Severity | Intensity | Sensitivity | Severity |
| Pre-construction and Construction | Materials Yard | High | Low | Moderate | Low | Low | Minor |
| | | Medium | Low | Moderate | Low | Low | Minor |
| | CPF | High | High | Major | Low | High | Moderate |
| | | High | Medium | Major | Low | Medium | Minor |
| | Camps | High | High | Major | Low | High | Moderate |
| | Pad 4A | High | Medium | Major | Low | Medium | Minor |
| | | High | High | Major | Low | High | Moderate |
| | | Medium | Low | Moderate | Low | Low | Minor |
| | | High | High | Major | Low | High | Moderate |
| | Pad 3 and Roads | High | High | Major | Low | High | Moderate |
| | | Medium | High | Major | Low | High | Moderate |
| | | Medium | Low | Moderate | Low | Low | Minor |
| | | Medium | High | Major | Low | High | Moderate |
| | In-field Pipeline | High | Medium | Major | Low | Medium | Minor |
| | | High | High | Major | Low | High | Moderate |
| | | Medium | Low | Moderate | Low | Low | Minor |
| | Jetty | High | Low | Moderate | Low | Low | Minor |
| | | High | High | Major | Low | High | Moderate |
| | | Low | High | Moderate | Very Low | High | Minor |
| | Airstrip/lay down area | Low | High | Moderate | Very Low | High | Minor |
| Low | | High | Moderate | Very Low | High | Minor | |
| | | High | High | Major | Low | High | Moderate |





CULTURAL HERITAGE ASSESSMENT

| | | | | | | | |
|--------------|---------------------------------------|--------|--------|----------|----------|--------|----------|
| | Feeder Pipeline | High | Medium | Major | Low | Medium | Minor |
| | | High | Medium | Major | Low | Medium | Minor |
| | | Medium | High | Major | Low | High | Moderate |
| | All components | Medium | High | Major | Low | High | Moderate |
| | | | | | | | |
| Operations | Pad 4A | Medium | High | Major | Low | High | Moderate |
| | | Medium | Low | Moderate | Low | Low | Minor |
| | | High | High | Major | Low | High | Moderate |
| | Pad 3 and Ass Roads | Medium | High | Major | Low | High | Moderate |
| | | Medium | Low | Moderate | Low | Low | Minor |
| | | Medium | High | Major | Low | High | Moderate |
| | In-field Pipeline / New Road Segments | High | High | Major | Low | High | Moderate |
| | | Medium | Low | Moderate | Low | Low | Minor |
| | Jetty | High | High | Major | Low | High | Moderate |
| | | High | High | Major | Low | High | Moderate |
| | Airstrip/lay down area | Low | High | Moderate | Very Low | High | Minor |
| | | Low | High | Moderate | Very Low | High | Minor |
| | All components | High | High | Major | Low | High | Moderate |
| | | High | High | Major | Low | High | Moderate |
| | | High | High | Major | Low | High | Moderate |
| | | | | | | | |
| Decommission | Pad 4A | Medium | High | Major | Low | High | Moderate |
| | | Medium | Low | Moderate | Low | Low | Minor |
| | | Medium | High | Major | Low | High | Moderate |
| | Pad 3 and Ass Roads | Medium | High | Major | Low | High | Moderate |
| | | Medium | Low | Moderate | Low | Low | Minor |
| | | Medium | High | Major | Low | High | Moderate |
| | In-field Pipeline / New Road Segments | Medium | High | Major | Low | High | Moderate |
| | | Medium | Low | Moderate | Low | Low | Minor |
| | Jetty | Medium | High | Major | Low | High | Moderate |
| | | Low | High | Moderate | Very Low | High | Moderate |
| | Airstrip/lay down area | Low | High | Moderate | Very Low | High | Minor |
| | | Low | High | Moderate | Very Low | High | Minor |
| | All components | Medium | High | Major | Low | High | Moderate |
| | | Medium | High | Major | Low | High | Moderate |
| | | Medium | High | Major | Low | High | Moderate |
| | | | | | | | |





7.4.2 Assessment Limitations

The assessment has been completed for the known cultural heritage sites affected by the Project and the current archaeological baseline is considered representative of the record across the wider area. However, it is possible that other sites of cultural heritage interest exist in the study areas that are not currently identifiable by purely visual means.

Gaining access in dense vegetation and at remote areas along the pipeline was a considerable issue and it should be noted that there remains a potential for (as yet unrecorded) features of cultural heritage interest across the Study Area as a whole.

Particular survey gaps have been identified in this regard:

- Between Kyarujumba and the Kabaale terminus;
Around Ndongo;
Kamwokoya and
Those villages in proximity to Kitegwa.

Furthermore, although this survey provides useful baseline data of the visible cultural heritage, it cannot discount the possibility that other (potentially important) remains may survive in below-ground deposits or in areas inaccessible to survey. The scope and suitability of additional work that may be required in order to further investigate identified sites and/or additional areas will be developed as information from this survey is assessed and disseminated. The assessment has been completed on a worst case scenario basis.

In addition, the information gathered in relation to traditional cultural places and intangible heritage is limited to that which the community was willing to share with the field team. A number of the recorded sites are considered 'secret', and although access was granted to the team, there may be places known only to a small section of the community and/or some which are too sensitive to share. Consequently there is a potential for unidentified features of cultural importance to exist within the Study Area.

The identification of cultural/sacred sites through community interviews is reliant on the disclosure of information to the survey team; consequently there is a potential for other culturally significant sites to exist (which the survey team were not privy to).

Furthermore, the residual impacts, which remain after mitigation, are preliminary as although predicted impacts to cultural heritage sites can be anticipated, mitigation measures are yet to be fully determined (e.g., through community participation and discussions with CNOOC).

Uncertainty also relates to intangible cultural heritage practice that may not have been disclosed at the baseline data collection stage, therefore not all Project impacts may be recognised. The predicted residual impact may, therefore, underestimate the actual impact because practices of great importance to the communities may not have been identified. Other uncertainties include the influence of in-migrants with different cultural practices on the existing practices. It may be that communities local to the Project respond by reinforcing their own belief systems as a result of impending change. The influence of migrants is also likely related to the size of the population increase in those villages close to the Project, which is uncertain at this stage.

7.5 Summary of Mitigation and Monitoring Requirements for Cultural Heritage

Monitoring requirements are specified in Table 15.

Table 15: Monitoring plan for all project phases

Table with 4 columns: Potential Impact, Monitoring Requirement, Frequency, Indicator Criteria / Performance





| | | | |
|--|--|--|---|
| Direct disturbance and destruction of cultural heritage resources | Prepare, update and disseminate the project-specific Cultural Heritage Management Plan – to include a Chance Find Procedure | Quarterly, for the first year. Annually for remainder. | Records of correspondence – update Cultural Heritage Management Plan (CHMP) |
| Indirect changes to the environmental setting of cultural sites, loss of site access | Monitor visual, sound and air quality changes, monitor changes to infrastructure plans/access routes and associated development. Facilitate community consultation in this regard. | Quarterly, for the first year. Annually for remainder. | Evidence/records of visual assessments, evidence of implemented mitigation/improvements and community consultation in this regard – update Cultural Heritage Management Plan (CHMP) |

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APPENDIX A

2014 Cultural Heritage Baseline Report



INTRODUCTION

This annex presents the 2014 cultural heritage baseline report for CNOOC's proposed KFDA project (the Project) on the eastern shore of Lake Albert, Kikuube and Hoima Districts, Uganda. The baseline is required to enable an appropriate assessment of the Project's potential impacts on the cultural heritage environment.

For the purposes of this study, cultural heritage is defined with reference to the International Finance Corporation's (IFC) Performance Standard 8 (2012) and the Ugandan National Cultural Policy (2006:7) and encompasses the following components:

| | |
|-------------------------------------|--------------------------------|
| Archaeological sites and artefacts; | Intangible heritage; |
| Historical structures; | Religious sites; |
| Historic districts; | Cultural and sacred sites; and |
| Cultural landscapes; | Palaeontological Sites |

The scope of work and methodology pertaining to the study of the Project's baseline cultural heritage environment is included within the Environmental and Social Impact Assessment (EIA) that this appendix accompanies. A complete list of references, acronyms and a glossary is also provided within the preceding EIA chapter.

Cultural Heritage Background and Overview

The following section summaries the literature review of prior investigations and research undertaken in order to establish the cultural heritage background and context of the both wider region and the immediate project area.

Palaeoenvironmental and Palaeontological Background

The Albertine Basin forms part of the western branch of the Great African Rift, in which Lakes Albert, Edward and George are situated, formed in the late Pleistocene epoch (approx. 2.5 - 1.8 million years ago) (Van Damme and Pickford, 2010). Sedimentary deposits, up to 6 km thick in places, have revealed faunal remains indicative of well aerated fresh water swamps and isolated paleo-lakes (Cooke, 1997) and those at Kaiso, on the eastern shores of Lake Albert, have been particularly well studied with 41 new palaeontological sites identified in the region since 1965 (NEMA, 2009). The Kaiso site, approximately 35 km northeast of the Project, is also richly endowed with archaeological resources (Mirembe, 2013) and The Kikorongo Crater, near Lake George has revealed (debated) evidence of a fossilized hominoid femur, potentially *homo sapiens*, tentatively dated 8000-10,000 BP (NEMA, 2001, 2009, De Silva et al, 2005). Further afield, at Rusinga Island on Lake Victoria, fossilized remains of primates, including Early Miocene African hominoids, believed direct ancestors of *homo sapiens* (Tumusiime, 1993).

Archaeological Background

The lacustrine region has an increased potential for early human utilization (and the preserved evidence of such within the aforementioned fossil-rich deposits). There has however, been a significant lack of archaeological research and investigation in Hoima District and it has been suggested that 99% of Uganda's archaeological resources await discovery (Reid, 2002). The majority of sites previously identified in Uganda (and held within the National Museum's Inventory of Sites) comprise earthworks (potentially 'Bacwezi') and colonial-period forts.

Notable Early Stone Age (ESA) evidence, Acheulean hand axes (c 50,000 BP), have been located on the Mweya Peninsula, at Lake Edward, and at Paraa, within the Murchison Falls National Park. At Chobe, also within the National Park and northwest of Lake Albert, Late Stone Age (LSA) sites have been identified (Soper, 1971; Kyazike, 2013).

One of the most famous and well-studied archaeological sites in the regions is the 'salt gardens' at Kibiro, on the north eastern shore of Lake Albert (approximately 45 km from the Study Area). The Kibiro site is





currently on the nomination list for World Heritage recognition for evidence of its unique and ancient salt-making practices dating from the Late Iron Age (Robertshaw *et al*, 1997; Connah, 1989, 1990, 1996; MacLean, 1997; and Louise, 2013). Connah’s works at Kibiro (1989, 1990) show a unique and sustainable process with the continuous reuse of the same soil, a practice continued to the present day.

The Mubende Hill (Mubende District) and Bigo bya Mugenyi (Sembabule District) sites are potential strongholds of the Bachwezi (see Section 4.1.3). The Mubende Hill site is home to the Nakayima Shrine, said to hold the spirit of Ndahura, a former Bachwezi king. Archaeological investigation has revealed 10 square km of concentric ringed earthworks dating to the 14th – 16th centuries AD at Bigo bya Mugenyi (<http://whc.unesco.org/en/tentativelists/911/>).

Historical Background

The pre-colonial history of the Bunyoro Kitara Kingdom is poorly studied with most referring to oral traditions transcribed at court (Robertshaw, 1999). Analysis of the records appear to reveal that the Bunyoro were one is a succession of small scale polities, akin to chiefdoms, across the region (*ibid*). There is some debate regarding the Bunyoro’s origins. Some historians believe the Bunyoro are decedents of the Bachwezi. The Bachwezi are however, surrounded by obscurity. Oral traditions have asserted them as demi-gods (and descendants of the first beings on earth) with some studies dismissing them as purely mythical (Tumusiime, 1993). Others credit them with the introduction of long horn cattle and salt extraction, both of which came to dominate the economy of the Great Lakes region (Robertshaw, 1999).

The modern (geographic) country of Uganda was forged by the British between 1890 and 1926 with the name originating from ‘Buganda’, one of the preceding kingdoms. The KFDA Project area lies within the extent of the former Bunyoro Kitara Empire which included parts of Masindi, Kikuube, Hoima, Kibaale, Kabarole and Kasese and engulfed parts of present day Kenya, Tanzania and The Democratic Republic of Congo. Following the disintegration of the Bunyoro Kitara Empire in the 19th century smaller kingdoms rose up, including the Bunyoro, whose leader Kabalega is renowned for resisting British colonial rule.

Well known historical sites in closer proximity to the Project include Baker’s View (within the study area), at Kituuti village (which literally means ‘a raised place’) and the Mparo Tombs. Baker’s View, within the Project Study Area, marks the place where explorer Samuel Baker first had a view of Lake Albert while looking for the source of River Nile. The historic Mparo tombs are located 2 km from Hoima Municipality on the Hoima-Masindi road. These are the tombs of the Bunyoro tribe royal family and Kabalega, the famous Omukama (king) of the Bunyoro, was buried here in 1923.

Field Survey Results

The following section presents the results of the archaeological and cultural field surveys undertaken between January and February 2014. Three broad site types were identified:

Archaeological remains and historic sites (individual artefacts, collections of artefacts – ‘scatter’, built heritage, earthwork sites etc.); and

Cultural sites (sacred sites, cemeteries, churches and mosques).

These are discussed separately below. For ease of reference all identified sites have been assigned a unique identification number (ID) in the text and maps to follow.

Archaeological sites and cultural sites were sub-categorized according to the type of site and/or artefacts they represent, for example all IDs pre-fixed ‘PO’ constitute pottery artefacts and ‘ST’, sacred trees.

Table 1 summaries the site codes referenced in the sections to follow:

Table 1 Cultural Heritage Site Categories

| Site Type | Sub-category | Site Code |
|------------------------|------------------|-----------|
| Archaeological Remains | Bone find spot | BO |
| | Lithic find spot | LI |





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| Site Type | Sub-category | Site Code |
|----------------|-------------------------|-----------|
| | Metallurgical find spot | ME |
| | Pottery find spot | PO |
| | Shell find spot | SH |
| | Slag find spot | SL |
| Historic Sites | Historic Site | HI |
| | Quarry Site | QU |
| Cultural Sites | Bark Cloth Tree | BC |
| | Cemetery | CE |
| | Church | CH |
| | Cultural Tree | CT |
| | Mosque | MO |
| | Medicinal Plant | MP |
| | Ritual Object | RO |
| | Ritual Site | RS |
| | Sacred River | SR |
| | Sacred Tree | ST |

Archaeological Survey Results

Table 2 and Table 3 present the catalogue of all 279 archaeological sites identified, including their UTM coordinates, recorded during the cultural heritage baseline study. These are mapped in relation to the proposed Project infrastructure on the Archaeological Site Drawings (Appendix D of the EIA maps 1 - 10). The site categories identified are discussed below. An overview map, to show their distribution throughout the Study Area, is presented below (Figure 1).



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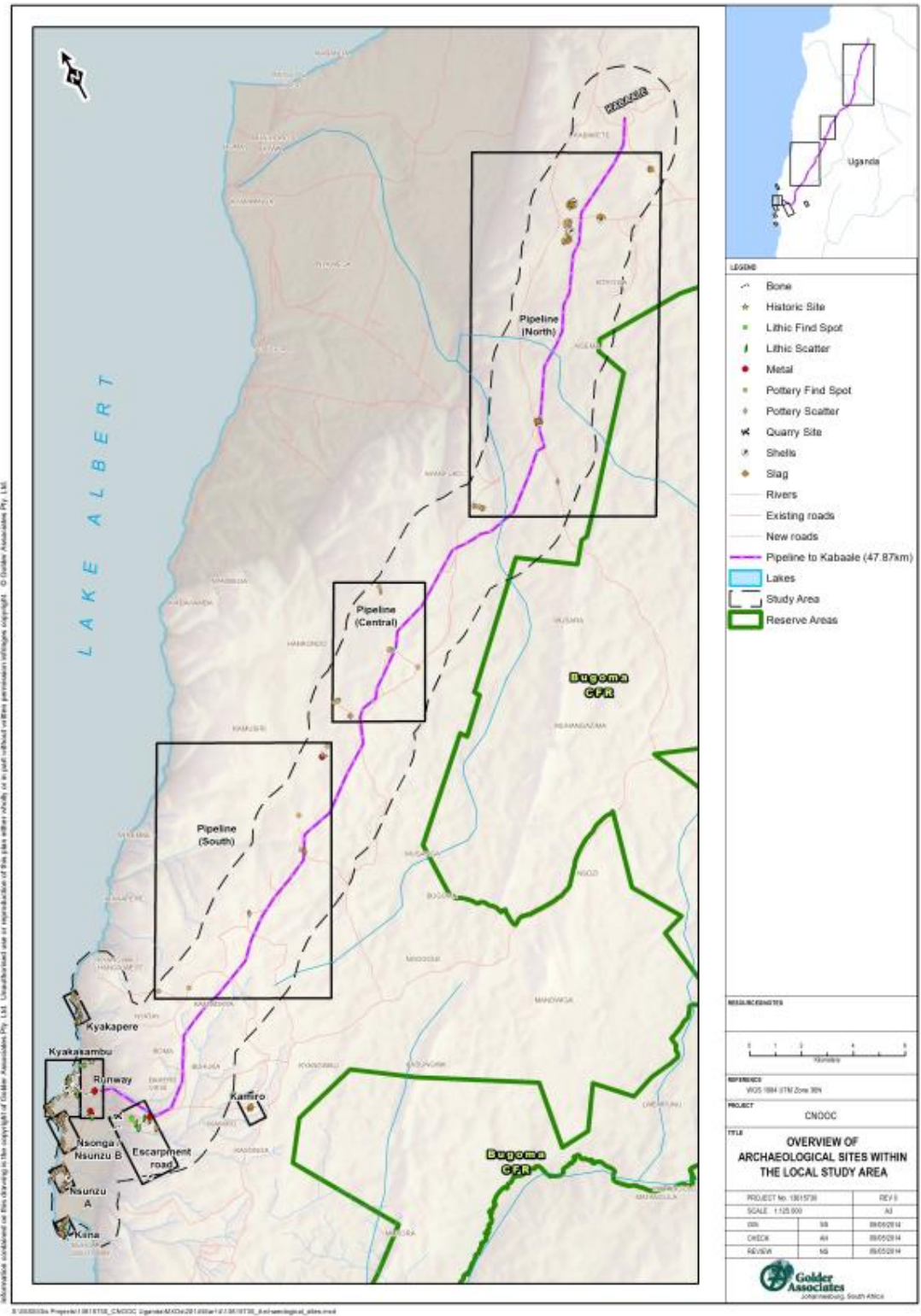


Figure 1: Overview of archaeological sites identified in the 2014 Study Area





Pottery

Pottery artefacts were recorded at 181 sites within the Study Area. In all but one instance (intact pot: **PO-52**) these artefacts constituted individual pottery sherds, or scattered sherds in a concentrated area. Although the pottery was widely dispersed, Kiina village had a greater density than any other settlement with scatters recorded at 38 separate locations within and immediately surrounding the village (Map 3, Appendix D). Despite the survey gaps previously identified, pottery was also notably recorded at 56 locations along the pipeline route (Maps 8 – 10, Appendix D), in the vicinity of Kabaale where 24 pottery scatter sites were identified (sites **PO-01**; **PO-26 – PO-36**; **PO-62**; **PO-63**; and **PO-160 – PO-166**, Map 9).



Figure 2: Pottery Scatter at Kiina village.

Several theories were found to exist within local oral history to explain the density of the pottery scatter throughout the study area, and at Kiina village in particular. Full details of the records are presented in Appendix C of the EIA (community interviews). There was a general consensus among the lake shore communities that the clay source was at Nsonga, though residents at Nsunzu also mentioned it was local to that village. Some of the inhabitants of Kiina and Nsunzu stated that clay was used ‘long ago’ for making boats before timber was readily available and that these clay canoes were used on Lake Albert after being fired “until it was very hard and could go on the water”. Others suggested that pots were brought down from the escarpments during the Kabalega (colonial) wars, when they were used for food storage and “even to hide the children in when the soldiers came”. The communities at Kiina and Kyakasambu also mentioned that clay is used to make coffins.

The archaeological evidence suggests the sherds date back to the Neolithic period, with much of the Kiina scatter dating to the Ugandan Iron Age¹⁴. The pottery scatter was analysed based on decoration and form. Subsequently four pottery traditions were identified, which correspond to the following Ugandan typologies:

¹⁴ The Neolithic and Iron Age periods are yet to be carbon-calibrated in Uganda. The Neolithic generally refers to the period from the Mid-Holocene and the Iron Age, from the 1st century BC – 16/17th centuries AD.



Kansyore - Neolithic pottery;

Urewe - Early Iron Age pottery;

Bourdine - Middle Iron Age pottery; and

Roulette - Late Iron Age pottery.

Of the 180 pottery sites recorded, further analysis revealed three major forms: pots, bowls and cups. A variety of pots were also identified: independent necked pots (x2), dependent pots (x1), short necked pots (x5), open mouthed (x2), carinated/vase-shape (x2). The bowls were mainly open (x26), necked bowls (x2), wide mouthed (x2), restricted (x1), hemispherical (x2) and constricted (x1). The full pottery analysis is presented in Table 2. It suggests that the sherds relate to vessels with a cooking or storage function with the majority dating to the Late Iron Age (LIA) and displaying characteristics of the LIA Roulette pottery tradition.

The four pottery traditions identified within the Study Area are discussed below:

Kansyore pottery: Neolithic (c. 6000 – 5000 BC)

Kansyore pottery is associated with hunter-fisher-gatherer communities and named after the Kansyore Island archaeological site situated on the River Kagera, which flows into Western Lake Victoria. The pottery tradition dates from c. 6000-5000 cal. B.C and is characterized by the wavy lines evident in the two pieces of Neolithic pottery identified within the Study Area (**PO-182** on the Escarpment Road, and **PO-161** at Kabaale, along the pipeline route). Kansyore pottery is a significant indicator of cultural interaction across the East African region and has been identified in Sudan (referred to as 'Khartoum Neolithic' pottery) and in several parts of Kenya and Tanzania. Although only a total of two sherds of the Kansyore pottery tradition were verified through analysis of decoration and form, it is likely that other (perhaps smaller, less defined) sherds date to this period.

Urewe pottery: Early Iron Age (c. 500 BC – AD 700)

Urewe pottery dates to the Early Iron Age (EIA) in Uganda (c. 500 BC – AD 700). The name is derived the Urewe archaeological site in Kenya. Its characteristic decoration is the dimpled base. Other key identifiers are oblique incisions and punctuates as in Figures 3 and 4 below.



Figure 3: Urewe pottery from Kiina (site PO-130)

A total of eight potsherds were identified as belonging to the Urewe pottery tradition. These are characterized by incised cross hatching; herringbone; oblique rim incisions; hatched triangles; vertical bold



lines and hatched ladders. EIA Urewe pottery was located at the following sites: **PO-167, PO-180, PO-49, PO-84, PO-152, PO-150, PO-157, PO-130**. Two of these are on the pipeline route (**PO-167** and **PO-180**). The majority were recovered from Kiina village.



Figure 4: Oblique incisions on Urewe pottery from Kituutu along the pipeline route (PO-180)

Bourdine or Chobe pottery: Middle Iron Age (undated)

A total of 58 Bourdine sherds were identified within the Study Area. The term Bourdine comes from “*pile de bordins*” (‘heap of sausages’) (Hiernaux and Maquet cited by Soper, 1971b). The main indicators are finger marks, finger pinching and stepped-up ridges. This pottery is commonly regarded as a Middle Iron Age (MIA) tradition, a period yet to be radiocarbon-dated in western Uganda. The 58 MIA pottery sherds were noted at 25 scatter sites.



Figure 5: Forms of Bourdine pottery decoration elements: (PO-137) and (PO-116) - finger impressions; (PO-129) - stepped up ridges and (PO-145) - finger nail push

Roulette pottery: Late Iron Age (undated)

Roulette pottery constituted the majority of the potsherds found within the Study Area. Roulette is a Late Iron Age pottery tradition (without radiocarbon dates in Uganda) identified by knotted string/strips or herringbone decorations and mammilations (Figures 6 and 7).



Figure 6: Roulette pottery - Intact pot (PO-52) from Nsunzu village

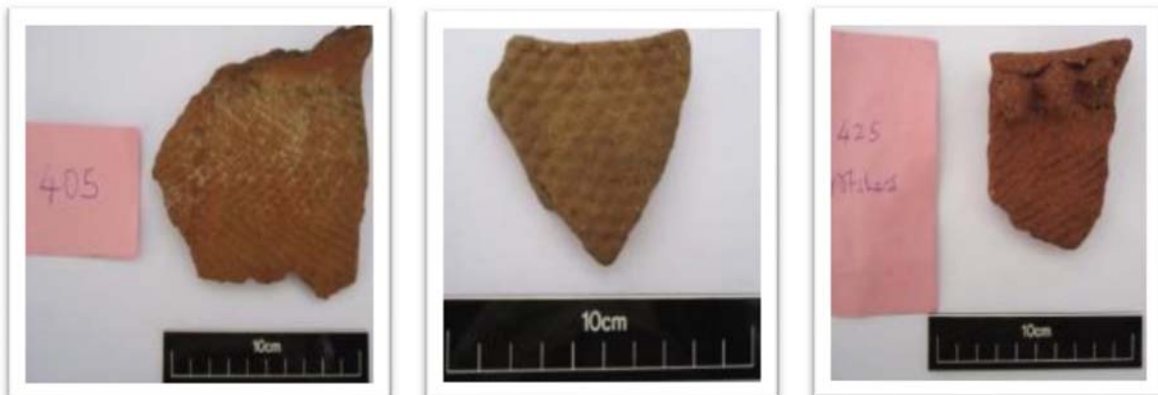


Figure 7: Mamilated Roulette pottery (PO-138, PO-71 and PO-56)



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Table 2: Pottery forms and decoration elements per tradition

| Associated Development / Village | Site ID | Description of Site | Pottery Tradition | Analysis | Easting | Northing |
|----------------------------------|---|---|---------------------------|----------------------------|---------|----------|
| Pipeline – Kabaale | PO-01 | pottery, slag | | | 281197 | 159003 |
| | PO-26 | plain sherd | | | 281539 | 159631 |
| | PO-27 | plain sherd | | | 281457 | 159584 |
| | PO-28 | burial with 2 graves and plain pottery | | | 281446 | 159631 |
| | PO-29 | pottery and lithics | | | 281351 | 159622 |
| | PO-30 | plain potsherd | | | 281417 | 159332 |
| | PO-31 | plain potsherd and shell | | | 281405 | 159313 |
| | PO-32 | decorated pottery at a burial of three graves | Roulette | knotted string | 281264 | 159227 |
| | PO-33 | decorated pottery | Roulette | mammilated, knotted string | 281258 | 159192 |
| | PO-34 | plain pottery | | | 280973 | 158995 |
| | PO-35 | decorated pottery | | | 281054 | 159017 |
| | PO-36 | plain pottery | | | 281849 | 160209 |
| | PO-37 | plain pottery | | | 281950 | 160177 |
| | PO-38 | burial for 8 people and a potsherd | Roulette | wide bowl, knotted string | 281930 | 160167 |
| | PO-39 | rim, slag and shell | | | 281963 | 160175 |
| | PO-62 | pottery | | | 282709 | 159206 |
| | PO-63 | pottery | Roulette | knotted string | 281458 | 159623 |
| | PO-160 | slag, shell, pottery | Roulette | knotted string | 282675 | 159209 |
| PO-161 | wavy line pottery in a concentration of pottery | Kansyore | mat impressed, mammilated | 281523 | 159614 | |



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| Associated Development / Village | Site ID | Description of Site | Pottery Tradition | Analysis | Easting | Northing |
|------------------------------------|---------|---|-------------------|-----------------------------|---------|----------|
| | PO-162 | concentration of plain sherds | Roulette | open bowl, knotted string | 281203 | 159060 |
| | PO-163 | plain sherds | | | 281003 | 159016 |
| | PO-164 | decorated pottery and a rim | Roulette | open bowl, herringbone | 281885 | 160209 |
| | PO-165 | concentration of decorated potsheds and iron slag | Roulette | herringbone, knotted string | 281910 | 160203 |
| | PO-166 | scatters of plain potsherd | | | 282085 | 160258 |
| Pipeline - Bitagata | PO-41 | plain pottery | | | 273242 | 151346 |
| | PO-42 | plain pottery | | | 273360 | 151278 |
| | PO-43 | decorated pottery | Roulette | herringbone | 273487 | 151157 |
| | PO-44 | decorated pottery | Roulette | curved wood, knotted string | 273457 | 151150 |
| | PO-172 | plain pottery scatters | | | 273184 | 151404 |
| | PO-173 | concentration of pottery, two graves | | | 273449 | 151155 |
| Pipeline - Kyapa (road to Sayuuni) | PO-45 | plain pottery | | | 268411 | 146748 |
| Pipeline - Kasoga | PO-47 | plain pottery | | | 263877 | 145584 |
| | PO-48 | incised pottery rim | | | 261673 | 143670 |
| | PO-49 | decorated rim, Faith of Unity church | Urewe | oblique incisions | 261137 | 142423 |
| Pipeline - Kituuti | PO-50 | rim of decorated pottery | | | 254811 | 134286 |
| Pipeline - Kaseeta (Nyanseke) | PO-167 | scatters of pottery, plain and decorated | Urewe | incised crosses | 276935 | 153256 |



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| Associated Development / Village | Site ID | Description of Site | Pottery Tradition | Analysis | Easting | Northing |
|-----------------------------------|---------|---|-------------------|--|---------|----------|
| | PO-168 | decorated (roulette) and plain pottery, Kaseeta catholic church | Roulette | short necked pot, knotted string | 276851 | 153153 |
| | PO-169 | decorated pottery and scatters | Roulette | knotted string | 276983 | 153126 |
| | PO-40 | plain pottery and slag, church of Uganda | | | 276905 | 153245 |
| Pipeline - Kisooba | PO-170 | several scatters of pottery | | | 276520 | 150777 |
| Pipeline - Bukona | PO-171 | potsherds-necks of roulette, slag | Roulette | independent necked pot, knotted string | 285249 | 160043 |
| Pipeline - Kibaale modern primary | PO-46 | CNOOC pipeline bench mark, pottery | | | 265189 | 146242 |
| | PO-174 | concentration of pottery | | | 265225 | 146207 |
| Pipeline - Kasoga | PO-175 | concentration of pottery | Roulette | herringbone, soot | 263561 | 145318 |
| Pipeline - Kasoga B | PO-176 | Tawehid mosque, scatters of plain pottery | | | 261201 | 142319 |
| | PO-177 | Kasoga catholic church, pottery scatters | | | 261248 | 142283 |
| Pipeline - Kyarujumba | PO-178 | Fountain of life church, pottery scatters-plain and decorated | Bourdine | necked bowl (bourdine), independent necked pot | 258228 | 141140 |
| | PO-179 | Kyarujumba model nurse and primary school, decorated pottery | | | 258221 | 141110 |
| Pipeline - Kituuti | PO-180 | concentration of decorated potsheds and iron slag | Urewe | incisions, string | 254846 | 134348 |



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| Associated Development / Village | Site ID | Description of Site | Pottery Tradition | Analysis | Easting | Northing |
|----------------------------------|---------|-----------------------------|-------------------|----------------|---------|----------|
| Pipeline - Kamwokya | PO-64 | decorated pottery | | | 254823 | 139573 |
| | PO-65 | plain pottery | | | 253714 | 140004 |
| Pipeline - Izahura-Sayuuni | PO-181 | scatters of plain pottery | | | 268462 | 150037 |
| | PO-66 | Plain pottery | | | 268503 | 150238 |
| | PO-67 | plain pottery | | | 267716 | 147867 |
| Pipeline - Kyarushesha | PO-68 | plain pottery | | | 264899 | 146994 |
| | PO-69 | plain pottery | | | 265049 | 146983 |
| Pipeline - Kyarushesha | PO-51 | decorated pottery rim | Roulette | knotted string | 265065 | 146993 |
| Airstrip Extension | PO-06 | plain pottery | | | 249206 | 136791 |
| Jetty | PO-09 | pottery | | | 247978 | 137919 |
| | PO-10 | pottery | | | 247952 | 137921 |
| | PO-11 | pottery | | | 247918 | 137909 |
| | PO-12 | pottery | | | 247856 | 137923 |
| | PO-13 | pottery | | | 247845 | 137924 |
| | PO-53 | abraded pottery | | | 248046 | 137924 |
| | PO-54 | pottery (2 pieces) | | | 247992 | 137920 |
| | PO-85 | pottery scatter (6 pieces) | | | 248375 | 138041 |
| Escarpment road - Ikamiro | PO-74 | pottery, lithics | | | 251193 | 135272 |
| Escarpment road | PO-182 | pottery, lithics | Kansyore | wavy lines | 251193 | 135272 |
| Materials yard - Kyakasambu | PO-75 | long bone, lithics, pottery | | | 249060 | 137996 |



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| Associated Development / Village | Site ID | Description of Site | Pottery Tradition | Analysis | Easting | Northing |
|----------------------------------|---------|--|-------------------|----------------------------|---------|----------|
| Spoil Area-A | PO-98 | scatters of plain pottery, quartz stone tool | | | 249841 | 138720 |
| In field Road - Nsunzu | PO-02 | 1 rim sherd | | | 247297 | 135250 |
| | PO-77 | pottery scatter | | | 247316 | 135479 |
| | PO-78 | pottery scatter | | | 247367 | 135625 |
| | PO-79 | pottery scatter | | | 247298 | 135352 |
| | PO-81 | large pottery scatter | | | 247284 | 135360 |
| | PO-83 | pottery scatter | | | 247156 | 135472 |
| | PO-84 | pottery scatter | Urewe | cross hatching | 247293 | 135432 |
| Infield Road - Kiina | PO-72 | pottery | | | 247317 | 135066 |
| | PO-151 | scatters of pottery | | | 247274 | 134996 |
| | PO-152 | a very big pot rim and pottery scatters | Urewe, Bourdine | crisscrossed, finger nails | 247229 | 134927 |



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| Associated Development / Village | Site ID | Description of Site | Pottery Tradition | Analysis | Easting | Northing |
|----------------------------------|---------|---------------------------------|--------------------|-----------------------------------|---------|----------|
| | PO-153 | scatters of potsherds (30 x20m) | Bourdine, Roulette | finger impressions, nail push | 247220 | 134930 |
| Infield Road - Jetty | PO-76 | pottery scatter (3 pieces) | | | 248669 | 138022 |
| Pad 5 - Kiina | PO-143 | pottery scatters | | | 246867 | 134752 |
| Pad 4-1 - Kyakapere | PO-57 | pottery, Church of God | | | 250798 | 141196 |
| Pad 3 | PO-03 | 1 sherd | | | 247791 | 136033 |
| Pad 4-2 | PO-96 | scatters of pottery | Roulette | knotted string | 250642 | 140732 |
| | PO-97 | plain pieces of pottery | | | 250687 | 140873 |
| | PO-22 | Bones and Pottery (decorated) | Roulette | mammilations, incisions | 250777 | 141208 |
| Nsunzu | PO-04 | plain pottery | | | 247780 | 136525 |
| | PO-05 | burial (4 people), big pot | Bourdine | large pot, finger push | 247737 | 136348 |
| | PO-52 | Bones and Pottery | Bourdine, Roulette | mammilated ridges, knotted string | 246866 | 135456 |
| | PO-80 | pottery scatters | Bourdine, Roulette | stepped up ridges, knotted string | 246956 | 135529 |
| | PO-86 | pottery scatter, lithics | | | 246987 | 135477 |
| | PO-87 | large pottery dump | | | 247257 | 135513 |
| | PO-88 | Pottery scatter at burial site | | | 246764 | 135286 |



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| Associated Development / Village | Site ID | Description of Site | Pottery Tradition | Analysis | Easting | Northing |
|----------------------------------|---------|-----------------------------------|--------------------|--|---------|----------|
| | PO-89 | Pottery scatter at burial site | | | 246788 | 135312 |
| | PO-90 | scatters of pottery | | | 247755 | 136476 |
| | PO-91 | scatters of pottery and a rim | | | 247696 | 136396 |
| | PO-92 | scatters of pottery, rim | | | 247643 | 136290 |
| | PO-93 | pottery | | | 247736 | 136305 |
| Nsonga | PO-14 | pottery, bone | | | 248013 | 137258 |
| | PO-15 | decorated pottery | roulette | knotted string | 248035 | 137290 |
| | PO-16 | plain pottery | | | 248190 | 137310 |
| | PO-17 | Plain pottery | | | 248145 | 137332 |
| | PO-18 | plain pottery | | | 248048 | 137145 |
| | PO-19 | plain pottery, meeting tree path | | | 248000 | 137153 |
| | PO-20 | decorated pottery | | | 248020 | 137029 |
| | PO-21 | decorated pottery | roulette | knotted string | 248045 | 136806 |
| | PO-55 | finger impressed pottery | Bourdine, Roulette | nail push, knotted sting | 247836 | 137693 |
| | PO-56 | mammilated roulette pottery, bone | Bourdine, Roulette | finger impressions, knotted string, mammilated | 247852 | 137643 |



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| Associated Development / Village | Site ID | Description of Site | Pottery Tradition | Analysis | Easting | Northing |
|----------------------------------|---------|--|--------------------|---|---------|----------|
| | PO-99 | pottery scatters | | | 247794 | 137850 |
| | PO-100 | decorated pottery | Roulette | knotted string | 247814 | 137787 |
| | PO-101 | concentration of decorated and plain pottery | | | 247817 | 137774 |
| | PO-102 | pieces of decorated pottery | Roulette | knotted string | 247831 | 137727 |
| | PO-103 | scatters of pottery, lithic piece | Bourdine, Roulette | finger nail impressions, knotted string | 247857 | 137537 |
| | PO-104 | concentration of pottery | | | 247924 | 137295 |
| | PO-105 | concentration of plain and decorated pottery | Roulette | knotted string | 247974 | 137258 |
| | PO-106 | pottery scatters | | | 247977 | 137247 |
| | PO-107 | plain sherds | | | 248000 | 137249 |
| | PO-108 | pottery scatters and a bone | | | 248193 | 137298 |
| | PO-109 | scatters of pottery all over (100×100) | | | 248163 | 137199 |
| | PO-110 | decorated and plain pottery | Bourdine, Roulette | stepped up ridges, knotted string | 248023 | 137097 |
| | PO-111 | scatters of plain pottery | | | 248047 | 136942 |



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| Associated Development / Village | Site ID | Description of Site | Pottery Tradition | Analysis | Easting | Northing |
|----------------------------------|---------|---|--------------------|---|---------|----------|
| | PO-112 | burial site of the Bakubya clan, pottery scatters | | | 247985 | 136786 |
| Kyakapere | PO-07 | decorated pottery sherd | | | 250401 | 140300 |
| | PO-08 | decorated pottery | Roulette | knotted string | 250400 | 140353 |
| | PO-94 | pottery scatter | Bourdine, Roulette | stepped up ridges, finger impressions, knotted strip | 250399 | 140289 |
| | PO-95 | scatters of pottery, decorated and plain | Roulette | knotted string | 250647 | 140782 |
| | PO-113 | pottery scatter | | | 250747 | 141446 |
| | PO-114 | pottery scatter | | | 250720 | 141406 |
| | PO-115 | pottery scatter | | | 250672 | 141295 |
| | PO-116 | pottery scatter | Bourdine, Roulette | finger impressions, stepped up ridges, knotted string | 250677 | 141186 |
| | PO-117 | Cemetery, pottery scatters | | | 250615 | 140536 |
| | PO-118 | Pottery Scatter | | | 250581 | 140447 |
| | PO-119 | Pottery Scatter | Bourdine, Roulette | stepped up ridges, knotted string | 250527 | 140464 |
| | PO-120 | burial (3 people), pottery scatters | | | 250511 | 140438 |
| | PO-121 | pottery scatter | | | 250518 | 140406 |
| | PO-122 | pottery scatter | | | 250442 | 140335 |



CULTURAL HERITAGE ASSESSMENT

| Associated Development / Village | Site ID | Description of Site | Pottery Tradition | Analysis | Easting | Northing |
|----------------------------------|------------------------------|--|--------------------|------------------------------------|---------|----------|
| Kiina | PO-23 | decorated pottery | Roulette | knotted string | 246393 | 133580 |
| | PO-58 | decorated unique pottery | | | 246065 | 133295 |
| | PO-59 | pottery and a lithic pyramidal core | | | 247039 | 134913 |
| | PO-70 | rim of roulette pottery | Roulette | knotted string | 246885 | 134726 |
| | PO-71 | decorated potsherd | Bourdine, Roulette | finger impressions, knotted string | 247201 | 134991 |
| | PO-123 | concentration of decorated pottery (50× 50 m) | Roulette | knotted string | 246564 | 133687 |
| | PO-124 | concentration of roulette pottery | | | 246492 | 133648 |
| | PO-125 | decorated pottery and a smoking pipe | Roulette | knotted string | 246407 | 133611 |
| | PO-126 | Kiina catholic church, scatters of decorated pottery | | | 246259 | 133516 |
| PO-127 | pottery scatters and lithics | Bourdine, Roulette | knotted string | 246202 | 133419 | |



CULTURAL HERITAGE ASSESSMENT

| Associated Development / Village | Site ID | Description of Site | Pottery Tradition | Analysis | Easting | Northing |
|----------------------------------|---------|--|---------------------------|--|---------|----------|
| | PO-128 | Kiina church of God, scatters of decorated pottery | Bourdine, Roulette | finger impressions, knotted strips on rim | 246236 | 133352 |
| | PO-129 | scatters of pottery with different designs | Bourdine | finger crescent push, stepped up ridges | 246190 | 133313 |
| | PO-130 | pottery scatters (60×60 m) | Urewe, Bourdine, Roulette | vertical lines, finger impressions, knotted string | 246195 | 133287 |
| | PO-131 | concentration of pottery at the Lake shores | | | 246206 | 133253 |
| | PO-132 | concentration of pottery | | | 246154 | 133136 |
| | PO-133 | pottery concentration | | | 246119 | 133093 |
| | PO-134 | pottery scatters | Roulette | knotted string | 246117 | 133091 |
| | PO-135 | potsherds and a bone | Bourdine, Roulette | finger impressions, nail push | 246099 | 133101 |
| | PO-136 | bones and pottery scatters | | | 246095 | 133125 |
| | PO-137 | concentration of pottery | | | 246094 | 133144 |



CULTURAL HERITAGE ASSESSMENT

| Associated Development / Village | Site ID | Description of Site | Pottery Tradition | Analysis | Easting | Northing |
|----------------------------------|---------|---|--------------------|------------------------------------|---------|----------|
| | PO-138 | concentration of pottery | Bourdine | mammilations, knotted string | 246089 | 133185 |
| | PO-139 | concentration of pottery | | | 246110 | 133436 |
| | PO-140 | scatters of pottery, finger impression, roulette, thick rim | | | 246138 | 133451 |
| | PO-141 | Kiina mosque, pottery concentration | | | 246522 | 133640 |
| | PO-142 | concentration of pottery, lithics | | | 246901 | 134776 |
| | PO-144 | concentration of decorated pottery | | | 246855 | 134732 |
| | PO-145 | concentration of pottery (60× 60 m) | Bourdine, Roulette | finger impressions, knotted string | 246860 | 134766 |
| | PO-146 | concentration of decorated pottery (10× 10 m) | Roulette | open bowls, bevels on rim | 246907 | 134759 |
| | PO-147 | pottery scatters | Bourdine | crescent like impression | 247095 | 134931 |
| | PO-148 | concentration of pottery (50×50 m) | | | 247150 | 134948 |



CULTURAL HERITAGE ASSESSMENT

| Associated Development / Village | Site ID | Description of Site | Pottery Tradition | Analysis | Easting | Northing |
|----------------------------------|---------|---|---------------------------|-----------------------------------|---------|----------|
| | PO-149 | concentration of pottery | Bourdine | finger impressions, nail push | 247186 | 134970 |
| | PO-150 | concentration of decorated pottery (35x20m) | Urewe, Bourdine, Roulette | rim incisions, finger impressions | 247232 | 135009 |
| Kyakasambu | PO-24 | plain pottery | | | 248836 | 138229 |
| | PO-25 | a rim and plain potsherd, bone | | | 248852 | 138312 |
| | PO-60 | three cooking stone, plain pottery | | | 248804 | 138177 |
| | PO-61 | pottery, bones, shells | Roulette | mammilated | 248808 | 138206 |
| | PO-73 | pottery, bones | | | 249024 | 138435 |
| | PO-154 | potsherds and stone tools | | | 248805 | 138138 |
| | PO-155 | pottery scatters | | | 248906 | 138334 |
| | PO-156 | potsherds, bone | Bourdine, Roulette | stepped up ridges, knotted string | 248941 | 138381 |
| | PO-157 | concentration of pottery, jaw bone | Urewe, Roulette | hatched triangles, knotted string | 248957 | 138372 |



CULTURAL HERITAGE ASSESSMENT

| Associated Development / Village | Site ID | Description of Site | Pottery Tradition | Analysis | Easting | Northing |
|----------------------------------|---------|---------------------|-------------------|----------|---------|----------|
| | PO-158 | pottery scatters | | | 249014 | 138403 |
| | PO-159 | pottery scatters | | | 249356 | 138615 |



Lithics

A total of 88 lithic artefacts (ancient stone tools) were identified at 44 sites across the Study Area. The lithic artefacts included worked points, cores, whole flakes, hand axes, pick axes, scrapers, curve backed pieces, crescents and grinding stones (i.e., both heavy duty and light duty tools). Of particular note was a concentrated lithic artefact scatter within the proposed airstrip extension (Figure 8), potentially indicative of a lithic working site (industry). Other scatters were identified within the proposed CPF and Escarpment Road elements of the Project. Lithics artefacts were also noted close to the Jetty at Nsunzu and along the Pipeline route. At the start of the pipeline route, lithic scatter **LI-39** was found associated with a metal object (a possible bangle fragment **ME-04**), which may indicate a possible burial site.

Analysis of the materials suggests occupation spanning the Early Stone Age (ESA) period (e.g., hand axes at sites **LI-24** and **LI-25** in the vicinity of the Escarpment Road) to the Middle Stone Age Period (MSA) period (e.g., a pick-axe recovered in the vicinity of Kiina at site **LI-20**). There is also evidence for Late Stone Age (LSA) activity with the existence of crescents and curve backed pieces that were identified from Kyakasambu (**LI-37**) and Kyarushesha (**LI-16**).



Figure 8: A concentration of lithic artefacts at the proposed Airstrip extension

Three grinding stones were observed in the study area (**LI-07**, **LI-13**, **LI-15**). These relatively large stones (approximately 30 x 50 x 10 cm) are currently used for diverse purposes including washing feet and for drinking/feeding ducks and chickens. Some appeared to show evidence of grinding herbs (e.g., **LI-07**, (Figure 9).



Figure 9: Grinding stone with herbs from Kyakapere (LI-07)

At Baker's View, at the top of the Escarpment Road, a grinding stone was identified which suggests a historic food production function (Figure 10). This is particularly unusual for the region as the soils do not permit the survival and storage of most grains.

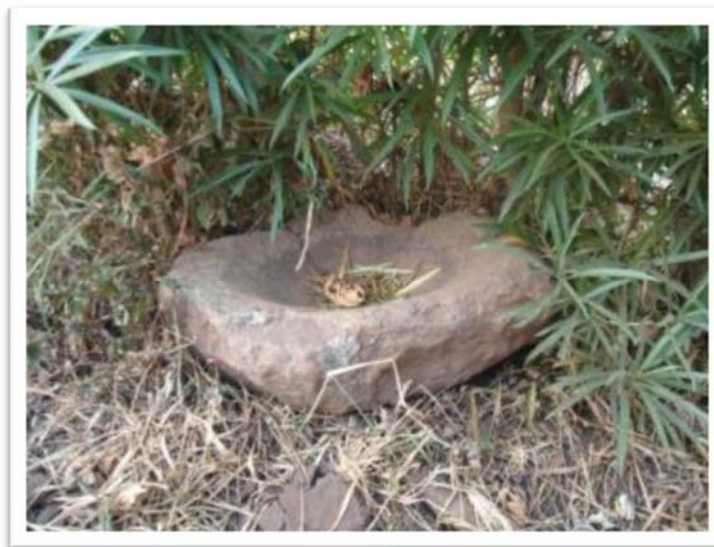


Figure 10: Grinding stone at Baker's View (LI-13)

Evidence of stone weights, presumably for fishing (Figure 11) were also identified in the Study Area at Kiina village. Although the stone's historic authenticity is debatable, similar stones and/or associated sites may provide improved data for the reconstruction of prehistoric fishing/economic activities at Lake Albert.



Figure 11: Fishing stone (LI-10)



CULTURAL HERITAGE ASSESSMENT

Table 3: Summary of lithic sites identified during the field survey

| Associated Development / Village | Location | Site ID | Analysis | Easting | Northing |
|----------------------------------|--------------------------|---------|--|---------|----------|
| Airstrip Extension | Kyakasambu-Nsonga border | LI-03 | scraper (lithics) | 240196 | 136934 |
| | Kyakasambu-Nsonga border | LI-04 | lithic core, scrapers, point | 249198 | 136934 |
| | Kyakasambu-Nsonga border | LI-05 | pyramidal core | 249235 | 136908 |
| | Kyakasambu-Nsonga border | LI-06 | lithic tool of chert raw material | 249209 | 136800 |
| | Kyakasambu | LI-27 | Lithic Scatter/Workshop | 249195 | 136944 |
| | Kyakasambu-Nsonga border | LI-41 | Lithic Scatter (3) | 249206 | 136791 |
| CPF | Kyakasambu | LI-08 | lithic in obsidian raw material | 249755 | 138748 |
| Escarpment Road | Ikamiro | LI-13 | grinding stone | 251144 | 135780 |
| | Ikamiro | LI-14 | coin, lithic core | 251184 | 135756 |
| | Ikamiro | LI-23 | Core | 2505867 | 135594 |
| | | LI-24 | Hand Axe | 250530 | 136074 |
| | | LI-25 | Pick Axe | 250512 | 136001 |
| | Ikamiro | LI-33 | pottery, lithics | 251193 | 135272 |
| | Ikamiro | LI-34 | lithics | 251105 | 135673 |
| | Nsonga | LI-35 | lithics <i>in situ</i> | 250573 | 135802 |
| | Ikamiro | LI-43 | straight side notched scrapper and 3 ritual stones | 250963 | 135846 |
| | Ikamiro | LI-44 | cores | 2505867 | 135594 |
| Pipeline | Kituuti | LI-15 | grinding stone | 254788 | 134302 |
| | Kyarushesha | LI-16 | barked lithic piece | 265077 | 146990 |
| | Izahura-Sayuuni | LI-26 | quartz core | 267787 | 147850 |
| | Kyakasambu | LI-39 | metal object, probable ancient burial, lithics | 249733 | 137646 |
| | Kabaale | LI-40 | pottery and lithics | 281351 | 159622 |
| Kiina -infield road | Kiina | LI-20 | pick axe | 247317 | 135066 |
| Materials yard | Kyakasambu | LI-36 | long bone, lithics, pottery | 249060 | 137996 |



CULTURAL HERITAGE ASSESSMENT

| Associated Development / Village | Location | Site ID | Analysis | Easting | Northing |
|----------------------------------|----------------------|---------|--|---------|----------|
| | Kyakasambu | LI-37 | lithics (typical LSA artefacts) | 249094 | 137871 |
| | Kyakasambu | LI-38 | lithics | 249085 | 137825 |
| Spoil Area-A | Kyakasambu/Kyakapere | LI-02 | scatters of plain pottery, quartz stone tool | 249841 | 138720 |
| | Kyakasambu/Kyakapere | LI-09 | scatters of plain pottery, quartz stone tool | 249841 | 138720 |
| Kiina | Kiina | LI-42 | shells and lithics | 247286 | 135056 |
| | Kiina | LI-10 | stone with a hole in the middle | 246305 | 133505 |
| | Kiina | LI-11 | pottery and a lithic pyramidal core | 247039 | 134913 |
| | Kiina | LI-18 | pottery scatters | 246117 | 133091 |
| | Kiina | LI-19 | scraper (lithics) | 247095 | 134931 |
| | Kiina | LI-28 | pottery scatters and lithics | 246202 | 133419 |
| | Kiina | LI-29 | concentration of pottery, lithics | 246901 | 134776 |
| | Kiina | LI-30 | shells and lithics | 247286 | 135056 |
| Kyakapere | Kyakapere | LI-07 | grinding stone | 250456 | 140437 |
| Kyakasambu | Kyakasambu | LI-21 | flake | 248941 | 138381 |
| | Kyakasambu | LI-31 | potsherds and stone tools | 248805 | 138138 |
| | Kyakasambu | LI-32 | lithics | 249057 | 138482 |
| | Kyakasambu | LI-12 | three cooking stone, plain pottery | 248804 | 138177 |
| Nsonga | Nsonga | LI-17 | scatters of pottery, lithic piece | 247857 | 137537 |
| Nsunzu | Nsunzu | LI-01 | pottery scatter, lithics | 246987 | 135477 |



Bones and Shells

Bones were recorded at 28 sites within the Study Area, the majority within the extent of the proposed Materials Yard. Most of the bones were in a fragmentary state and could not be analysed, although fish vertebrae and cow bones were noted. No fossilized bone was identified.

Seven shell sites were identified within the Study Area. There were recorded in the vicinity of Kabaale (Map 9). The shells mainly land snail shells, apart from one re-deposited marine shell at the Burrow Pit, possibly transported from the Jetty area during its upgrading. Analysis of these sites did not reveal any evidence that the shells were part of any midden (rubbish dump) deposits and consequently their anthropogenic nature is unproven. However, until any further analysis takes place (e.g., trial trenching) these sites may have archaeological potential, particularly where found in association with pottery and/or lithics (e.g., **BO-14**, in the vicinity of the proposed Materials Yard / Camp – Map 5).

Table 4 details the locations of the bone shell deposits recorded. These are depicted in relation to the proposed Project infrastructure in Maps 1 – 11, Appendix D).

Table 4: Summary of bone and shell sites identified during the field survey

| Associated Development / Village | Location | Site ID | Site Description / Analysis | Easting | Northing |
|----------------------------------|--------------------------|---------|-----------------------------------|---------|----------|
| Pad 4-1 | Kyakapere | BO-03 | bones, pottery (decorated) | 250777 | 141208 |
| Infield road | Kiina | BO-06 | tooth | 246986 | 134887 |
| Materials Yard | Kyakasambu | BO-13 | several bones | 249042 | 138014 |
| | | BO-14 | long bone, lithics, pottery | 249060 | 137996 |
| | | BO-15 | bone | 249134 | 138159 |
| | | BO-16 | bone | 248985 | 138132 |
| | | BO-17 | bone | 249045 | 138032 |
| | | BO-18 | bone | 249102 | 138000 |
| | | BO-19 | bone | 249056 | 138008 |
| Spoil area B | Kyakasambu | BO-21 | bone | 249839 | 135973 |
| | | BO-22 | bone | 249846 | 135992 |
| Pipeline | Kyakasambu | BO-20 | long bone | 249482 | 137672 |
| | Nyanseke (kaseeta) | BO-23 | jaw bone | 153141 | 276890 |
| | Kasoga | BO-24 | metal (probable hoe), molar tooth | 263565 | 145296 |
| | Izahura-Sayuuni | BO-25 | bones | 267787 | 147850 |
| | Kabaale | SH-04 | slag, shell, pottery | 282675 | 159209 |
| | | SH-05 | plain potsherd and shell | 281405 | 159313 |
| | | SH-06 | rim, slag and shell | 281963 | 160175 |
| Airstrip Extension | Kyakasambu-Nsonga border | BO-27 | bone | 249212 | 136920 |
| Borrow Pit | | SH-01 | redeposited shells | 250121 | 1336596 |
| Kiina | Kiina | SH-02 | shells and lithics | 247286 | 135056 |
| Kyakasambu | Kyakasambu | SH-03 | pottery, bones, shells | 248808 | 138206 |
| | | BO-07 | pottery, bones, shells | 248808 | 138206 |
| | | BO-08 | a rim and plain potsherd, bone | 248852 | 138312 |
| | | BO-09 | potsherds, bone | 248941 | 138381 |



| Associated Development / Village | Location | Site ID | Site Description / Analysis | Easting | Northing |
|----------------------------------|----------|---------|------------------------------------|---------|----------|
| | | BO-10 | concentration of pottery, jaw bone | 248957 | 138372 |
| | | BO-11 | pottery, bones | 249024 | 138435 |
| | | BO-12 | Bone | 249370 | 138580 |
| Nsonga | Nsonga | BO-01 | pottery, bone | 248013 | 137258 |
| | | BO-02 | pottery scatters and a bone | 248193 | 137298 |
| | | BO-28 | Bone | 247852 | 137643 |
| Nsunzu A | | BO-26 | Bones and Pottery | 246866 | 135456 |
| Kiina | Kiina | BO-04 | potsherds and a bone | 246099 | 133101 |
| | | BO-05 | bones and pottery scatters | 246095 | 133125 |

Metallurgical objects

Eight metallurgical objects were identified in the Study Area. These included a possible bangle piece (**ME-04**, Figure 15) and historic coins from Kiina and Ikamiro. The latter was associated with a site on the Escarpment Road (**ME-03**) and dated to the 1960s (Figure 12, Map 11 in Appendix D). Iron slag was also identified along the pipeline route (Figure 13) providing evidence of historic iron working.

The iron slag fragments were found exclusively along the pipeline route at the top of escarpment potentially indicative of Iron Age metal production in this area. This is further substantiated through associated Iron Age dated pottery found along the Pipeline route at seven of the nine slag locations (see Table 5 below). It is notable that no slag was found at the lakeside, suggesting settlement of the lakeside may have occurred at a later date, or that industrial production was solely focused on the escarpment top, where trade routes were more accessible.



Figure 12: A bangle fragment (**ME-04**), associated with lithic scatter **LI-39**, at the start of the proposed pipeline route/CFP



Figure 13: Pieces of Iron slag (site **SL-02**), associated with Iron Age pottery scatter (**PO-162**)

Table 5: Summaries the metallurgical finds within the Study Area

| Associated Development / Village | Location | Site ID | Site Description / Analysis | Easting | Northing |
|----------------------------------|--------------------------|-----------------------------------|---|---------|----------|
| Pipeline | Kabaale | SL-01 | slag, shell, pottery | 282675 | 159209 |
| | | SL-02 | pottery, slag | 281197 | 159003 |
| | | SL-03 | concentration of decorated potsheds and iron slag | 281910 | 160203 |
| | | SL-04 | rim, slag and shell | 281963 | 160175 |
| | Kaseeta (Nyanseke) | SL-05 | plain pottery and slag, church of Uganda | 276905 | 153245 |
| | Bukona | SL-06 | potsherds-necks of roulette, slag | 285249 | 160043 |
| | Kituuti | SL-07 | concentration of decorated potsheds and iron slag | 254846 | 134348 |
| | Kyakasambu | ME-04 | metal object, probable ancient burial, lithics | 249733 | 137646 |
| Kasoga | ME-05 | metal (probable hoe), molar tooth | 263565 | 145296 | |
| Escarpment road | Ikamiro | ME-03 | coin, lithic core | 251184 | 135756 |
| Airstrip Extension | Kyakasambu-Nsonga border | ME-01 | metal object | 249238 | 137008 |
| Kiina | Kiina | ME-02 | coin (1966) | 246383 | 133599 |

Historic Sites and Quarries

Four historic sites were identified in the Study Area (**HI-01 – HI-04**). In Kyakapere village the remains of a stone built structure, possibly house foundations, were noted (site **HI-01**). No other buildings with stone



walls / foundations were identified in the lakeshore villages. The site may have links with the 11th – 15th century-dated 'Zimbabwe' stone walled palaces and connections with central African traditions. The stones have continued in use serving as land boundaries and as protection against coastal soil erosion (Figure 14).



Figure 14: A stone foundation in Kyakapere (HI-01)

Site **HI-02**, an old settlement known to the community, lies within close proximity to the proposed Infield Road – Map 11, Appendix D. A salt making place (**HI-03**) was also recorded close to Nsonga. Although no longer in use this site is well known to the community. Baker's View, site **HI-04** is on the National Inventory of Cultural Heritage sites in Uganda and situated beyond the proposed infrastructure. The site marks the place where explorer Samuel Baker first saw Lake Albert, presently being developed as a tourist site and trail.

Two sites of historic quarrying (**QU-01** and **QU-02**) activity were identified within the Study Area, in a steep narrow gully approx. 200 m west of the Escarpment Road (Figure 15).



Figure 15: Historic Quarrying Activity (QU-01, QU-02) in vicinity of Escarpment Road/ Borrow Pit

Table 6: Historic Sites and Quarries Identified in the Study Area

| Associated Development / Village | Location | Site ID | Site Description / Analysis | Easting | Northing |
|----------------------------------|-----------------------------|---------|---|---------|----------|
| Kyakapere | Kyakapere Village | HI-01 | traditional stone house foundation | 250439 | 140447 |
| Spoil Area-A | Kyakasambu/ Kyakapere | HI-02 | old settlement | 250165 | 138731 |
| Nsonga | Nsonga | HI-03 | historic salt making place | 248270 | 137422 |
| Pipeline | Kituuti | HI-04 | Baker's view historical site - colonial | 254767 | 134310 |
| Escarpment Road/ Borrow Pit | Escarpment Road/ Borrow Pit | QU-01 | historic quarrying activity | 250037 | 136368 |
| Escarpment Road/ Borrow Pit | Escarpment Road/ Borrow Pit | QU-02 | historic quarrying activity | 250102 | 136352 |

Cultural Site Survey Results

Cultural sites

The results of the cultural site survey are summarised below. Due to the confidential nature of some of the cultural sites (e.g., secret sites) the GPS locations of culturally sensitive areas have not been revealed nor appended. They will be provided, as requested, to the Project design team.

The full list of the identified cultural sites (religious sites, cemeteries, sacred sites and medicinal plants) is presented in Table 15, and where appropriate these locations are mapped in relation to the proposed Project infrastructure on Maps 12 - 19 (Appendix E). An overview, showing the distribution of identified cultural sites is included in Figure 16.



CULTURAL HERITAGE ASSESSMENT

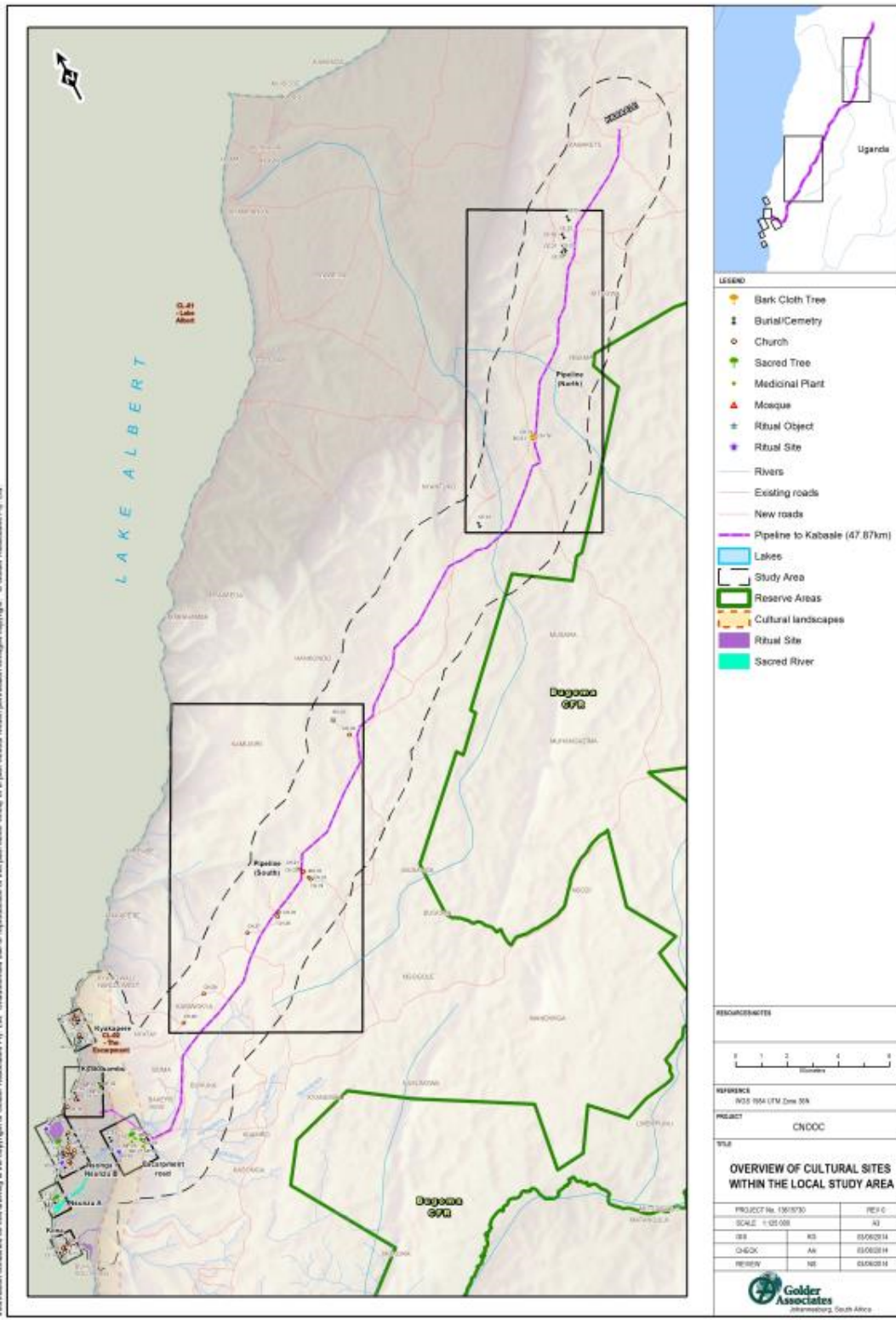


Figure 16: Overview of cultural sites identified in the Study Area





Churches and Mosques

A total of 28 churches (**CH-01 - CH-28**, Table 7) were identified within the Study Area. These can be broadly categorized as Seventh Day Adventist, Pentecostal, Church of Uganda, Roman Catholic Church and Faith of Unity Church. Nsonga has the greatest number of churches with a total of six recorded. Christianity was found to be prevalent across the villages surveyed, commonly sitting alongside traditional animist activities.

Three mosques were identified within the Study Area, at Kyakapere (**MO-01**), Kiina (**MO-02**) and Kasoga (**MO-03**) (Table 7).

The religious buildings recorded are indicative of those throughout the Study Area, given that not every village was surveyed (i.e., those inaccessible areas along the pipeline route) and churches were seen to be in construction. Subsequently there remains a potential for previously undocumented churches and mosques throughout.

Table 7: Churches and Mosques Identified within the Study Area

| Associated development/Village | Location | Site ID | Description | Northing | Easting | |
|--------------------------------|--------------------|---------|---|-------------------------|---------|--------|
| Nsunzu B | Nsunzu B | CH-01 | Nsunzu Seventh Day Adventist Church | 248023 | 136327 | |
| | Nsunzu B | CH-02 | Nsunzu Pentecostal Church Uganda | 248028 | 136390 | |
| | Nsunzu B | CH-03 | Nsunzu Church of Uganda | 247980 | 136419 | |
| | Nsunzu B | CH-04 | Emmanuel Mission Uganda church | 248019 | 136670 | |
| Kyakapere | Kyakapere | CH-05 | Kyakapere Catholic Church | 250565 | 140600 | |
| Nsonga | Nsonga | CH-06 | Nsonga Church of God | 248154 | 136744 | |
| | Nsonga | CH-07 | Nsonga Face of Unity Church | 248313 | 136602 | |
| | Nsonga | CH-08 | Christ is the Way Church Nsonga | 248378 | 136694 | |
| | Nsonga | CH-09 | Nsonga Church of Uganda | 248209 | 136902 | |
| | Nsonga | CH-10 | Kiguli zone Catholic Church Lwemisanga parish | 248346 | 137051 | |
| | Nsonga | CH-11 | Nsonga Miracle Church | 248483 | 137391 | |
| Pad 4-2 | Kyakapere | CH-12 | Charismatic Episcopal church (CECU) | 250730 | 141231 | |
| | Kyakapere | CH-13 | Church of God | 250798 | 141196 | |
| Kiina | Kiina | CH-14 | Kiina Catholic Church | 246259 | 133516 | |
| | Kiina | CH-15 | Kiina Church of God | 246236 | 133352 | |
| | Kiina | MO-02 | Kiina Mosque | 246522 | 133640 | |
| Kyakapere | Kyakapere | MO-01 | Kyakapere Mosque | 250682 | 141315 | |
| Kyakasambu | Kyakasambu | CH-16 | Kyakasambu Church of Uganda | 248899 | 138310 | |
| | Kyakasambu | CH-17 | Kyakasambu Pentecostal Church | 249324 | 138417 | |
| Pipeline | Kaseeta (Nyanseke) | CH-18 | Church of Uganda | 276905 | 153245 | |
| | Kyarushesha | CH-19 | Kyarushesha Church of Uganda | 265243 | 146174 | |
| | Kasoga town | CH-20 | Faith of Unity church | 261137 | 142423 | |
| | Kasoga B | | CH-21 | Kasoga Catholic Church | 261248 | 142283 |
| | | | CH-22 | Fountain of Life Church | 261335 | 141968 |
| | | | CH-23 | Kasoga Church of Uganda | 261373 | 141872 |
| | | MO-03 | Tawehid Mosque | 261201 | 142319 | |



| Associated development/Village | Location | Site ID | Description | Northing | Easting |
|--------------------------------|------------------------------|---------|---|----------|---------|
| | Buhumuliro-Kyarujumba | CH-24 | Itambiro Iya Bisaka (Faith of Unity Church) | 259661 | 141293 |
| | | CH-25 | Buhumuliro Church of Uganda | 259554 | 141160 |
| | Nyansenge Kamwokya - Hanga B | CH-26 | Fountain of Life Church | 258228 | 141140 |
| | | CH-27 | Nyansenge St.Peter's Catholic Church | 255643 | 139809 |
| | | CH-28 | Kamwokya Church of Born Again | 254427 | 139158 |

Cemetery Sites

A total of 30 cemetery/burial sites were identified within the Study Area. These were found to be communal (village), personal (individual or family) or for a particular clan (Table 8). Two broad groups of burials were noted – modern, with cemented tombs or traditional soil heaped graves, often demarcated with stones (Figure 17). The burials located in proximity to proposed pad 4-2 / in-field road at Kyakapere (CE-12 – 14) are of particular note, exhibiting both traditional ways and modern forms of burial (Map 15, Appendix E).



Figure 17: (a) Traditional burial and (b) Modern burial in Kiina

Table 8: Burial sites

| Associated Development Area / Village | Site ID | Description | Northing | Easting |
|---------------------------------------|---------|----------------------|----------|---------|
| Nsunzu A | CE-01 | burial (2 graves) | 246788 | 135312 |
| Nsunzu A | CE-02 | burial | 246764 | 135286 |
| Nsunzu A | CE-03 | burial site | 246764 | 135286 |
| Nsunzu A | CE-04 | burial site | 246788 | 135312 |
| Nsunzu B | CE-05 | burial of 4 graves | 247737 | 136348 |
| Nsunzu B | CE-06 | grave yard | 248145 | 136611 |
| Nsunzu B | CE-07 | community grave yard | 248197 | 136581 |
| Nsunzu B | CE-08 | grave yard | 247852 | 136744 |
| Nsonga | CE-09 | Bakubya clan burial | 247985 | 136786 |



CULTURAL HERITAGE ASSESSMENT

| Associated Development Area / Village | Site ID | Description | Northing | Easting |
|---------------------------------------|---------|--------------------------------|----------|---------|
| Nsonga | CE-10 | burial (2 graves) | 247942 | 136830 |
| Nsonga | CE-11 | cemetery | 248373 | 137311 |
| Kyakapere | CE-12 | burial | 250711 | 141123 |
| Pad 4-2 - Kyakapere | CE-13 | cemetery | 250751 | 141304 |
| Pad 4-2 - Kyakapere | CE-14 | burial | 250762 | 141304 |
| Pad 4-2 - Kyakapere | CE-15 | cemetery | 250815 | 141199 |
| Kyakapere | CE-16 | cemetery | 250615 | 140536 |
| Kyakapere | CE-17 | burial (3 people) | 250511 | 140438 |
| Spoil Area-A - Kyakasambu | CE-18 | grave | 250407 | 138525 |
| Kiina | CE-19 | cemetery (30 graves) | 246076 | 133345 |
| Kiina | CE-20 | cemetery | 246331 | 133514 |
| Kiina | CE-21 | burial (1; Udongo) | 246781 | 135311 |
| Kyakasambu | CE-22 | community cemetery (6 graves) | 249396 | 138602 |
| Kyakasambu | CE-23 | burial (1 grave) | 249388 | 138460 |
| Pipeline - Kyakasambu | CE-24 | metal object | 249733 | 137646 |
| Pipeline - Kabaale | CE-25 | burial of three graves | 281467 | 159625 |
| Pipeline - Kabaale | CE-26 | burial with 2 graves | 281446 | 159631 |
| Pipeline - Kabaale | CE-27 | burial of three graves | 281264 | 159227 |
| Pipeline - Kabaale | CE-28 | grave yard of one burial | 281270 | 159140 |
| Pipeline - Kabaale | CE-29 | burial for 8 people | 281930 | 160167 |
| Pipeline - Bitagata | CE-30 | two graves | 273449 | 151155 |

Sacred Sites

Animist activity and areas set aside for traditional ceremonies (tied to a particular natural place of cultural significance e.g., Lake Albert) were observed during the field survey programme and disclosed to the field team during the community consultation phase. Four broad categories of sacred sites were identified within the Study Area: Ritual Sites, including sacred pools and beaches; Sacred Rivers; Sacred Trees and/or Cultural Trees; and Ritual Objects. These are discussed individually below.

Many of these sites were disclosed in confidence and are considered secret and highly sensitive. During disclosure the interviewees often made reference to the rituals they would have to perform as a result of their discussions with the field team (and the site's exposure). Consequently (where appropriate) sacred sites are discussed with limited reference to their geographic location. A complete list of site grid references and location maps will be presented to the client to assist Project planning and these will be disseminated purely on a 'need to know' basis.

The cultural site maps (Maps 12 to 19, Appendix E) include redacted buffers to give an idea of the distribution of sensitive sacred sites throughout the Study Area. An accurate depiction of individual sacred site locations in relation to Project development will be presented to the client to assist in Project planning.

The information pertaining to these sites is constrained by the information which the communities were willing to share with the field team, and to those villages accessed during the cultural survey. As such, there remains a potential for as yet unrecorded sacred sites (and related intangible activity and taboo) to exist. The following sites are therefore considered representative of others (as yet unrecorded) within the Study Area.





Secret shrine sites within individual houses are also believed to exist. These are controlled by the head of the family and are not for public viewing or discussion. Although no sites were specifically identified by the field team however they were mentioned to exist within the lakeside communities.

Ritual Sites

Luzira Site – Confidential Site

Among the traditional places of worship identified, and commonly discussed by the community local to the Kingfisher Field Development area is the 'Luzira' (RS-03). Luzira is also the name of Uganda's major prison, appropriate given the sites inaccessibility (surrounded by swamp and reed beds and home to hippos) and suggestive of valuable cultural resources imprisoned within it. The site and surrounding area is an active place of worship. It is also the historic centre of cultural activity, where traditionally pilgrims would travel some distance (e.g., from Tonya) to stay within the swamp for nine consecutive days, to make offerings and conduct ritual activities. Stories surrounding the site suggest the presence of a giant/ magic crocodile, who would be called upon during the ceremonies (e.g., at the start of the dry season) to summon fish to the lake shore and to improve catches. For some members of the community the site is historically a 'no go' area and women, in particular, were prevented from accessing the surrounding beach.

Kasonga or Akasonga Beach – Confidential Site

At the Kasonga site (RS-01 and RS-02) is located on the beach front surrounding the site RS-03 (Luzira) vaguely between the Jetty and Nsunzu B and on to Kiina Village and the mouth of the River Masika. Ritual ceremonies take place specifically for fish catches i.e. when Lake stocks appear low and/or the fishermen have any troubles. The ceremonies involve making offerings, including the burning herbs on the beach shore. The villagers consulted at Nsonga (Appendix C – interview transcripts) referred to the region's cultural leader, known locally as 'Mukoby'a' ('weapon') who is called upon when fishing is particularly poor. Mukoby'a carries out a ceremony involving the sacrifice of a sheep, and chanting, until a big stone rises up out of the lake before sinking to bottom. It is believed that when the stone disappears the fish become abundant once more.

Sacred Pool – Confidential Site

A secret Sacred Pool site (RS-04 and RS-05) was located on the River Masika. The site is well known by the elders of the local community (particularly Nsonga and Kyakapere), it is considered taboo for the younger members to go here. A number of stones for sacrifice were located within the water. The site is utilized during cholera outbreaks in particular, and if required, the local cultural leader travels from his village to oversee the rituals. A specific ceremony was mentioned for sick babies – a cultural leader would take the child and an egg to this spot, perform a ritual and slaughter a chicken, after which the sickness would disappear. The River Masika itself (SR-01) is noted as having cultural significance, and is discussed further in the sections below.

The location of the pool was given to the field team in confidence. It has been recorded and mapped and will only be made available to the project design team as required.

Table 9: Sacred Pools/Beach within the Study Area

| Associated Development / Village | Location | Site ID | Type | Easting | Northing |
|----------------------------------|--------------------------|--------------|-------------|--------------|--------------|
| Nsonga | Akasonga / Kasonga Beach | RS-01, RS-02 | Sacred Pool | Confidential | Confidential |
| Jetty / Infield Road | Luzira Site | RS-03 | Sacred Pool | Confidential | Confidential |
| Escarpment Road / Borrow Pit | On the River Masika | RS-04, RS-05 | Sacred Pool | Confidential | Confidential |





Sacred Rivers

Nsonga and Kiina villagers mentioned the importance of the River Masika (**SR-01**). Areas on the river bank are used regularly for ceremonies to improve fish catches (in February / March) and occasionally to cure sick children. The mouth of the River at Kiina is considered especially significant in this regard, particularly where the river meets the lake.

Sacred, Cultural and Bark Cloth Trees

Sacred Tree – Confidential site

A secret tree is called ‘Uriyang’ (meaning ‘sacred place’) was highlighted by individuals at a village on the lakeshore. The tree is very important for the village, revered and feared as a place ‘where bad things happen’. Motor boats and shouting might be heard in the area of the tree but they are never seen. A famous fire-breathing snake may sometimes reside in the tree.

- A number of taboos (rules) are related to this tree including:
- People do not walk near the tree;
- If you need to get to the land behind the tree, you must take a big diversion around it;
- No women should ever go near the tree; and
- You must never point at the tree. If a child accidentally points at the tree a special ceremony takes place to protect that child.

Three other trees of cultural importance were noted; the details are presented in Table 10. A bark cloth tree (Mutuba tree *Ficus natalensis*) was identified along the pipeline route at Kaseeta. Bark cloth making is an ancient craft and is listed on UNESCO’s intangible world heritage list (http://www.unesco.org/culture/intangible-heritage/40afr_uk.htm). The Bark Cloth tree (**BC-01**) on the pipeline route and a sacred tree on the Escarpment Road (**ST-02**) are also secret sites.

The location of these trees was given to the field team in confidence. They have been recorded and mapped and will only be made available to the project design team as required.

Table 10: Sacred and Cultural Trees identified within the Study Area

| Associated Development / Village | Location | Site ID | Type | Description | Easting | Northing |
|----------------------------------|--------------------|---------|-----------------|-----------------------|--------------|--------------|
| Infield Road | Confidential | ST-01 | Sacred Tree | Sacred Tree | Confidential | Confidential |
| Escarpment road | Kyakasambu | ST-02 | Sacred Tree | Sacred/ cultural Tree | Confidential | Confidential |
| Nsonga | Nsonga | CT-01 | Cultural Tree | Village Assembly Tree | 247978 | 137179 |
| Pipeline | Kaseeta (Nyanseke) | BC-01 | Bark Cloth Tree | Bark Cloth Tree | Confidential | Confidential |





Figure 14: Cultural Tree **CT-01** - village assembly tree at Nsonga

Ritual Objects

Three places of ritual were identified within the Study Area during the cultural survey. These locations are considered secret.

Table 11: Ritual Objects and Sites identified within the Study Area

| Associated Development / Village | Location | Site ID | Type | Description | Easting | Northing |
|----------------------------------|-------------|---------|---------------|--------------------|--------------|--------------|
| Kyakapere | Kyakapere | RO-01 | Ritual Object | feet washing stone | Confidential | Confidential |
| Escarpment road | Ikamiro | RO-02 | Ritual Object | 3 ritual stones | Confidential | Confidential |
| Pipeline | Kyarushesha | RO-03 | Ritual Object | stone for worship | Confidential | Confidential |

Cultural Landscapes

Two areas of cultural landscape (**CL-01** and **CL-02**) were identified within the Study Area during the baseline field survey. These have been recognised with reference to the UNESCO definition of an 'associative cultural landscape': "...justifiable by virtue of the powerful religious, artistic or cultural associations of the natural element" (<http://whc.unesco.org/en/culturallandscape/#2>).

Both Lake Albert (**CL-01**) and The Escarpment (**CL-02**) are iconic features of the natural landscape, defining the local (communal) sense of place and apparent (traditional) cultural associations of the natural features (rivers, lakes, trees). Both sites provide a strong historic and religious focus for the lakeside communities in particular, evident within the oral traditions and the sacred places associated with both locations. The value of both sites is heightened by their palaeontological, archaeological and historic potential. The extents of the both features are highlighted within Maps 12 – 19, Appendix E.



Figure 18: The Escarpment, viewed from Nsunzu Village

Intangible Cultural Heritage

According to the 2003 'Convention for the Safeguarding of the Intangible Cultural Heritage' (UNESCO), the intangible cultural heritage (ICH) – or living heritage – is the mainspring of humanity's cultural diversity and its maintenance a guarantee for continuing creativity. In the context of the Project area intangible heritage is defined as as the traditional practices, cultural norms and knowledge transmitted from one generation to the next, which communities or individuals recognise as part of their cultural heritage. These elements are recognised by Uganda's Cultural Policy (2006).

A number of intangible heritage practices were identified during the interview phases with common practices and beliefs observed in the different villages. Appendix C (interview transcripts) describes some of these practices in full. Where specific taboos are associated with a particular site (e.g., a sacred tree) these are also documented in this report.

A summary of intangible heritage identified within the survey is presented below for ease of reference. It should be noted that this is collated from information the community was willing to share, there may be rules governing certain places, or ceremonial practices that were considered too sensitive to share with the field team.

Making Ghee

Traditional ghee (*ebisisi*) making was evident within the Study Area, mainly practiced by the Balalo pastoralist community ('cattle keepers'). Those communities interviewed in the vicinity of the Kingfisher Field Development (Spoil Area A) were proud to show the field team their hand crafted and valuable ghee storage gourds (Figure 19), kept within their huts.



Figure 19: Gourds for making ghee

Animal Husbandry and Architecture

Hand built shelters for ducks and chickens were observed within the villages surveyed by the field team. Traditionally built houses, without any manmade materials, were also prevalent amongst the isolated communities on the Buhuka Flats. Although not unique in remote Uganda, these structures are representative of traditional lifestyles and knowledge that may change as a result of the Project (and related economic developments, increased availability of other building materials, etc.) The practice of constructing a house is done by men only with women only allowed to smear the house to finish off the building.



Figure 20: Handmade huts for keeping poultry: Kyakapere (l) and Kyakasambu (r)

Local Legends and Revered Species



Throughout the lakeside villages consulted during the community survey some common beliefs and practices were identified.

Traditional ceremonies (carried out at specific places) occur when there are specific problems to deal with, in times of sickness and/or poor fishing in particular. There ceremonies were sometimes noted to call on either a giant snake or crocodile:

- Snakes (pythons in particular) were mentioned as special and revered at all six lakeside communities. A giant lucky snake can be seen bring good fortune to those who see it (once the elders have carried out the right rituals). Villagers also mentioned that snakes were not common, and in the event that one decides to come into your house, you should leave immediately as it would be considered an honor for that snake to choose your house in particular.
- A python that breathes fire was also referred to by the community at Nsunzu. This snake resides in the Sacred Tree (**ST-01**) and can be seen swimming in the Lake. A fire breathing snake was also mentioned by an interviewee in Kyakapere – the snake resides on the escarpment and is usually seen by fishermen out on the lake. Once the snake is spotted the fishermen always get a good catch.
- Other villagers (in Kyakapere) mentioned a giant crocodile, which swims up and down the shore line and can bring or take away the fish shoals as he chooses.
- Interviewees at Nsunzu and Kyakapere referred to a speed boat sound, commonly heard out on the lake, in the bush or up on the escarpment. The noise is unlucky and brings bad fortune. Sometimes it sounds like people drowning on the water and when people go to rescue, there is never anyone there.

Beliefs associated with Lake Albert

- Historically, pregnant women were not allowed to fetch water from the Lake, especially during mid-day and late evening for fear of evil spirits roaming the area which would cause miscarriages. It is also traditionally taboo for women to fish or bathe in the Lake, particularly in the area surrounding the Luzira site (**RS-02**).
- There is a common practice that takes place when children get a severe illnesses - they are taken into the lakeshore where a ceremony is carried out, the cultural leader (*Uma*) chants certain words then throws a spear into the water.
- Nsonga, being closest to the spiritual centre of Lake Albert, 'Luzira' (**RS-02**), would historically initiate rituals when fish stocks were particularly low. Villagers in Kyakapere mentioned how residents from Nsonga would pass through the villages, collecting money and food for rituals to boost the fish catches for the surrounding communities. A rare (but still practiced) tradition involves the blessings of new boats and nets to be taken to the water involving the sacrifice of a white cock.
- Historically, pounding cassava, splitting firewood and fetching water during the night was not allowed since it was taken as a sign of disrespect to the ancestors, and fish numbers would decrease as a result.
- There is a tradition that, as a sign of respecting the fish and to ensure their continued supply from the Lake, if a woman comes from the escarpment top with cassava flour, it is up to her husband to prepare it to accompany a fish. When the woman leaves the lake shore to return she is then given a fish to take back up.

Oral History and Village Naming

- The name Nsunzu is derived from the name of the green grass that grows in the place that is very good for feeding cattle.
- Kyakapere was derived from a man who first settled in the village called Kapere and whoever came to the village referred to it as Kapere's place, hence the name Kyakapere literally meaning a village for Kapere.



- Kiina is a village name given by a small ship from Butiaba that needed to anchor in deep waters and found such a spot being in this area - Kiina means deep water in Runyoro.
- Nsonga is called so because it is at the tip of the lake on the lake side shores.
- Kyakasambu is named after the man who first settled – Basambu.

Traditional Religious Cults

A traditional local religion called “*Lam-the-Kwar*”, which has its roots in the Nebbi district (Northern Uganda), is led by a priest in Kyakapere. The leader’s house is the centre of all activities which involve ceremonies on a Tuesday and Sunday (with drums, singing and dancing). The house is located in the centre of Kyakapere village.

Traditional Medicine

It was noted by the field team that many of the grasses, trees and shrubs present within the Study Area can be used as medicine. Those sites specifically identified and drawn on Map 16, Appendix D (sites **MP-01** – **MP-08**) were those within the footprint of proposed infrastructure developments (Spoil Area A and the Escarpment Road).

Table 12 below summaries the medicinal / traditionally used plant species observed within the Study Area and identified by the field team. ‘Secret plants’ were also mentioned to be used by women in labour, specifically to address complications with the afterbirth.

Table 12: Traditional Plant names and uses

| Local Plant name | Disease it cures |
|------------------|--|
| Omwoyante | Malaria (boiled leaves) |
| Kyangwe | Used for sponges (MP-02) Leaves for ringworm |
| Tengo | Backache, bilharzia Teeth: use the roots Remove poison: fruits Ebisebe: flowers |
| Omulisana | Ringworms Hook worms |
| Omukoma | Constipation Allergy: the stem |
| Ekiryabiruku | Cough |
| Kibeere | Cough, making the placenta stable |
| Omususa | Allergy, syphilis |
| Omupeera (guava) | Cough (leaves), asthma (roots) |
| Omusheshe | Allergy (leaves and roots), syphilis (stem), |
| Omukwatange | Fibroids (stems and roots) |
| Akagando | Wounds locally called ebironda (leaves), asthma (roots) Allergies Teeth |
| Omululuza | Worms, malaria, wounds, and burns. Note: it has to be picked early in the morning when the chlorophyll is in the leaves but if the roots are to be used it is advisable to pick them in the evening. |
| Omushebashebe | Pancreas (stem to be drunk). |





CULTURAL HERITAGE SITE VALUATION

For the purposes of the impact assessment all sites recorded within the Study Area have been rated in terms of their cultural heritage value. This baseline value is derived from a consideration of each feature or site in terms of its form, survival, condition, complexity, context and period.

Valuation has been calculated in terms of a perceived research worth and with reference to IFC Performance Standard 8 designations ('replicable', 'non-replicable' and 'critical'). It also takes into account the scale at which the site matters (e.g., local or regional) and their rarity. The results of the valuation process are presented in Table 13.

The following values (high - very low) have been applied to the identified cultural heritage site types within the project area:

A four point qualitative system was used:

- **High** - Archaeological and historic sites considered to be of national or international importance with the greatest potential for further, significant discoveries to be made. Also, rare and previously unstudied features with a high potential for further research. Cultural sites which have been frequented by the local community for longstanding cultural purposes and those which attract visitors from further afield. Sites associated with oral history and which are representative of a number which no longer exist. Sites which are non-moveable (e.g. associated with natural features). 'Critical' or 'non-replicable' cultural heritage sites (as defined by IFC PS 8, 2012).
- **Medium** - Archaeological and historic sites considered to be of regional or national importance with some potential for further discoveries and research value. Cultural sites which may be no longer in use but are known to the community and associated with settlement history/oral history. Cultural sites which are common and potentially 'replicable' (as defined by IFC PS 8, 2012).
- **Low** - Archaeological and historic sites considered to be of local importance. Features which are very common or very poorly preserved with very limited research potential, or those which are common and very well researched. Cultural sites which are very common and 'replicable' - in the sense that new buildings (e.g., churches) can be established.
- **Very Low** - Archaeological and historic sites which are considered to be of very limited importance. Features which are mostly already destroyed and/or with no research potential. Cultural sites which are defunct, with no local importance or historic value.

Table 13: Summary Valuation of Identified Cultural Heritage Sites

| Site Type | Sub Category | Site IDs | Value | Notes |
|-----------|--|--|--------|--|
| Pottery | Kansyore/ Neolithic (c.6000- 5000 cal. B.C.) | PO-161 PO-182 | Medium | Indicative of seasonal hunting/fishing activity. Shows cultural interactions with Sudan, Kenya and Tanzania. Regional research potential. |
| | Urewe/ Early Iron Age (500BC – AD 700.) | PO-49, 84, 130, 150, 152, 157, 167, 180 | Medium | Indicative of seasonal activity. Potential settlement. Shows cultural interactions Kenya. Regional research potential. |
| | Bourdine/ Mid Iron Age (undated) | PO-05, 52, 55, 56, 71, 80, 94, 103, 110, 116, 119, 127-130, 135, 137, | High | Indicative of seasonal activity. Potential settlement. National research potential – to establish first radiocarbon date for the Middle Iron Age in Uganda |





CULTURAL HERITAGE ASSESSMENT

| Site Type | Sub Category | Site IDs | Value | Notes |
|--------------|-----------------------------------|--|---------------|--|
| | | 145, 147, 149, 150, 152, 153, 156, 178 | | |
| | Roulette/ Late Iron Age (undated) | PO-56, 71, 138 | High | Indicative of seasonal activity. Potential settlement – concentrated at Kiina. National research potential – to establish first radiocarbon date for the Late Iron Age in Uganda |
| | Other undated pottery scatter | PO-01-04, 06-48, 50, 51, 53, 54, 57-70, 72-79, 81, 83, 85-93, 95-102, 104-109, 111-115, 117, 118, 120-126, 131-134, 136, 139-144, 146, 148, 151, 154, 155, 158-166, 168-177, 179, 181. | Low | Undecorated pottery. No rims or bases to aid dating/topology. Very limited research potential. As sum, scatter can provide evidence of industrial and/or settlement activity |
| Lithic Sites | Early Stone Age | LI-24, LI-25 | Medium - High | Evidence of lithic industry complexity and development at this period in relation to technological evolution and climate change. Can be used to infer and recreate 'craft' and subsistence activities. Regional / National research potential – develop regional cultural sequence. ESA evidence is very rare and poorly studied to date. |
| | Middle Stone Age | LI-20 | Medium - High | Evidence of lithic industry complexity and development at this period. Can be used to infer and recreate 'craft' and subsistence activities. Regional / National research potential – develop regional cultural sequence. MSA not widely studied in Uganda/ very little evidence - the period is crucial to understanding the emergence of modern human behaviour. |
| | Late Stone Age | LI-37, 16 | Medium | Evidence of lithic industry complexity and development at this period. Can be used to infer and recreate 'craft' and subsistence activities. Regional research potential – develop regional cultural sequence. Using the identified |



CULTURAL HERITAGE ASSESSMENT

| Site Type | Sub Category | Site IDs | Value | Notes |
|----------------|--|--|--------------|--|
| | | | | artefacts from Early, Middle and Late Stone Age vastly improves the quality of any potential research as a more cohesive sequence can be developed. |
| | Undated Lithic Scatter & Grinding Stones | LI-01–12, LI-14 –LI-15, 17-19, 21-23, 26-36, 38-44 | Low | Undated, non-distinct material provides little research potential in developing local/regional typological sequences. Lithic scatters may be useful indicators of subsurface archaeological remains. |
| | Grinding Stone at Baker's View | LI-13 | Low - Medium | Bakers View grindstone is part of Baker's View site as a whole and so has elevated sensitivity. Maybe used to infer past subsistence strategies – food processing remains scarce in this region. |
| Faunal Remains | Shells and Bone | BO-01-28, SH-01-06 | Very Low | All faunal remains, none of which are fossilised. Assumed that no remains are of significant antiquity. Research potential is very low. |
| Metal Objects | Coins | ME-02, 03 | Low | Demonstrates modern period occupation in area. Very little research potential. |
| | Iron Objects and Slag | ME-01, 04, 05, SL-01-07 | High | Provide rare examples of metal objects and evidence of past metal production in region. Regional research potential is high, and may be of national significance. |
| Quarry Sites | Historic Quarrying Activity | QU-01, QU-02 | Low | Very little research potential, unknown age. |
| Historic Sites | Salt Making Site | HI-03 | High | National value, unknown antiquity, salt-making sites further north at Kibiro are on Uganda's tentative World Heritage nominations list. |
| | Baker's View | HI-04 | High | Colonial-age site, on the National Museum's Inventory of cultural heritage sites in Uganda |
| | Stone House Foundations | HI-01 | Medium | Stones used in the village to define boundaries and protect from erosion. Stones gathered from the escarpment, rare in the area, no other examples seen. |
| Ritual Objects | Stones | RO-01 – RO-03 | High | Stones used for traditional worship. |
| Cultural Sites | The Escarpment | CL-02 | High | Associated with myth and oral history. A cultural landscape with tangible historic connections to the present communities. |
| | Lake Albert | CL-01 | High | Associated with myth and oral history. A cultural landscape revered by the present community. Ceremonies carried out on the lake to improve fishing/help with sickness. |



CULTURAL HERITAGE ASSESSMENT

| Site Type | Sub Category | Site IDs | Value | Notes |
|-----------|--|---------------|--------|--|
| | Medicinal Plant Sites | MP-01 – MP-12 | Medium | These sites provide a representative sample, there are believed to be many others in frequent use for medicinal purposes. For humans and animals. |
| | Luzira | RS-03 | High | Associated with oral tradition, taboos and ceremonial activity. In frequent use. |
| | River Masika | SR-01 | High | Associated with oral tradition, taboos and ceremonial activity. In frequent use. |
| | Mouth of the River at Kiina | RS-06 | High | Associated with oral tradition, taboos and ceremonial activity. In frequent use. |
| | Beach at Nsonga (Akasonga / Kasonga Beach) | RS-01 | High | Associated with oral tradition, taboos and ceremonial activity. In frequent use. |
| | Akasonga /Kasonga Beach at Jetty | RS-02 | High | Associated with oral tradition, taboos and ceremonial activity. In frequent use. |
| | Sacred Trees | ST-1 – ST02 | High | Secret Site. Associated with taboo and ritual. Feared by the community. |
| | Sacred Pool | RS-04, RS-05 | High | Secret Site. Associated with taboo and ritual. |
| | Family Shrines | n/a | High | Highly secret. Within individual houses, controlled by head of the family. |
| | Burial Sites | CE-01 – CE-30 | High | Burial sites are highly sensitive, frequented by the communities for longstanding cultural purposes. Associated with ancestors and/or settlement founders and/or present families. There remains a potential for previously unrecorded burial sites to remain within the study area, particularly on the pipeline route (where inaccessible, not surveyed) |
| | Churches | CH-01 – CH-28 | Low | Churches are considered of low significance since they are used by the local community (individual villages) and can be rebuilt in another location (relocated) if required |
| | Mosques | MO-01 – MO-03 | Low | Mosques are considered of low significance since they are used by the local community (individual villages) and can be rebuilt in another location (relocated) if required |

Conclusions and Recommendations

The cultural heritage study has established a potential for remains of significant archaeological and cultural value within the project area. The pottery sherds and lithic scatter recovered provide evidence of human activity from the Stone Age through to the Iron Age periods with the oral history suggesting that the present communities have occupied the lakeside villages for at least the last 200 – 50 years.

Archaeology





Overall, the identified pottery shows the potential of the areas surveyed to provide a complete cultural sequence that has been lacking not only in Uganda but the Great lakes region as a whole (Kyazike, 2014). The concentration of pottery at Kiina and Kabaale is suggestive of large scale production / industrial activity while the concentrations of surface scatter throughout the Study Area may be indicative of more localized settlement. Particular centres of heightened archaeological potential have also been identified in the vicinity of the in-field roads, the CPF, the airstrip and the escarpment (pottery and lithics). Presently, without any subsurface investigation, it is unknown whether the scatters are associated with any below-ground archaeological sites. Further investigation will be required in order to determine whether these scattered artefacts are associated with any substantial archaeological features.

Consequently CNOOC will schedule a small-scale scheme of archaeological (hand-dug) test-pitting during pre-construction, focused at locations of heightened potential. This will enable a fuller characterisation of the archaeological environment, to better inform mitigation requirements, and remove the risk of construction delays or the potential accidental destruction of significant archaeological material. It is suggested that this programme be carried out alongside further survey work to address those archaeological and cultural baseline gaps currently outstanding (i.e., along the pipeline route).

As an immediate recommendation CNOOC is advised to enhance its existing commitments with regard to cultural heritage within a Cultural Heritage Management Plan (CHMP), to be included in the existing Construction EMP. This CHMP should include a project-specific Chance Find Procedure (CFP) to deal with the disturbance of accidental archaeological 'finds' in accordance with both IFC PS 8 (2012) and Ugandan Historic Monuments Act (1968). The CFP must form part of the site induction process, for all contractors and CNOOC staff.

Cultural sites and intangible heritage

Cemeteries have also been identified throughout the Study Area, particularly in the vicinity of the villages but also alongside the proposed pipeline route and Kingfisher field infrastructure. Cemeteries are mostly associated with particular villages although a small number are recognised as traditional cemeteries, associated with a lineage. These sites are important because they provide a direct link with the communal past and religious activity.

The cultural baseline field survey has also identified highly sensitive and secret sacred sites (e.g., ritual sites, shrines, sacred places) primarily constituting natural features embodying spiritual values e.g. sacred trees and watercourses. These sites are considered to be 'non-replicable' and potentially 'immovable' cultural heritage sites as defined by IFC (PS 8, 2012). Related intangible cultural heritage practice is considered to be a significant element of the baseline cultural heritage resource within the Study Area as it represents the local cultural norm, relating to traditional forms of social organisation, aiding the communities' ability to deal to change and shock.

There is a high potential for previously unidentified sites of cultural significance, including graves, to exist throughout the Study Area; these sites may be secret and/or highly sensitive. A detailed, Project-specific CHMP is recommended as a priority. This will set out the management strategy for those (known and unknown) sensitive cultural sites within the CNOOC Project-area. This must include cultural sensitivity training during the site induction process (for all contractors and site staff) and set out the programme for continued consultation and stakeholder identification, to manage and mitigate potential Project impacts, as required by IFC PS 8 and the Ugandan Cultural Policy (2006).

Cultural Heritage Site Catalogues 2014

Table 14: Archaeological Site Catalogue

| SITE ID | Village/development | Village | DESCRIPTION | SITE TYPE | UTM (Northng) | UTM (Easting) | HEIGHT (m) |
|---------|---------------------|---------|---------------|-----------|---------------|---------------|------------|
| BO-01 | Nsonga | Nsonga | pottery, bone | Bone | 248013 | 137258 | 621 |



CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village/development | Village | DESCRIPTION | SITE TYPE | UTM (North ing) | UTM (Easting) | HEIGHT (m) |
|---------|---------------------|------------|------------------------------------|-----------|-----------------|---------------|------------|
| BO-02 | Nsonga | Nsonga | pottery scatters and a bone | Bone | 248193 | 137298 | 620 |
| BO-03 | Pad 4-1 | Kyakapere | Bones and Pottery (decorated) | Bone | 250777 | 141208 | 638 |
| BO-04 | Kiina | Kiina | potsherds and a bone | Bone | 246099 | 133101 | 620 |
| BO-05 | Kiina | Kiina | bones and pottery scatters | Bone | 246095 | 133125 | 620 |
| BO-06 | Kiina -infield road | Kiina | tooth | Bone | 246986 | 134887 | 625 |
| BO-07 | Kyakasambu | Kyakasambu | pottery, bones, shells | Bone | 248808 | 138206 | 621 |
| BO-08 | Kyakasambu | Kyakasambu | a rim and plain potsherd, bone | bone | 248852 | 138312 | 622 |
| BO-09 | Kyakasambu | Kyakasambu | potsherds, bone | Bone | 248941 | 138381 | 616 |
| BO-10 | Kyakasambu | Kyakasambu | concentration of pottery, jaw bone | Bone | 248957 | 138372 | 619 |
| BO-11 | Kyakasambu | Kyakasambu | pottery, bones | Bone | 249024 | 138435 | 622 |
| BO-12 | Kyakasambu | Kyakasambu | bone | Bone | 249370 | 138580 | 621 |
| BO-13 | materials yard | Kyakasambu | several bones | Bone | 249042 | 138014 | 623 |
| BO-14 | materials yard | Kyakasambu | long bone, lithics, pottery | Bone | 249060 | 137996 | 625 |
| BO-15 | materials yard | Kyakasambu | bone | Bone | 249134 | 138159 | 624 |
| BO-16 | materials yard | Kyakasambu | bone | Bone | 248985 | 138132 | 624 |
| BO-17 | materials yard | Kyakasambu | bone | Bone | 249045 | 138032 | 629 |
| BO-18 | materials yard | Kyakasambu | bone | Bone | 249102 | 138000 | 626 |
| BO-19 | materials yard | Kyakasambu | bone | Bone | 249056 | 138008 | 625 |
| BO-20 | Pipeline | Kyakasambu | long bone | Bone | 249482 | 137672 | 633 |
| BO-21 | Spoil area B | Kyakasambu | bone | Bone | 249839 | 135973 | 656 |
| BO-22 | Spoil area B | Kyakasambu | bone | Bone | 249846 | 135992 | 658 |





CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village/development | Village | DESCRIPTION | SITE TYPE | UTM (Northing) | UTM (Easting) | HEIGHT (m) |
|---------|---------------------|--------------------------|--|------------------|----------------|---------------|------------|
| BO-23 | pipeline | Nyanseke (kaseeta) | jaw bone | Bone | 153141 | 276890 | 1044 |
| BO-24 | Pipeline | Kasoga | metal (probable hoe), molar tooth | Bone | 263565 | 145296 | 1146 |
| BO-25 | Pipeline | Izahura-Sayuuni | bones | Bone | 267787 | 147850 | 1166 |
| BO-26 | Nsunzu A | | Bones and Pottery | Bone | 246866 | 135456 | 624 |
| BO-27 | Airstrip Extension | Kyakasambu-Nsonga border | bone | Bone | 249212 | 136920 | |
| BO-28 | Nsonga | Nsonga | bone | Bone | 247852 | 137643 | 624 |
| HI-01 | Kyakapere | | traditional stone house foundation | Historic Site | 250439 | 140447 | 624 |
| HI-02 | Spoil Area-A | Kyakasambu/Kyakapere | old settlement | Historic Site | 250165 | 138731 | 638 |
| HI-03 | Nsonga | Nsonga | historic salt making place | Historic Site | 248270 | 137422 | 619 |
| HI-04 | Pipeline | Kituuti | Baker's view historical site | Historical Site | 254767 | 134310 | 1174 |
| LI-01 | Nsunzu A | | pottery scatter, lithics | Lithic Find Spot | 246987 | 135477 | 628 |
| LI-02 | Spoil Area-A | Kyakasambu/Kyakapere | scatters of plain pottery, quartz stone tool | Lithic Find Spot | 249841 | 138720 | 631 |
| LI-03 | Airstrip Extension | Kyakasambu-Nsonga border | scraper (lithics) | Lithic Find Spot | 240196 | 136934 | |
| LI-04 | Airstrip Extension | Kyakasambu-Nsonga border | lithic core, scrapers, point | Lithic Scatter | 249198 | 136934 | |
| LI-05 | Airstrip Extension | Kyakasambu-Nsonga border | pyramidal core | Lithic Find Spot | 249235 | 136908 | 634 |
| LI-06 | Airstrip Extension | Kyakasambu-Nsonga border | lithic tool of chert raw material | Lithic Find Spot | 249209 | 136800 | 637 |
| LI-07 | Kyakapere | Kyakapere | grinding stone | Lithic Find Spot | 250456 | 140437 | 626 |



CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village/development | Village | DESCRIPTION | SITE TYPE | UTM (North ing) | UTM (Easting) | HEIGHT (m) |
|---------|---------------------|-----------------------|--|------------------|-----------------|---------------|------------|
| LI-08 | CPF | Kyakasambu | lithic in obsidian raw material | Lithic Find Spot | 249755 | 138748 | 631 |
| LI-09 | Spoil Area-A | Kyakasambu/ Kyakapere | scatters of plain pottery, quartz stone tool | Lithic Find Spot | 249841 | 138720 | 631 |
| LI-10 | Kiina | Kiina | stone with a hole in the middle | Lithic Find Spot | 246305 | 133505 | 624 |
| LI-11 | Kiina | Kiina | pottery and a lithic pyramidal core | Lithic Find Spot | 247039 | 134913 | 624 |
| LI-12 | Kyakasambu | Kyakasambu | three cooking stone, plain pottery | Lithic Find Spot | 248804 | 138177 | 622 |
| LI-13 | Escarpment road | Ikamiro | grinding stone | Lithic Find Spot | 251144 | 135780 | 1036 |
| LI-14 | Escarpment road | Ikamiro | coin, lithic core | Lithic Find Spot | 251184 | 135756 | 1041 |
| LI-15 | Pipeline | Kituuti | grinding stone | Lithic Find Spot | 254788 | 134302 | 1174 |
| LI-16 | Pipeline | Kyarushesha | barked lithic piece | Lithic Find Spot | 265077 | 146990 | 1137 |
| LI-17 | Nsonga | Nsonga | scatters of pottery, lithic piece | Lithic Find Spot | 247857 | 137537 | 617 |
| LI-18 | Kiina | Kiina | pottery scatters | Lithic Find Spot | 246117 | 133091 | 619 |
| LI-19 | Kiina | Kiina | scraper (lithics) | Lithic Find Spot | 247095 | 134931 | 618 |
| LI-20 | Kiina -infield road | Kiina | pick axe | Lithic Find Spot | 247317 | 135066 | 624 |
| LI-21 | Kyakasambu | Kyakasambu | flake | Lithic Find Spot | 248941 | 138381 | 616 |
| LI-22 | | | quartz core | Lithic Find Spot | | | |
| LI-23 | Escarpment road | Ikamiro | Core | Lithic Find Spot | 250586 7 | 135594 | 1001 |





CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village/development | Village | DESCRIPTION | SITE TYPE | UTM (North ing) | UTM (Easting) | HEIGHT (m) |
|---------|---------------------|-----------------|--|------------------|-----------------|---------------|------------|
| LI-24 | Escarpment road | | Hand Axe | Lithic Find Spot | 250530 | 136074 | 891 |
| LI-25 | Escarpment road | | Pick Axe | Lithic Find Spot | 250512 | 136001 | 906 |
| LI-26 | Pipeline | Izahura-Sayuuni | quartz core | Lithic Find Spot | 267787 | 147850 | 1166 |
| LI-27 | Airstrip Extension | Kyakasambu | Lithic Scatter/Workshop | Lithic Scatter | 249195 | 136944 | 638 |
| LI-28 | Kiina | Kiina | pottery scatters and lithics | Lithic Scatter | 246202 | 133419 | 623 |
| LI-29 | Kiina | Kiina | concentration of pottery, lithics | Lithic Scatter | 246901 | 134776 | 623 |
| LI-30 | Kiina | Kiina | shells and lithics | Lithic Scatter | 247286 | 135056 | 622 |
| LI-31 | Kyakasambu | Kyakasambu | potsherds and stone tools | Lithic Scatter | 248805 | 138138 | 621 |
| LI-32 | Kyakasambu | Kyakasambu | lithics | Lithic Scatter | 249057 | 138482 | 618 |
| LI-33 | Escarpment road | Ikamiro | pottery, lithics | Lithic Scatter | 251193 | 1352722 | 1041 |
| LI-34 | Escarpment road | Ikamiro | lithics | Lithic Scatter | 251105 | 135673 | 1037 |
| LI-35 | Escarpment road | Nsonga | lithics <i>in situ</i> | Lithic Scatter | 250573 | 135802 | 935 |
| LI-36 | materials yard | Kyakasambu | long bone, lithics, pottery | Lithic Scatter | 249060 | 137996 | 625 |
| LI-37 | materials yard | Kyakasambu | lithics (typical LSA artefacts) | Lithic Scatter | 249094 | 137871 | 628 |
| LI-38 | materials yard | Kyakasambu | lithics | Lithic Scatter | 249085 | 137825 | 628 |
| LI-39 | Pipeline | Kyakasambu | metal object, probable ancient burial, lithics | Lithic Scatter | 249733 | 137646 | 639 |
| LI-40 | Pipeline | Kabaale | pottery and lithics | Lithic Scatter | 281351 | 159622 | 1062 |





CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village/development | Village | DESCRIPTION | SITE TYPE | UTM (North ing) | UTM (Easting) | HEIGHT (m) |
|---------|------------------------|--------------------------|--|-------------------|-----------------|---------------|------------|
| LI-41 | Airstrip Extension | Kyakasambu-Nsonga border | Lithic Scatter (3) | Lithic Scatter | 249206 | 136791 | 634 |
| LI-42 | Kiina | Kiina | shells and lithics | Lithic Scatter | 247286 | 135056 | 622 |
| LI-43 | Escarpment road | Ikamiro | straight side notched scrapper and 3 ritual stones | Lithic Scatter | 250963 | 135846 | 1010 |
| LI-44 | Escarpment road | Ikamiro | cores | Lithic Scatter | 2505867 | 135594 | 1001 |
| ME-01 | Airstrip Extension | Kyakasambu-Nsonga border | metal object | Metal | 249238 | 137008 | 641 |
| ME-02 | Kiina | Kiina | coin (1966) | Metal | 246383 | 133599 | 623 |
| ME-03 | Escarpment road | Ikamiro | coin, lithic core | Metal | 251184 | 135756 | 1041 |
| ME-04 | Pipeline | Kyakasambu | metal object, probable ancient burial, lithics | Metal | 249733 | 137646 | 639 |
| ME-05 | Pipeline | Kasoga | metal (probable hoe), molar tooth | Metal | 263565 | 145296 | 1146 |
| MO-01 | Kyakapere | Kyakapere | Mosque | Mosque | 250682 | 141315 | 624 |
| MO-02 | Kiina | Kiina | Kiina mosque, pottery concentration | Mosque | 246522 | 133640 | 627 |
| MO-03 | Pipeline | Kasoga B | Tawehid mosque, scatters of plain pottery | Mosque | 261201 | 142319 | 1173 |
| PO-01 | Pipeline | Kabaale | pottery, slag | Pottery Find Spot | 281197 | 159003 | 1054 |
| PO-02 | In field Road (Nsunzu) | | 1 rim sherd | Pottery Find Spot | 247297 | 135250 | 619 |
| PO-03 | Pad 3 | | 1 sherd | Pottery Find Spot | 247791 | 136033 | |



CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village/development | Village | DESCRIPTION | SITE TYPE | UTM (North ing) | UTM (Easting) | HEIGHT (m) |
|---------|---------------------|--------------------------|----------------------------------|-------------------|-----------------|---------------|------------|
| PO-04 | Nsunzu B | Nsunzu | plain pottery | Pottery Find Spot | 247780 | 136525 | 628 |
| PO-05 | Nsunzu B | Nsunzu | burial (4 people), big pot | Pottery Find Spot | 247737 | 136348 | 629 |
| PO-06 | Airstrip Extension | Kyakasambu-Nsonga border | plain pottery | Pottery Find Spot | 249206 | 136791 | 634 |
| PO-07 | Kyakapere | | decorated pottery sherd | Pottery Find Spot | 250401 | 140300 | |
| PO-08 | Kyakapere | Kyakapere | decorated pottery | Pottery Find Spot | 250400 | 140353 | 626 |
| PO-09 | Luzira/jetty | Nsonga | pottery | Pottery Find Spot | 247978 | 137919 | 619 |
| PO-10 | Luzira/jetty | Nsonga | pottery | Pottery Find Spot | 247952 | 137921 | 615 |
| PO-11 | Luzira/jetty | Nsonga | pottery | Pottery Find Spot | 247918 | 137909 | 617 |
| PO-12 | Luzira/jetty | Nsonga | pottery | Pottery Find Spot | 247856 | 137923 | 615 |
| PO-13 | Luzira/jetty | Nsonga | pottery | Pottery Find Spot | 247845 | 137924 | 616 |
| PO-14 | Nsonga | Nsonga | pottery, bone | Pottery Find Spot | 248013 | 137258 | 621 |
| PO-15 | Nsonga | Nsonga | plain pottery | Pottery Find Spot | 248035 | 137290 | 616 |
| PO-16 | Nsonga | Nsonga | plain pottery | Pottery Find Spot | 248190 | 137310 | 615 |
| PO-17 | Nsonga | Nsonga | Plain pottery | Pottery Find Spot | 248145 | 137332 | 618 |
| PO-18 | Nsonga | Nsonga | plain pottery | Pottery Find Spot | 248048 | 137145 | 621 |
| PO-19 | Nsonga | Nsonga | plain pottery, meeting tree path | Pottery Find Spot | 248000 | 137153 | 619 |
| PO-20 | Nsonga | Nsonga | decorated pottery | Pottery Find Spot | 248020 | 137029 | 624 |
| PO-21 | Nsonga | Nsonga | decorated pottery | Pottery Find Spot | 248045 | 136806 | 622 |





CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village/development | Village | DESCRIPTION | SITE TYPE | UTM (North ing) | UTM (Easting) | HEIGHT (m) |
|---------|---------------------|------------|---|-------------------|-----------------|---------------|------------|
| PO-22 | Pad 4-2 | Kyakapere | Bones and Pottery (decorated) | Pottery Find Spot | 250777 | 141208 | 638 |
| PO-23 | Kiina | Kiina | decorated pottery | Pottery Find Spot | 246393 | 133580 | 623 |
| PO-24 | Kyakasambu | Kyakasambu | plain pottery | Pottery Find Spot | 248836 | 138229 | 620 |
| PO-25 | Kyakasambu | Kyakasambu | a rim and plain potsherd, bone | Pottery Find Spot | 248852 | 138312 | 622 |
| PO-26 | Pipeline | Kabaale | plain sherd | Pottery Find Spot | 281539 | 159631 | 1060 |
| PO-27 | Pipeline | Kabaale | plain sherd | Pottery Find Spot | 281457 | 159584 | 1063 |
| PO-28 | Pipeline | Kabaale | burial with 2 graves and plain pottery | Pottery Find Spot | 281446 | 159631 | 1061 |
| PO-29 | Pipeline | Kabaale | pottery and lithics | Pottery Find Spot | 281351 | 159622 | 1062 |
| PO-30 | Pipeline | Kabaale | plain potsherd | Pottery Find Spot | 281417 | 159332 | 1047 |
| PO-31 | Pipeline | Kabaale | plain potsherd and shell | Pottery Find Spot | 281405 | 159313 | 1049 |
| PO-32 | Pipeline | Kabaale | decorated pottery at a burial of three graves | Pottery Find Spot | 281264 | 159227 | 1060 |
| PO-33 | Pipeline | Kabaale | decorated pottery | Pottery Find Spot | 281258 | 159192 | 1056 |
| PO-34 | Pipeline | Kabaale | plain pottery | Pottery Find Spot | 280973 | 158995 | 1055 |
| PO-35 | Pipeline | Kabaale | decorated pottery | Pottery Find Spot | 281054 | 159017 | 1052 |
| PO-36 | Pipeline | Kabaale | plain pottery | Pottery Find Spot | 281849 | 160209 | 1071 |
| PO-37 | Pipeline | Kabaale | plain pottery | Pottery Find Spot | 281950 | 160177 | 1070 |





CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village/development | Village | DESCRIPTION | SITE TYPE | UTM (North ing) | UTM (Easting) | HEIGHT (m) |
|---------|---------------------|-------------------------|--|-------------------|-----------------|---------------|------------|
| PO-38 | Pipeline | Kabaale | burial for 8 people and a potsherd | pottery find spot | 281930 | 160167 | 1070 |
| PO-39 | Pipeline | Kabaale | rim, slag and shell | pottery find spot | 281963 | 160175 | 1065 |
| PO-40 | Pipeline | Kaseeta (Nyanseke) | plain pottery and slag, church of Uganda | Pottery Find Spot | 276905 | 153245 | 1043 |
| PO-41 | Pipeline | Bitagata | plain pottery | Pottery Find Spot | 273242 | 151346 | 1061 |
| PO-42 | Pipeline | Bitagata | plain pottery | Pottery Find Spot | 273360 | 151278 | 1054 |
| PO-43 | Pipeline | Bitagata | plain pottery | Pottery Find Spot | 273487 | 151157 | 1043 |
| PO-44 | Pipeline | Bitagata | plain pottery | Pottery Find Spot | 273457 | 151150 | 1045 |
| PO-45 | Pipeline | Kyapa (road to Sayuuni) | plain pottery | Pottery Find Spot | 268411 | 146748 | 1038 |
| PO-46 | Pipeline | Kibaale modern primary | CNOOC pipeline bench mark, pottery | Pottery Find Spot | 265189 | 146242 | 1174 |
| PO-47 | Pipeline | Kasoga | plain pottery | Pottery Find Spot | 263877 | 145584 | 1144 |
| PO-48 | Pipeline | Kasoga | incised pottery rim | Pottery Find Spot | 261673 | 143670 | 1171 |
| PO-49 | Pipeline | Kasoga town | decorated rim, Faith of Unity church | Pottery Find Spot | 261137 | 142423 | 1161 |
| PO-50 | Pipeline | Kituuti | rim of decorated pottery | Pottery Find Spot | 254811 | 134286 | 1177 |
| PO-51 | Pipeline | Kyarushesha | decorated pottery rim | Pottery Find Spot | 265065 | 146993 | 1137 |
| PO-52 | Nsunzu A | | Bones and Pottery | Pottery Find Spot | 246866 | 135456 | 624 |
| PO-53 | Luzira/jetty | Nsonga | abraded pottery | Pottery Find Spot | 248046 | 137924 | 621 |



CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village/development | Village | DESCRIPTION | SITE TYPE | UTM (North ing) | UTM (Easting) | HEIGHT (m) |
|---------|---------------------|------------------------------------|-------------------------------------|-------------------|-----------------|---------------|------------|
| PO-54 | Luzira/jetty | Nsonga | pottery pieces) (2 | Pottery Find Spot | 247992 | 137920 | 614 |
| PO-55 | Nsonga beach | Nsonga | finger impressed pottery | Pottery Find Spot | 247836 | 137693 | 624 |
| PO-56 | Nsonga beach | Nsonga | mammilated roulette pottery, bone | Pottery Find Spot | 247852 | 137643 | 624 |
| PO-57 | Pad 4-1 | Kyakapere | pottery, Church of God | Pottery Find Spot | 250798 | 141196 | 644 |
| PO-58 | Kiina | Kiina | decorated unique pottery | Pottery Find Spot | 246065 | 133295 | 621 |
| PO-59 | Kiina | Kiina | pottery and a lithic pyramidal core | Pottery Find Spot | 247039 | 134913 | 624 |
| PO-60 | Kyakasambu | Kyakasambu | three cooking stone, plain pottery | Pottery Find Spot | 248804 | 138177 | 622 |
| PO-61 | Kyakasambu | Kyakasambu | pottery, bones, shells | Pottery Find Spot | 248808 | 138206 | 621 |
| PO-62 | Pipeline | Kabaale | pottery | Pottery Find Spot | 282709 | 159206 | 1071 |
| PO-63 | Pipeline | Kabaale | pottery | Pottery Find Spot | 281458 | 159623 | 1064 |
| PO-64 | Pipeline | Kamwokya (Kamwokya primary school) | decorated pottery | Pottery Find Spot | 254823 | 139573 | 1201 |
| PO-65 | Pipeline | Kamwokya | plain pottery | Pottery Find Spot | 253714 | 140004 | 1175 |
| PO-66 | Pipeline | Izahura-Sayuuni | Plain pottery | Pottery Find Spot | 268503 | 150238 | 1113 |
| PO-67 | Pipeline | Izahura-Sayuuni | plain pottery | Pottery Find Spot | 267716 | 147867 | 1160 |
| PO-68 | Pipeline | Kyarushesha | plain pottery | Pottery Find Spot | 264899 | 146994 | 1152 |
| PO-69 | Pipeline | Kyarushesha | plain pottery | Pottery Find Spot | 265049 | 146983 | 1140 |





CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village/development | Village | DESCRIPTION | SITE TYPE | UTM (North ing) | UTM (Easting) | HEIGHT (m) |
|---------|------------------------|------------|-----------------------------|------------------|-----------------|---------------|------------|
| PO-70 | Kiina | Kiina | rim of roulette pottery | Pottery findspot | 246885 | 134726 | 624 |
| PO-71 | Kiina | Kiina | decorated potsherd | Pottery Findspot | 247201 | 134991 | 624 |
| PO-72 | Kiina -infield road | Kiina | pottery | Pottery Findspot | 247317 | 135066 | 624 |
| PO-73 | Kyakasambu | Kyakasambu | pottery, bones | Pottery Findspot | 249024 | 138435 | 622 |
| PO-74 | Escarpment road | Ikamiro | pottery, lithics | Pottery Findspot | 251193 | 1352722 | 1041 |
| PO-75 | materials yard | Kyakasambu | long bone, lithics, pottery | Pottery Findspot | 249060 | 137996 | 625 |
| PO-76 | In field Road (jetty) | | pottery scatter (3 pieces) | Pottery Scatter | 248669 | 138022 | |
| PO-77 | In field Road (Nsunzu) | | pottery scatter | Pottery Scatter | 247316 | 135479 | 629 |
| PO-78 | In field Road (Nsunzu) | | pottery scatter | Pottery Scatter | 247367 | 135625 | 631 |
| PO-79 | In field Road (Nsunzu) | | pottery scatter | Pottery Scatter | 247298 | 135352 | 627 |
| PO-80 | Nsunzu | | pottery scatters | Pottery Scatter | 246956 | 135529 | 627 |
| PO-81 | In field Road (Nsunzu) | | large pottery scatter | Pottery Scatter | 247284 | 135360 | 627 |
| PO-82 | In field Road (Nsunzu) | | pottery scatter | Pottery Scatter | | | |
| PO-83 | In field Road (Nsunzu) | | pottery scatter | Pottery Scatter | 247156 | 135472 | 632 |
| PO-84 | In field Road (Nsunzu) | | pottery scatter | Pottery Scatter | 247293 | 135432 | 629 |
| PO-85 | Jetty | | pottery scatter (6 pieces) | Pottery Scatter | 248375 | 138041 | |
| PO-86 | Nsunzu A | | pottery scatter, lithics | Pottery Scatter | 246987 | 135477 | 628 |
| PO-87 | Nsunzu A | | large pottery dump | Pottery Scatter | 247257 | 135513 | 628 |





CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village/ development | Village | DESCRIPTION | SITE TYPE | UTM (North ing) | UTM (Easting) | HEIGHT (m) |
|---------|----------------------|-----------------------------|--|-----------------|-----------------|---------------|------------|
| PO-88 | Nsunzu A | | Pottery scatter at burial site | Pottery Scatter | 246764 | 135286 | 619 |
| PO-89 | Nsunzu A | | Pottery scatter at burial site | Pottery Scatter | 246788 | 135312 | 626 |
| PO-90 | Nsunzu B | Nsunzu | scatters of pottery | Pottery Scatter | 247755 | 136476 | 620 |
| PO-91 | Nsunzu B | Nsunzu | scatters of pottery and a rim | Pottery Scatter | 247696 | 136396 | 618 |
| PO-92 | Nsunzu B | Nsunzu close to Pad 3 | scatters of pottery, rim | Pottery Scatter | 247643 | 136290 | 619 |
| PO-93 | Nsunzu B | Nsunzu close to a bore hole | pottery | Pottery Scatter | 247736 | 136305 | 627 |
| PO-94 | Kyakapere | | pottery scatter | Pottery Scatter | 250399 | 140289 | 633 |
| PO-95 | Kyakapere | | scatters of pottery, decorated and plain | Pottery Scatter | 250647 | 140782 | 619 |
| PO-96 | Pad 4-2 | Kyakapere | scatters of pottery | Pottery Scatter | 250642 | 140732 | 619 |
| PO-97 | Pad 4-2 | Kyakapere | plain pieces of pottery | Pottery Scatter | 250687 | 140873 | 620 |
| PO-98 | Spoil Area-A | Kyakasambu/ Kyakapere | scatters of plain pottery, quartz stone tool | Pottery Scatter | 249841 | 138720 | 631 |
| PO-99 | Nsonga/ beach line | Nsonga | pottery scatters | Pottery Scatter | 247794 | 137850 | 619 |
| PO-100 | Nsonga/ beach line | Nsonga | decorated pottery | Pottery Scatter | 247814 | 137787 | 618 |
| PO-101 | Nsonga/ beach line | Nsonga | concentration of decorated and plain pottery | Pottery Scatter | 247817 | 137774 | 617 |
| PO-102 | Nsonga/ beach line | Nsonga | pieces of decorated pottery | Pottery Scatter | 247831 | 137727 | 616 |





CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village/development | Village | DESCRIPTION | SITE TYPE | UTM (North ing) | UTM (Easting) | HEIGHT (m) |
|---------|---------------------|-----------|---|-----------------|-----------------|---------------|------------|
| PO-103 | Nsonga/ beach line | Nsonga | scatters of pottery, lithic piece | Pottery Scatter | 247857 | 137537 | 617 |
| PO-104 | Nsonga | Nsonga | concentration of pottery | Pottery Scatter | 247924 | 137295 | 617 |
| PO-105 | Nsonga | Nsonga | concentration of plain and decorated pottery | Pottery Scatter | 247974 | 137258 | 618 |
| PO-106 | Nsonga | Nsonga | pottery scatters | Pottery Scatter | 247977 | 137247 | 622 |
| PO-107 | Nsonga | Nsonga | plain sherds | Pottery Scatter | 248000 | 137249 | 620 |
| PO-108 | Nsonga | Nsonga | pottery scatters and a bone | Pottery Scatter | 248193 | 137298 | 620 |
| PO-109 | Nsonga | Nsonga | scatters of pottery all over (100×100) | Pottery Scatter | 248163 | 137199 | 618 |
| PO-110 | Nsonga | Nsonga | decorated and plain pottery | Pottery Scatter | 248023 | 137097 | 618 |
| PO-111 | Nsonga | Nsonga | scatters of plain pottery | Pottery Scatter | 248047 | 136942 | 622 |
| PO-112 | Nsonga | Nsonga | burial site of the Bakubya clan, pottery scatters | Pottery Scatter | 247985 | 136786 | 624 |
| PO-113 | Kyakapere | Kyakapere | pottery scatter | Pottery Scatter | 250747 | 141446 | 616 |
| PO-114 | Kyakapere | Kyakapere | pottery scatter | Pottery Scatter | 250720 | 141406 | 623 |
| PO-115 | Kyakapere | Kyakapere | pottery scatter | Pottery Scatter | 250672 | 141295 | 623 |
| PO-116 | Kyakapere | Kyakapere | pottery scatter | Pottery Scatter | 250677 | 141186 | 631 |
| PO-117 | Kyakapere | Kyakapere | Cemetry, pottery scatters | Pottery Scatter | 250615 | 140536 | 625 |
| PO-118 | Kyakapere | Kyakapere | Pottery Scatter | Pottery Scatter | 250581 | 140447 | 627 |



CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village/development | Village | DESCRIPTION | SITE TYPE | UTM (North ing) | UTM (Easting) | HEIGHT (m) |
|---------|---------------------|-----------|--|-----------------|-----------------|---------------|------------|
| PO-119 | Kyakapere | Kyakapere | Pottery Scatter | Pottery Scatter | 250527 | 140464 | 626 |
| PO-120 | Kyakapere | Kyakapere | burial (3 people), pottery scatters | Pottery Scatter | 250511 | 140438 | 629 |
| PO-121 | Kyakapere | Kyakapere | pottery scatter | Pottery Scatter | 250518 | 140406 | 622 |
| PO-122 | Kyakapere | Kyakapere | pottery scatter | Pottery Scatter | 250442 | 140335 | 626 |
| PO-123 | Kiina | Kiina | concentration of decorated pottery (50×50m) | Pottery Scatter | 246564 | 133687 | 620 |
| PO-124 | Kiina | Kiina | concentration of roulette pottery | Pottery Scatter | 246492 | 133648 | 618 |
| PO-125 | Kiina | Kiina | decorated pottery and a smoking pipe | Pottery Scatter | 246407 | 133611 | 618 |
| PO-126 | Kiina | Kiina | Kiina catholic church, scatters of decorated pottery | Pottery Scatter | 246259 | 133516 | 625 |
| PO-127 | Kiina | Kiina | pottery scatters and lithics | pottery scatter | 246202 | 133419 | 623 |
| PO-128 | Kiina | Kiina | Kiina church of God, scatters of decorated pottery | Pottery Scatter | 246236 | 133352 | 620 |
| PO-129 | Kiina | Kiina | scatters of pottery with different designs | Pottery Scatter | 246190 | 133313 | 622 |
| PO-130 | Kiina | Kiina | pottery scatters (60× 60 m) | Pottery Scatter | 246195 | 133287 | 619 |
| PO-131 | Kiina | Kiina | concentration of pottery at the Lake shores | Pottery Scatter | 246206 | 133253 | 620 |



CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village/development | Village | DESCRIPTION | SITE TYPE | UTM (North ing) | UTM (Easting) | HEIGHT (m) |
|---------|---------------------|-----------------|---|-----------------|-----------------|---------------|------------|
| PO-132 | Kiina | Kiina | concentration of pottery | Pottery Scatter | 246154 | 133136 | 619 |
| PO-133 | Kiina | Kiina (Kasonga) | pottery concentration | Pottery Scatter | 246119 | 133093 | 619 |
| PO-134 | Kiina | Kiina | pottery scatters | Pottery Scatter | 246117 | 133091 | 619 |
| PO-135 | Kiina | Kiina | potsherds and a bone | Pottery Scatter | 246099 | 133101 | 620 |
| PO-136 | Kiina | Kiina | bones and pottery scatters | Pottery Scatter | 246095 | 133125 | 620 |
| PO-137 | Kiina | Kiina | concentration of pottery | Pottery Scatter | 246094 | 133144 | 619 |
| PO-138 | Kiina | Kiina | concentration of pottery | Pottery Scatter | 246089 | 133185 | 621 |
| PO-139 | Kiina | Kiina | concentration of pottery | Pottery Scatter | 246110 | 133436 | 624 |
| PO-140 | Kiina | Kiina | scatters of pottery, finger impression, roulette, thick rim | Pottery Scatter | 246138 | 133451 | 624 |
| PO-141 | Kiina | Kiina | Kiina mosque, pottery concentration | Pottery Scatter | 246522 | 133640 | 627 |
| PO-142 | Kiina | Kiina | concentration of pottery, lithics | pottery scatter | 246901 | 134776 | 623 |
| PO-143 | Kiina - Pad 5 | Kiina | pottery scatters | pottery scatter | 246867 | 134752 | 624 |
| PO-144 | Kiina | Kiina | concentration of decorated pottery | pottery scatter | 246855 | 134732 | 621 |
| PO-145 | Kiina | Kiina | concentration of pottery (60×60m) | Pottery Scatter | 246860 | 134766 | 623 |
| PO-146 | Kiina | Kiina | concentration of decorated pottery (10×10m) | Pottery Scatter | 246907 | 134759 | 625 |





CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village/development | Village | DESCRIPTION | SITE TYPE | UTM (North ing) | UTM (Easting) | HEIGHT (m) |
|---------|---------------------|------------|---|-----------------|-----------------|---------------|------------|
| PO-147 | Kiina | Kiina | pottery scatters | Pottery Scatter | 247095 | 134931 | 618 |
| PO-148 | Kiina | Kiina | concentration of pottery (50×50m) | Pottery Scatter | 247150 | 134948 | 621 |
| PO-149 | Kiina | Kiina | concentration of pottery | Pottery Scatter | 247186 | 134970 | 624 |
| PO-150 | Kiina | Kiina | concentration of decorated pottery (35×20m) | Pottery Scatter | 247232 | 135009 | 622 |
| PO-151 | Kiina -infield road | Kiina | scatters of pottery | Pottery Scatter | 247274 | 134996 | 622 |
| PO-152 | Kiina -infield road | Kiina | a very big pot rim and pottery scatters | Pottery Scatter | 247229 | 134927 | 621 |
| PO-153 | Kiina -infield road | Kiina | scatters of potsherds (30×20m) | Pottery Scatter | 247220 | 134930 | 627 |
| PO-154 | Kyakasambu | Kyakasambu | potsherds and stone tools | Pottery Scatter | 248805 | 138138 | 621 |
| PO-155 | Kyakasambu | Kyakasambu | pottery scatters | Pottery Scatter | 248906 | 138334 | 621 |
| PO-156 | Kyakasambu | Kyakasambu | potsherds, bone | Pottery Scatter | 248941 | 138381 | 616 |
| PO-157 | Kyakasambu | Kyakasambu | concentration of pottery, jaw bone | Pottery Scatter | 248957 | 138372 | 619 |
| PO-158 | Kyakasambu | Kyakasambu | pottery scatters | Pottery Scatter | 249014 | 138403 | 618 |
| PO-159 | Kyakasambu | Kyakasambu | pottery scatters | Pottery Scatter | 249356 | 138615 | 619 |
| PO-160 | Pipeline | Kabaale | slag, shell, pottery | Pottery Scatter | 282675 | 159209 | 1075 |
| PO-161 | Pipeline | Kabaale | wavy line pottery in a concentration of pottery | Pottery Scatter | 281523 | 159614 | 1060 |



CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village/development | Village | DESCRIPTION | SITE TYPE | UTM (North ing) | UTM (Easting) | HEIGHT (m) |
|---------|---------------------|--|---|-----------------|-----------------|---------------|------------|
| PO-162 | Pipeline | Kabaale | concentration of plain sherds | Pottery Scatter | 281203 | 159060 | 1059 |
| PO-163 | Pipeline | Kabaale | plain sherds | Pottery Scatter | 281003 | 159016 | 1058 |
| PO-164 | Pipeline | Kabaale | decorated pottery and a rim | pottery scatter | 281885 | 160209 | 1072 |
| PO-165 | Pipeline | Kabaale | concentration of decorated potsheds and iron slag | pottery scatter | 281910 | 160203 | 1064 |
| PO-166 | Pipeline | Kabaale at the refinery | scatters of plain potsherd | Pottery Scatter | 282085 | 160258 | 1054 |
| PO-167 | Pipeline | Kaseeta (Nyanseke) | scatters of pottery, plain and decorated | Pottery Scatter | 276935 | 153256 | 1035 |
| PO-168 | Pipeline | Kaseeta (Nyanseke) at Kaseeta primary school | decorated (roulette) and plain pottery, Kaseeta catholic church | Pottery Scatter | 276851 | 153153 | 1042 |
| PO-169 | Pipeline | Kaseeta (Nyanseke) | decorated pottery and scatters | Pottery Scatter | 276983 | 153126 | 1032 |
| PO-170 | Pipeline | Kisooba | several scatters of pottery | Pottery Scatter | 276520 | 150777 | 1058 |
| PO-171 | Pipeline | Bukona | potsherds-necks of roulette, slag | Pottery Scatter | 285249 | 160043 | 1049 |
| PO-172 | Pipeline | Bitagata | plain pottery scatters | Pottery Scatter | 273184 | 151404 | 1064 |
| PO-173 | Pipeline | Bitagata | concentration of pottery, two graves | Pottery Scatter | 273449 | 151155 | 1046 |
| PO-174 | Pipeline | Kibaale modern primary | concentration of pottery | Pottery Scatter | 265225 | 146207 | 1175 |
| PO-175 | Pipeline | Kasoga | concentration of pottery | Pottery Scatter | 263561 | 145318 | 1146 |





CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village/development | Village | DESCRIPTION | SITE TYPE | UTM (North ing) | UTM (Easting) | HEIGHT (m) |
|---------|---------------------|-----------------|--|-----------------|-----------------|---------------|------------|
| PO-176 | Pipeline | Kasoga B | Tawehid mosque, scatters of plain pottery | Pottery Scatter | 261201 | 142319 | 1173 |
| PO-177 | Pipeline | Kasoga B | Kasoga catholic church, pottery scatters | Pottery Scatter | 261248 | 142283 | 1168 |
| PO-178 | Pipeline | Kyarujumba | Fountain of life church, pottery scatters-plain and decorated | Pottery Scatter | 258228 | 141140 | 1198 |
| PO-179 | Pipeline | Kyarujumba | Kyarujumba model nurse y and primary school, decorated pottery | Pottery Scatter | 258221 | 141110 | 1198 |
| PO-180 | Pipeline | Kituuti | concentration of decorated potsheds and iron slag | Pottery Scatter | 254846 | 134348 | 1173 |
| PO-181 | Pipeline | Izahura-Sayuuni | scatters of plain pottery | Pottery Scatter | 268462 | 150037 | 1123 |
| PO-182 | Escarpment road | | Pottery | Pottery Scatter | 251193 | 1352722 | |
| QU-01 | Borrow Pit | | Area of past quarrying/stone collection | Quarry Site | 250037 | 136368 | 667 |
| QU-02 | Borrow Pit | | Gully, past quarrying activity evident | Quarry Site | 250102 | 136352 | 669 |
| SH-01 | Borrow Pit | | re deposited shells | Shells | 250121 | 1336596 | 676 |
| SH-02 | Kiina | Kiina | shells and lithics | Shells | 247286 | 135056 | 622 |
| SH-03 | Kyakasambu | Kyakasambu | pottery, bones, shells | Shells | 248808 | 138206 | 621 |
| SH-04 | Pipeline | Kabaale | slag, shell, pottery | Shells | 282675 | 159209 | 1075 |





CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village/development | Village | DESCRIPTION | SITE TYPE | UTM (North ing) | UTM (Easting) | HEIGHT (m) |
|---------|---------------------|--------------------|---|-----------|-----------------|---------------|------------|
| SH-05 | Pipeline | Kabaale | plain potsherd and shell | Shells | 281405 | 159313 | 1049 |
| SH-06 | Pipeline | Kabaale | rim, slag and shell | Shells | 281963 | 160175 | 1065 |
| SL-01 | Pipeline | Kabaale | slag, shell, pottery | Slag | 282675 | 159209 | 1075 |
| SL-02 | Pipeline | Kabaale | pottery, slag | Slag | 281197 | 159003 | 1054 |
| SL-03 | Pipeline | Kabaale | concentration of decorated potsheds and iron slag | slag | 281910 | 160203 | 1064 |
| SL-04 | Pipeline | Kabaale | rim, slag and shell | Slag | 281963 | 160175 | 1065 |
| SL-05 | Pipeline | Kaseeta (Nyanseke) | plain pottery and slag, church of Uganda | Slag | 276905 | 153245 | 1043 |
| SL-06 | Pipeline | Bukona | potsherds-necks of roulette, slag | Slag | 285249 | 160043 | 1049 |
| SL-07 | Pipeline | Kituuti | concentration of decorated potsheds and iron slag | Slag | 254846 | 134348 | 1173 |

Table 15: Cultural Site Catalogue

| SITE ID | Village Development / | Village | DESCRIPTION | SITE TYPE | UTM (Northing) | UTM (Easting) |
|---------|-----------------------|-----------|------------------|-----------|----------------|---------------|
| MO-01 | Kyakapere | Kyakapere | Kyakapere Mosque | Mosque | 250682 | 141315 |
| MO-02 | Kiina | Kiina | Kiina mosque | Mosque | 246522 | 133640 |
| MO-03 | Pipeline | Kasoga B | Tawehid mosque | Mosque | 261201 | 142319 |



CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village Development / | Village | DESCRIPTION | SITE TYPE | UTM (Northing) | UTM (Easting) |
|---------|-----------------------|------------|---|-----------------|----------------|---------------|
| CE-01 | Pipeline | Bitagata | concentration of pottery, two graves | Burial/cemetery | 273449 | 151155 |
| CE-02 | Nsunzu A | | Burial (2 people) | Burial/cemetery | 246788 | 135312 |
| CE-03 | Nsunzu A | | Burial | Burial/cemetery | 246764 | 135286 |
| CE-04 | Nsunzu B | Nsunzu | burial (4 people), big pot | Burial/cemetery | 247737 | 136348 |
| CE-05 | Nsunzu B | Nsunzu | grave yard | Burial/cemetery | 248145 | 136611 |
| CE-06 | Nsunzu B | Nsunzu | community grave yard | Burial/cemetery | 248197 | 136581 |
| CE-07 | Nsunzu B | Nsunzu | grave yard | Burial/cemetery | 247852 | 136744 |
| CE-08 | Nsonga | Nsonga | burial site of the Bakubya clan, pottery scatters | Burial/cemetery | 247985 | 136786 |
| CE-09 | Nsonga | Nsonga | Burial (2 graves) | Burial/cemetery | 247942 | 136830 |
| CE-10 | Nsonga | Nsonga | cemetery | Burial/cemetery | 248373 | 137311 |
| CE-11 | Kyakapere | Kyakapere | burial | Burial/cemetery | 250711 | 141123 |
| CE-12 | Pad 4-2 | Kyakapere | cemetery | Burial/cemetery | 250751 | 141304 |
| CE-13 | Pad 4-2 | Kyakapere | Burial | Burial/cemetery | 250762 | 141304 |
| CE-14 | Pad 4-2 | Kyakapere | Cemetery | Burial/cemetery | 250815 | 141199 |
| CE-15 | Kyakapere | Kyakapere | cemetery, pottery scatters | Burial/cemetery | 250615 | 140536 |
| CE-16 | Kyakapere | Kyakapere | burial (3 people), pottery scatters | Burial/cemetery | 250511 | 140438 |
| CE-17 | Spoil Area-A (3 huts) | Kyakasambu | grave | Burial/cemetery | 250407 | 138525 |



CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village Development / | Village | DESCRIPTION | SITE TYPE | UTM (Northing) | UTM (Easting) |
|---------|-----------------------|--------------|---|-----------------|----------------|---------------|
| CE-18 | Kiina | Kiina | cemetery (over 30 graves) | Burial/cemetery | 246076 | 133345 |
| CE-19 | Kiina | Kiina | cemetery | Burial/cemetery | 246331 | 133514 |
| CE-20 | Kiina | Kiina | cemetery (over 40 graves), pottery scatters | Burial/cemetery | 246509 | 133745 |
| CE-21 | Kiina | Kiina (Juba) | burial (1 grave Udongo) | Burial/cemetery | 246781 | 135311 |
| CE-22 | Kyakasambu | Kyakasambu | community cemetery (6 graves) | Burial/cemetery | 249396 | 138602 |
| CE-23 | Kyakasambu | Kyakasambu | burial (1 grave) | Burial/cemetery | 249388 | 138460 |
| CE-24 | Spoil area B | Kyakasambu | burial at the 4 huts | Burial/cemetery | 249820 | 136457 |
| CE-25 | Pipeline | Kabaale | burial of three graves | Burial/cemetery | 281467 | 159625 |
| CE-26 | Pipeline | Kabaale | burial with 2 graves and plain pottery | Burial/cemetery | 281446 | 159631 |
| CE-27 | Pipeline | Kabaale | decorated pottery at a burial of three graves | Burial/cemetery | 281264 | 159227 |
| CE-28 | Pipeline | Kabaale | grave yard of one burial | Burial/cemetery | 281270 | 159140 |
| CE-29 | Pipeline | Kabaale | grave at the LC3 compound | Burial/cemetery | 281129 | 159039 |
| CE-30 | Pipeline | Kabaale | burial for 8 people and a potsherd | Burial/cemetery | 281930 | 160167 |
| CH-01 | Nsunzu B | Nsunzu | Nsunzu seventh Day adventist church | Church | 248023 | 136327 |
| CH-02 | Nsunzu B | Nsunzu | Nsunzu Pentecostal church Uganda | Church | 248028 | 136390 |



CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village Development / | Village | DESCRIPTION | SITE TYPE | UTM (Northing) | UTM (Easting) |
|---------|-----------------------|------------|--|-----------|----------------|---------------|
| CH-03 | Nsunzu B | Nsunzu | Nsunzu church of Uganda | Church | 247980 | 136419 |
| CH-04 | Nsunzu B | Nsunzu | Emmanuel Mission Uganda church | Church | 248019 | 136670 |
| CH-05 | Kyakapere | | Kyakapere catholic church | Church | 250565 | 140600 |
| CH-06 | Nsonga | Nsonga | Nsonga church of God | Church | 248154 | 136744 |
| CH-07 | Nsonga | Nsonga | Nsonga Face of Unity church | Church | 248313 | 136602 |
| CH-08 | Nsonga | Nsonga | Christ is the Way church Nsonga | Church | 248378 | 136694 |
| CH-09 | Nsonga | Nsonga | Nsonga church of Uganda | Church | 248209 | 136902 |
| CH-10 | Nsonga | Nsonga | Kiguli zone catholic church Lwemisanga parish | Church | 248346 | 137051 |
| CH-11 | Nsonga | Nsonga | Nsonga Miracle church | Church | 248483 | 137391 |
| CH-12 | Pad 4-2 | Kyakapere | Charismatic episcopal church (CECU) | Church | 250730 | 141231 |
| CH-13 | Pad 4-2 | Kyakapere | pottery, Church of God | Church | 250798 | 141196 |
| CH-14 | Kiina | Kiina | Kiina catholic church, scatters of decorated pottery | Church | 246259 | 133516 |
| CH-15 | Kiina | Kiina | Kiina church of God, scatters of decorated pottery | Church | 246236 | 133352 |
| CH-16 | Kyakasambu | Kyakasambu | Kyakasambu church of Uganda | Church | 248899 | 138310 |



CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village Development / | Village | DESCRIPTION | SITE TYPE | UTM (Northing) | UTM (Easting) |
|---------|-----------------------|--|---|-----------|----------------|---------------|
| CH-17 | Kyakasambu | Kyakasambu | Kyakasambu pentecostal church | Church | 249324 | 138417 |
| CH-18 | Pipeline | Kaseeta (Nyanseke) | plain pottery and slag, church of Uganda | Church | 276905 | 153245 |
| CH-19 | Pipeline | Kaseeta (Nyanseke) at Kaseeta primary school | decorated (roulette) and plain pottery, Kaseeta catholic church | Church | 276851 | 153153 |
| CH-20 | Pipeline | Kyarushesha | Kyarushesha church of Uganda | Church | 265243 | 146174 |
| CH-21 | Pipeline | Kasoga town | decorated rim, Faith of Unity church | Church | 261137 | 142423 |
| CH-22 | Pipeline | Kasoga B | Kasoga catholic church, pottery scatters | Church | 261248 | 142283 |
| CH-23 | Pipeline | Kasoga B | Fountain of life church | Church | 261335 | 141968 |
| CH-24 | Pipeline | Kasoga B | Kasoga church of Uganda | Church | 261373 | 141872 |
| CH-25 | Pipeline | Buhumuliro-Kyarujumba | Itambiro Iya Bisaka (Faith of Unity church) | Church | 259661 | 141293 |
| CH-26 | Pipeline | Kyarujumba | Buhumuliro church of Uganda | Church | 259554 | 141160 |
| CH-27 | Pipeline | Kyarujumba | Fountain of life church, pottery scatters-plain and decorated | Church | 258228 | 141140 |
| CH-28 | Pipeline | Nyansenge | Nyansenge st.peters catholic church | Church | 255643 | 139809 |
| CH-29 | Pipeline | Kamwokya - Hanga B | Kamwokya church of born again | Church | 254427 | 139158 |





CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village Development / | Village | DESCRIPTION | SITE TYPE | UTM (Northing) | UTM (Easting) |
|---------|-----------------------|--------------------|---|-----------------|----------------|---------------|
| ST-01 | Nsunzu A | Nsunzu A | Nsunzu A | Sacred Tree | confidential | confidential |
| ST-02 | Escarpment road | Kyakasambu | cultural tree | Sacred Tree | confidential | confidential |
| CT-01 | Nsonga | Nsonga | village assembly tree | Cultural Tree | 247978 | 137179 |
| MP-01 | Spoil Area-A (3 huts) | Kyakasambu | Healing Tree | Medicinal Plant | 250397 | 138521 |
| MP-02 | Spoil Area-A (3 huts) | Kyakasambu | medicine plant (Kyangwe) | Medicinal Plant | 250413 | 138516 |
| MP-03 | Spoil Area-A (3 huts) | Kyakasambu | Medicinal bush | Medicinal Plant | 250389 | 138512 |
| MP-04 | Escarpment road | Ikamiro | Kagando tree (medicinal) | Medicinal Plant | 250708 | 136025 |
| MP-05 | Escarpment road | Ikamiro | medicinal tree (mululuza) | Medicinal Plant | 250883 | 135923 |
| MP-06 | Escarpment road | Ikamiro | medicinal plants (busaana) | Medicinal Plant | 250867 | 135594 |
| MP-07 | Escarpment road | Ikamiro | medinal plant (mujaaja) | Medicinal Plant | 250814 | 135613 |
| MP-08 | Escarpment road | Kyakasambu | medicinal tree and plants (nkooge& mavi gamukulu) | Medicinal Plant | 250524 | 135979 |
| RO-01 | Kyakapere | Kyakapere | Feet Washing Stone | Ritual Object | 250402 | 140302 |
| RO-02 | Escarpment road | Ikamiro | 3 ritual stones | Ritual Object | confidential | confidential |
| RO-03 | Pipeline | Kyarushesha | stone for worship | Ritual Object | confidential | confidential |
| BC-01 | Pipeline | Kaseeta (Nyanseke) | Bark cloth tree | Bark Cloth Tree | confidential | confidential |
| RS-01 | Nsunzu B | Nsunzu | traditional healers place | Ritual Site | confidential | confidential |
| RS-02 | Jetty | Luzira | | Ritual Site | confidential | confidential |
| RS-03 | Luzira/jetty/beach | Akasonga / Kasonga | Sacred beach, fire place with herbs, pottery, | Ritual Site | confidential | confidential |





CULTURAL HERITAGE ASSESSMENT

| SITE ID | Village Development / | Village | DESCRIPTION | SITE TYPE | UTM (Northing) | UTM (Easting) |
|---------|-----------------------|-----------------|----------------------------------|--------------------|----------------|---------------|
| | | | place for lake ritual ceremonies | | | |
| RS-04 | Spoil area B | Kyakasambu | River Masika | Ritual Site | confidential | confidential |
| RS-05 | Nsonga | Nsonga | Nsonga | Ritual Site | confidential | confidential |
| RS-06 | Kiina | Kiina | Mouth of the River at Kiina | Ritual Site | confidential | confidential |
| RS-07 | Nsonga | Nsonga | Beach from Nsonga to Site RS-03 | Ritual Site | confidential | confidential |
| SR-01 | Escarpment road | Nsonga | River Masika | Sacred River | confidential | confidential |
| CL-01 | Kingfisher Area | Kingfisher Area | Lake Albert | Cultural Landscape | confidential | confidential |
| CL-02 | Kingfisher Area | Kingfisher Area | The Escarpment | Cultural Landscape | confidential | confidential |



APPENDIX B

List of villages visited along the Pipeline Route in 2014



**Villages visited during Cultural Heritage Consultation along the Pipeline Route
(February 2014)**

- Kyabasambu
- Kaseeta
- Ikamiro
- Kyarushesha-Sayuni
- Izahura
- Nyanseke
- Bitagata
- Kasoga
- Kamwokya
- Nyamwerimigwa



APPENDIX C

Interview Transcripts



1. Nsunzu (NZ) (Buhuuka)

Date: 24th January 2014 (am)

Interviewer: Alice Hobson

Interviewee: Wawa Uchai

Q. How long have you lived here?

A. 35 years and he is 43 years old

Q. Where were you born?

A. Wanseko – Bulisa District

Q. Which tribe are you affiliated to?

A. Alur

Q. Why did you move here?

A. My father was living here; I came to live with him

Q. We are interested in the history of the village; you might know why the village is called Nsunzu?

A. Nsunzu is the name of the green grass that grows here – there used to be much more – it is very good for feeding cattle.

Q. What was the village like when you first arrived?

A. It was smaller – we had one Chairman then, now we have 3!

Q. Do you know how old the settlement may be? How many generations of people have lived here?

A. We are the 6th generation to have lived here.

Q. We have seen many older pottery pieces here; does anyone still make it in the village?

A. I think so, they sell it in other villages, and we have done for many years. There is clay here at Nsunzu, all over.

Q. We know about salt making at Kibiro, does anyone make salt here?

A. No.

Q. As I explained in detail before, we are interested in any places that may be important for Nsunzu for cultural reasons. Do you think there any sites I should know about?

A. There are such sites here. The **{Name withheld for confidential reasons}** there, that is very important for the village. We fear that place. We avoid it. Bad things happen there. Sometimes you hear the sound of a motor boat and of people shouting. But you cannot see anything at all. The tree is a very serious place; there must be no joking around there. Bad things can happen.

Q. Are there any more taboos related to that place?

A. People do not walk there, if you need to get to the land behind the tree, you must take a big diversion around it.

Q. Are there any other sites that are important to you, culturally?

A. There are places on the river – Masika – especially where the river meets the lake near Kina.

Q. Why is this place important?



A. It is a place people visit for sick children but it is not used much now, it is more a historic site.

Q. Is there a particular person in the village who might initiate such activities?

A. Any 'important' /elder person in the village can.

Q. Are there other places?

A. The river itself is important to us. Sacrifices are made on the river to bring back the fish in February/March.

Q. Can you tell me anymore about what happens? Do people travel to this place?

A. People come here from all the villages nearby for the ceremony. Nsonga also have a ceremony at **{Name withheld for confidential reasons}**. What happens is that all the elders from Nsunzu, Nsonga and Kiina meet on the river – perhaps at various points and they do the ceremony.

Q. Are there any rules/taboo that help define the culture here?

A. Not really

Q. Are there places where say, only men can go?

A. No, men and women can go in the Lake here.

Q. Are there burial places here?

A. Yes, many, we will show you.

Q. Is there a church here?

A. No. We go to church at Nsonga.

Q. Do you have any questions for me? Is there anything else you would like to talk about? Are there any stories you think are important in the documentation of Nsunzu's cultural heritage?

A. Some people believe there is a lucky snake in the lake. When you see that big snake, you know you will soon find money!

Q. Can anyone see this snake? Do people look for it?

A. The Elder's must meet and carry out a special ceremony, they do this then someone sees the snake.

Q. Do you have any questions?

A. I have told you about our important site, **{Name withheld for confidential reasons}**. What can you do about this?

Q. I will give the information to CNOOC, and we will make sure they keep you informed of all development here, the road especially. Now we know where it is we can help protect it, so thank you for sharing.

2. Village interview: Nsunzu (NZ)

Date: 24th January 2014 (am)

Interviewer: Alice Hobson

Interviewee: Aduba Ukello

Q. How long have you lived here?

A. I was born here, I am 33 years old.

Q. Which tribe are you affiliated to?



A. Alur

Q. We are interested in the history of the village; you might know why the village is called Nsunzu?

A. No, I don't know the meaning.

Q. Do you know how old the settlement may be? How many generations of people have lived here?

A. We are the 6th generation.

Q. Where did the first settlers come from?

A. From the Western Nile area of Uganda.

Q. We have seen many older pottery pieces here; does anyone still make it in the village?

A. My grandparents made pots here. They even used to make clay boats here! They cooked the clay in fire so it was very hard and could go on the water. There was no timber here then for the boats we have now.

Q. We know about salt making at Kibiro, does anyone make salt here?

A. No.

Q. As I explained in detail before, we are interested in any places that may be important for Nsunzu for cultural reasons. Do you think there any sites I should know about?

A. There are many sites here.

Q. Can you tell me more?

A. That **{Name withheld for confidential reasons}** is culturally important. You must never point at **{Name withheld for confidential reasons}** (*points using his fist*) If we see a child accidentally pointing at the **{Name withheld for confidential reasons}** we must do a special ceremony to protect that child. There is also a snake, which can move in fire that lives in this place. The snake moves to the lake sometimes too. The snake is famous here. My father used to talk to the snake, communicate with it (my father was the cultural leader of Nsunzu) but now there is no cultural leader here.

Q. Is there someone you can call if you need?

A. There is a cultural leader who lives far away, in the W Nile area, he comes occasionally.

Q. Does the snake have a name?

A. No.

Q. Does the special **{Name withheld for confidential reasons}** have a name?

A. Yes, Uriyang. It means sacred, special place.

Q. Are there any more taboos related to that place? Are there places, for example, where women cannot go?

A. The places you mention, they did exist but not any longer. They have gone.

Q. Are there any other sites that are important to you, culturally?

A. No.

A. Do you have any ceremonies here, things you can do if there is a problem with the lake for example?

Q. A. We have a ceremony to help with the fishing here. There is a cultural leader who comes down from the escarpment to help conduct this. He lives in Nyamengo. He carries out a special ceremony on the Masika River.

Q. Do you have any questions?



A. I have told you about our most special site. What will happen to the **{Name withheld for confidential reasons}**?

Q. I will give the information to CNOOC, and we will make sure they keep you informed of all development here, the road especially. Now we know where it is we can help protect it, so thank you for sharing.

3. Village interview: Nsunzu (NZ)

Date: 24th January 2014 (am)

Interviewer: Alice Hobson

Interviewee: Urunega Urwothomiyo

Q. How long have you lived here?

A. I was born here, I am 31 years old.

Q. We are interested in the history of the village; you might know why the village is called Nsunzu?

A. No, I don't know the meaning.

Q. Do you know how old the settlement may be? How many generations of people have lived here?

A. We are the 6th generation.

Q. We have seen many older pottery pieces here, does anyone still make it in the village?

A. My parents made boats out of clay here, there never used to be any timber.

Q. As I explained in detail before, we are interested in any places that may be important for Nsunzu for cultural reasons. Do you think there any sites I should know about?

A. There are many sites here.

Q. Can you tell me more?

A. That **{Name withheld for confidential reasons}** just there is culturally important. It is much respected, much feared, it is our most important place.

Q. Are there any other places?

A. No. We used to fear that area of the escarpment (the ravine) opposite the village, we used to see smoke there and white people, the elders talk about it, but it is all ok now. Nothing happens anymore.

Q. Are there any more taboos related to that place? Are there places, for example, where women cannot go?

A. No women can go to the sacred tree. There once were areas where women couldn't bathe, but not now.

A. Do you have any ceremonies here, things you can do if there is a problem with the lake for example?

A. There is a man who comes down from the escarpment to carry out cultural ceremonies, he also goes to the sacred tree, when people have wishes, he grants their request.

Q. Do you have any questions?

A. What will happen to the tree?

Q. I will give the information to CNOOC, and we will make sure they keep you informed of all development here, the road especially. Now we know where it is we can help protect it, so thank you for sharing.

4. Kyakapere (pad 4-2 and infield road)

Date: 23rd January 2014 (pm)



Interviewer: Fatumah Mirembe

Interviewee: Uzinga Agenorwoth

Q. How long have you lived here?

A. 37 years and he is 77 years old

Q. Where were you born?

A. Kenya

Q. Which tribe are you affiliated to?

A. Alur

Q. Why did you move here?

A. Was lured by the fishing business.

Q. We are interested in the history of the village; you might know why the village is called Kyakapere?

A. Kyakapere was derived from a man who first settled in the village called Kapere and whoever came to the village referred to it as Kapere's place hence the name Kyapere literally a village for meaning for Kapere.

Q. What was the village like when you first arrived?

A. The village was quite small with few people and those I found here have passed on.

Q. Do you know how old the settlement may be? How many generations of people have lived here?

A. No

Q. We have seen many older pottery pieces here; does anyone still make it in the village?

A. There is no pottery making in this village though pots can be got from the mountains. The pieces around were probably used by those who came before us.

Q. We know about salt making at Kibiro, does anyone make salt here?

A. No.

Q. As I explained in detail before, we are interested in any places that may be important for Kyakapere for cultural reasons. Do you think there any sites I should know about?

A. There are no cultural sites that am aware of because am a catholic and I go to church.

Q. Are there any more taboos related to this place?

A. No.

Q. Are there any other sites that are important to you, culturally?

A. No. Some people have shrines in their houses, controlled by the head of the family. These are very secret, not for the public to see.

Q. Do you know any interesting story that is connected to the lake?

A. Initially it is said that there were times of fish scarcity in the lake and then people would come from Nsonga collecting money and food to perform rituals to appease the lake so as to boost the fish catch.

Q. Is there a particular person in the village who might initiate such activities?

A. This was done by specific people and in this case the Mukubya who died but what he used to do was inherited by his son who resides in the above the escarpment. The son does it currently.



Q. Are there other places?

A. No.

Q. Can you tell me anymore about what happens? Do people travel to this place?

A. People come here from all the villages nearby for the ceremony. Nsonga village also has a ceremony at the **{Name withheld for confidential reasons}** for this reason. What happens is that all the elders from Nsunzu, Nsonga and Kiina meet on the river – perhaps at various points and they do the ceremony.

Q. Are there any rules/taboo that help define the culture here?

A. Not really

Q. Are there places where say, only men can go?

A. No.

Q. Are there burial places here?

A. Yes, there are two, we will show you.

Q. Is there a church here?

A. Yes, Kyakapere has three churches and a mosque.

Q. Do you have any questions for me? Is there anything else you would like to talk about? Are there any stories you think are important in the documentation of Kyakapere's cultural heritage?

A. No, but hope that the oil industry does not displace us.

5. Date: 23.01.14

Village: Kyakapere

Time: Afternoon

Interviewer: Fatumah M.

Interviewee: Ogot Gerald.

Q. How old are you?

A. 38yrs and has spent 12yrs and he is Alur.

Q. Where did you come from and why?

A. Came from Nebbi to earn a living from the fishing business.

Q. Origin of the village name

A. There was a man who first settled in this area named Kapere so whoever was going to the area would refer to it as Kapere's place literally meaning for Kapere hence Kyakapere.

Q. History or stories about the village.

A. There was a story that at the extreme end of the village there used to appear white people bathing who would disappear in thin air; they were usually encountered in the early morning. These days they no longer appear.

Q. What have you heard about the pottery in the area?

A. Pots were brought from the mountains and it is said that during the Kabalega war, they used to put food and also children for protection during the war. The pots these days are for drinking water.



Q. About traditional beliefs in the area

A. Initially there was a man named Mukubya who used to make sacrifices during times of low fish catches and they would improve. However, this man died and the practice was inherited by his son who stays up the mountain (escarpment). The practice has stopped and instead people these days frequent the church and mosque in the area.

Q. Any local practices or taboos in the village?

A. There are no taboos because women here also engage in fishing. This implies there were there some time back.

6. Date: 23.01.14

Village: Kyakapere

Time: Afternoon

Interviewer: Fatumah M.

Interviewee: Ochai John

Q. How old are you?

A. 41 yrs. and has spent 27yrs, he is Alur.

Q. Where did you come from and why?

A. Came from Nebbi following his family and also to earn a living from the fishing business.

Q. Origin of the village name

A. There was a man who first settled in this area named Kapere so whoever was going to the area would refer to it as Kapere's place literally meaning for Kapere hence Kyakapere.

Q. History or stories about the village.

A. Some years back, it's believed there was a spot in the mountain where a snake spitting fire in the night would be seen especially by those fishing in the lake and usually the catch would be good. The interviewee has also witnessed it though it is not seen nowadays.

Q. What have you heard about the pottery in the area?

A. Pots were brought from the mountains and nowadays are being used for water storage and cooking purposes.

Q. About traditional beliefs in the area

A. When a woman gives birth sometimes the baby develops an allergy which is not explainable in hospital and usually if a ritual is not performed the child may die and if it's performed the child is healed in 2-3 days. This ritual is performed by a specialized person who takes the child with an egg, lament certain words then slaughter a chicken after which the child is sent home. The practice is still done and such a place where these rituals are carried out is {Name withheld for confidential reasons} along Masika River.

7. Date: 23.01.14

Village: Kyakapere

Time: Afternoon

Interviewer: Fatumah M.

Interviewee: Owonda Salim



Q. How old are you?

A. 52yrs and has spent 20yrs and he is Alur.

Q. Where did you come from and why?

A. Came from Bulisa then to Congo and eventually to Kyakapere to earn a living from the fishing business.

Q. Origin of the village name

A. There was a man who first settled in this area named Kapere so whoever was going to the area would refer to it as Kapere's place literally meaning for Kapere hence Kyakapere.

Q. History or stories about the village.

A. There is a story told about a speed boat that is heard on the waters in the night approaching the shores and when they come out to check there is no boat in sight and one time even waves were visible but not the boat.

Q. Any local laws or taboos in the village?

A. Initially pregnant women were not allowed to fetch water in the lake especially during mid-day and late evening for fear of evil spirits roaming the area and would lead to miscarriages.

Q. Any traditional practice or beliefs?

A. There is a practice that when children get severe illnesses, they are taken into the lake by a man named UMA who laments certain words then throw the spear into the water to evade the sickness and the practice still goes on.

8. Date: 23.01.14

Village: Kyakapere

Time: Afternoon

Interviewer: Fatumah M.

Interviewee: Ms. Adoko Swazi

Q. How old are you?

A. 47yrs and has spent 27yrs and she is Alur.

Q. Where did you come from and why?

A. Came from Kigorobyia to engage in fishing and is also married here.

Q. About the pottery in the area?

A. Has no knowledge about pot making or salt making.

Q. Are there any traditional beliefs in the village?

A. there is a traditional religion called "Lam-the-kwar" which has its roots from Nebbi and the leader in Kyakapere is called Akabi. The religious ceremonies are called out in the leader's house every Tuesday and Sunday either during day or night. They do beat drums, sing and dance.

Another traditional belief was when one constructed a new boat or acquired new nets, they would sacrifice a white cock though the practice is dying down and people engage in prayers for God's protection.

Q. Any local laws or taboos?



A. Pounding cassava, splitting firewood and fetching water in the night was not allowed since it was taken as a sign of disrespect to the ancestors and fish numbers would decrease.

9. Kiina village (settlement in vicinity)

Date: 23.01.14

Village: Kiina

Time: Afternoon

Interviewer: Fatumah M.

Interviewee: Usheng Okello

Q. How old are you?

A. 79yrs and has spent 40yrs and he is Alur.

Q. Where did you come from and why?

A. Came from Nebbi to earn a living from fishing.

Q. Origin of the name of the village.

A. There was once a small ship from Butiaba that needed to anchor in deep waters and such a spot being in this area, and then the area was named Kiina which if translated from Runyoro means deep water.

Q. History or stories linked to the village.

A. there was a man named Mukobyia who used to perform rituals as a way of appeasing the lake to give more fish. It is said that at a spot called Kasonga, this man would lament words and a big stone appeared out of the lake after which cocks and sheep were sacrificed on it and on its disappearance fish also came in huge numbers.

Q. About the pottery seen in the area

A. The broken pieces seen especially at the lake shores were canoes used for fishing before the advent of timber while others were used for water storage and cooking food and they get the pots from Nsonga.

Q. Any local laws or taboos?

A. The practice of constructing a house is done by men and the women are only allowed to smear the house.

Q. Traditional beliefs

A. There is a belief that as a sign of respecting the fish and ensure their continued supply from the lake, if a woman comes from the mountain with cassava flour, it's her man to prepare that food accompanied with fish. And on the day the woman leaves, she is given fish to carry up the mountain.

Another practice is about a woman giving birth and in case the after birth failed to come out, a certain herb was used to save the situation, though it's a woman secret.

However, the practices are dying out and people frequent the church.

10. Date: 23.01.14

Village: Kiina

Time: Afternoon

Interviewer: Fatumah M.

Interviewee: Mrs. Bahoire Ediriya



Q. How old are you?

A. 70yrs and has spent 30yrs and she is a Mugungu.

Q. Where did you come from and why? A. Came from Hoima following her brother.

Q. Origin of the name of the village.

A. Has no idea for the origin of the name.

Q. About the pottery seen in the area

A. Long ago these pots were used for cooking and storing food while performing sacrifices by the Bakubya tribe and since she is from the other tribe; she doesn't know what they did exactly.

Q. History or stories linked to the village.

A. They used to say that if one went in the mountains in the morning or during midday one was bound to find a breastfeeding baboon and if the person told anyone about it, spirits would possess that person or even kill the person.

More to that if one found a nicely curved stone and brought it back home, it would request to be taken back to the mountains.

Q. Traditional beliefs

A. The Bakubya clan was known to make sacrifices and perform rituals involving dances for the small gods in times when the lake wasn't giving good fish catches.

11. Date: 23.01.14

Village: Kiina

Time: Afternoon

Interviewer: Fatumah M.

Interviewee: Abel Kwebiha

Q. How old are you?

A. 68yrs and has spent 40yrs and he is a Munyoro.

Q. Where did you come from and why?

A. Came from Hoima following his parents.

Q. Origin of the name of the village.

A. It's a lugungu word to mean deep water and this place is really deep thus the name.

Q. Traditional beliefs

A. Initially a leader from the Bakubya clan went around collecting sheep and goats which were sacrificed at Kasonga and afterwards cross the lake to offer more sacrifices at a big stone referred to as Musaijamukuru and this was done in times of severe illnesses, low fish catches and also as a way of averting the evil spirits from the village. However, the practices are dying out.

Q. Local laws or taboos

A. Having sex outside the house was unheard of since it would be disrespect to the traditional beliefs and the spirits especially at Kasonga. However, people have turned to the church and these are no longer important.

12. Kabaale (pipe line and refinery)



Date: 28.01.14

Village: Kabaale

Time: Morning

Interviewer: Fatumah M.

Interviewee: Isingoma James

Q. How old are you?

A. 38yrs and has spent all his life and he is a Munyoro.

Q. About the origin of the name of the village

A. He has no idea.

Q. About the pottery in the area?

A. These were used by their grandparents and even says the iron slag in his compound was as a result of smelting performed by his great grandparents

Q. Traditional beliefs or practices

A. No idea because due to religion, people go to church

13. Date: 28.01.14

Village: Kabaale

Time: Morning

Interviewer: Fatumah M.

Interviewee: Kasangaki Fred

Q. How old are you?

A. 49yrs and came in 1989 and he is a Munyoro

Q. Where did you come from and why?

A. Came from Kyangwali following the mother

Q. About the origin of the name of the village

A. According to his mother who died recently at 90yrs, there was a stone about 2 km from his home that is said to be the origin of the name. Kabaale means small stone.

Q. About the pottery in the area

A. These are pots that were used long ago even by his mother.

Q. Traditional beliefs

A. Doesn't know about any because he is catholic and goes to church.

14. Kaseeta interviews (pipeline)

Date: 28.01.14

Village: Nyanseke

Time: Afternoon



Interviewer: Fatumah M.

Interviewee: Birengeso Wilson

Q. How old are you?

A. 32yrs and has spent all his life and he is a Munyoro.

Q. About the origin of the name of the village

A. The name Kaseeta has its origin from a tree called Omuseetera which is usually found in the forest but when it was seen here, it gave rise to the name.

Q. History of the area

A. Initially it was a cotton growing area but it shifted to tobacco growing though He didn't give me a reason for the shift.

Q. About the pottery seen in the area.

A. This is said to have been used long ago for food storage and cooking. It is still used today and there is a woman in a place called Kisooba about 2km from this place who makes pots plus two others in a place called Ndongo who do the same.

Q. Traditional beliefs.

A. There is a traditional healer in Kisooba where people go for consultation about one kilometer from this village. He is a registered traditional healer by the names Kasumba (Twagenda)

There is a hill called Kahara in the forest reserve where people used to go to offer sacrifices of chicken and sheep to appease the gods in rain scarcity. After a few days then it would rain.

In 2011 a borehole was being dug in Nyakabale after drilling it, it failed to give water. A one Asera was called in to make offerings and slaughtered chicken and after three days water started coming. This was about 4km from this trading center.

Q. About cemeteries of the area.

A. Burial can be done at Kaseeta C.O.U as long as one is a Christian while others are buried on their private land.

15. Nyanseke (pipeline)

Date: 28.01.14

Village: Nyanseke

Time: Afternoon

Interviewer: Fatumah M.

Interviewee: Kamanyire Julius Akiiki

Q. How old are you?

A. 37yrs and has spent all his life and he is a Munyoro.

Q. About the origin of the name of the village

A. Kuseeta in Runyoro means riding on the ground (Kwekulula) and in this sense the village was named so due to the very many witches and night dancers. It was also not advisable to move in the night as one was bound to disappear.

Q. About origin of pet name



A. These names were used as a sign of respect while addressing one's in-laws after the intermarriages between the Banyoro and Alurs. Akiiki comes from a saying "Rukikula mahanga" which means a savior of sorts hence it means "great person".

Q. About the pottery seen in the area.

A. These pots were used for fetching water and also eating utensils while performing rituals of the small gods.

Q. Traditional beliefs

A. The village has several traditional healers where people usually for consultations especially the one in Kisooba.

The bark cloth tree in the school compound is the village meeting tree.

Around the year 1988, as grading of the road was being carried out, about 3km from this trading center , a grader went through one old man's anthill and he died on the spot while the grader had to be towed away since it's engine could not be started. This old man was called Nkwenzamuze.

It is said that this same old man could send wild pigs to destroy people's gardens and if the villagers tried to lay nets to trap these animals, they only found big snakes of the cobra and puff udder type.

Furthermore, when the villagers got fed up of this old man, they set fire on his hut but it failed to burn and he eventually fled to another village. Fortunately for the village, he is dead now.

Q. Any burial sites?

A. Burials are done on family land.

16. Date: 28.01.14

Village: Nyanseke

Time: Afternoon

Interviewer: Fatumah M.

Interviewee: Gahuire John

Q. How old are you?

A. Was born in 1967 and has spent all his life and he is a Munyoro.

Q. About the origin of the name of the village

A. There was a tree called omuseeta in the village which gave rise to the name.

Q. About pottery in the area

A. Pots were used long ago to store water and cooking for.

Q. Traditional beliefs

A. It is said that there used to be lots of hunting in this village and hunters before going out to hunt, they went to a hill called Kahara to kulamiliza and offer sacrifices to appease the gods to get lots of game and not get lost in the forest.

17. Date: 28.01.14

Village: Nyanseke

Time: Afternoon



Interviewer: Fatumah M.

Interviewee: Maria Nakitto

Q. How old are you?

A. 90yrs and has spent 40yrs and she is a Munyoro.

Q. Where did you come from and why?

A. Came from Buyaga- Kibaale following her mother.

Q. About the origin of the name of the village

A. The name originated from a rare tree called 'omuseeta' usually found in the forest but was found here.

Q. About pottery seen in the area

A. Pots were used as cooking utensils and also for eating. There was a man named Rwizire who used to make pots but he died. The pots are still in use today.

Q. Traditional beliefs

A. There was a stone called 'Nalongo' where people could go in times of water scarcity to fetch. This stone had a big python under it and it was a duty for one named Kapere to take herbs and sacrifices for this snake to feast and when he died; the snake has since disappeared along with the water.

It was also Kapere's duty to pray for the rains in times of drought and surely the rains would come.

However, the beliefs are dying out due to the advent of religion.

Q. Local laws or taboos?

A. At that stone called Nalongo; women in their periods were not allowed to fetch water. And the same applied to those who had had sexual contact with anyone.

It is also said that in case a python came into someone's home it was not to be harmed. Elders were called and one had to leave the house for the snake until it left the following day.

18. Bitagata (pipeline)

Date: 29.01.14

Village: Bitagata/ Howa

Time: Morning

Interviewer: Fatumah M.

Interviewee: Mwesigye Alasimas

Q. How old are you?

A. 53yrs and has spent 5yrs and he is a Mutoro.

Q. Where did you come and why?

A. Came from Toro for employment on the dams' project in 2001 and when he earned some money bought land and settled.

Q. About the origin of the name of the village

A. Not sure about the meaning of the name

Q. About pottery seen in the area



A. It is a sign people were settled here long ago as also evidenced from the mango and jackfruit tree found in this place.

Q. Traditional beliefs

A. The Alur used to make sacrifices at River Hohwa but that was long ago. There also some very big lake snakes that everyone is afraid to kill. However, since the coming of the Bakiga and Banyarwanda, the land has been tilled thus the snakes are disappearing.

Q. Any burial sites?

A. Burials are done on family land.

19. Date: 29.01.14

Village: Bitagata/ Howa

Time: Morning

Interviewer: Fatumah M.

Interviewee: Manuel Kalyango

Q. How old are you?

A. 37yrs and has spent 10yrs and he is a Mukiga.

Q. Where did you come and why?

A. Came from Kabaale district following his family and eventually bought land to settle.

Q. Origin of the name of the village

A. Long ago the area was all wildness but when the Bakiga came and settled the land, it was conducive for agriculture and was so good for settlement hence the name. The word 'kutagata' literally means warmth and for these people, it was like a warm welcome and a sense of belonging in attachment to this land.

Q. About the pottery found in the area?

A. These pots were used by hunters for storing their food while in the wildness and were left behind by them.

Q. Any history or stories of the area?

A. There is a story of a boy about 8yrs who got lost in the wildness while tending cattle and he was never to be seen again. Nothing was ever found like his remains or anyone seeing him leave until now. His father was a Christian so he left everything to God and never pursued the matter.

20. Kasoga (Pipeline)

Date: 29.01.14

Village: Kasoga

Time: Afternoon

Interviewer: Fatumah M.

Interviewee: Barugahara Innocent

Q. How old are you?

A. 20yrs and has spent 1yr and he is a Mukiga.

Q. Where did you come and why?



A. Comes from Mubende for seasonal farming in crops like maize and beans.

Q. Origin of the name.

A. Has no idea.

Q. About pottery in the area

A. The first time to see it from the piece picked in his farm.

21. Nyamwerimigwa (pipeline)

Date: 29.01.14

Village: Nyamwerimigwa

Time: Afternoon

Interviewer: Fatumah M.

Interviewee: Tibanuka Lawrence

Q. How old are you?

A. 37yrs and has spent 15yrs and he is a Mukiga.

Q. Where did you come and why?

A. Came from Kibaale district due to scarcity of land so he bought it and settled here.

Q. Origin of the name.

A. Has no idea.

Q. About pottery in the area

A. They have seen the broken pieces which imply earlier settlement but they also buy them now and use them to store water and for cooking.

Q. Traditional beliefs

A. When one is to go hunting, they should not have had sexual intercourse the previous night to evade bad luck.

22. Kamwokya (pipeline)

Date: 29.01.14

Village: Kamwokya

Time: Afternoon

Interviewer: Fatumah M.

Interviewee: Asaba Muhereza

Q. How old are you?

A. 49yrs and has spent all his life and he is a Mutoro from Kyangwali.

Q. Origin of the name.

A. This place was started by constructing a school and houses started springing up which made the place become lively which was likened to the Kamwokya in Kampala hence the name



Q. About pottery in the area

A. Has seen pottery which was probably used for cooking long ago. This is because while digging a grave bones of a person were found with the pottery.

Q. History or stories of the village.

A. Long ago a lot of hunting was being practiced and before going out sacrifices were performed to please the gods to get a good catch. Sexual intercourse was not allowed the day before. A man named Zakayo used to lead the rituals, he stays in Nyamengo.

They usually call upon him in times of drought to offer sacrifices to bring rain.

Q. Any traditional beliefs

A. These are fast dying out due the religion called Unity of Faith; such practices are still in the Alurs.

Q. Tell me more about this religion

A. Local herbs and consulting of witch doctors is prohibited since their place of worship called 'Itambiro' is meant for healing all alignments.

Prayer sessions are conducted three times a month i.e., on the 2nd, 12th and 22nd as these are the days when their leader gets revelations from their god. They don't believe in Jesus since he is taken like any other person and instead they believe in Bishaka their leader as a link to God.

Prostitution is not allowed thus one can marry as many women as he can afford as long as the partners are blessed by the leader and there is no payment of dowry. So in case the leader gives a go ahead for the couple the parents of the bride and groom each contributes 1000/= and a marriage agreement is entered into.

23. Kyarushesha: Sayuni/Izahura (pipeline)

Date: 30.01.14

Village: Sayuni/ Izahura

Time: Afternoon

Interviewer: Fatumah M.

Interviewee: Tumwesigye Edward

Q. How old are you?

A.42 yrs and has spent 22 yrs and he is a Munyankole.

Q. Where did you come from and why?

A. Came from Masindi district looking for land to settle.

Q. About the origin of the name of the village

A. Sayuni is borrowed from the biblical name to show how peaceful this area is.

Q. About pottery seen in the area

A. Probably these were used long ago because even grinding stone are usually seen in the farm.

24. Date: 30.01.14

Village: Kyarushesha

Time: Afternoon



Interviewer: Fatumah M.

Interviewee: Begumya Paul

Q. How old are you?

A. Was born 1948 and came in 1999 and he is a Munyankole.

Q. Where did you come from and why?

A. Came from Sembabule- Mawogola looking for land to settle.

Q. Origin of the name of the village

A. Has no idea

Q. About pottery seen in the area?

A. Has never seen any potsherds

Q. Traditional beliefs

A. He is born again









Q. Any cemeteries?

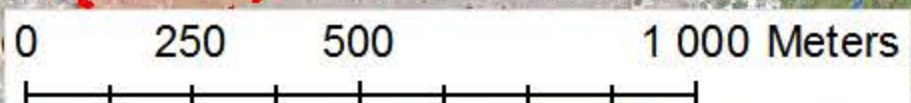
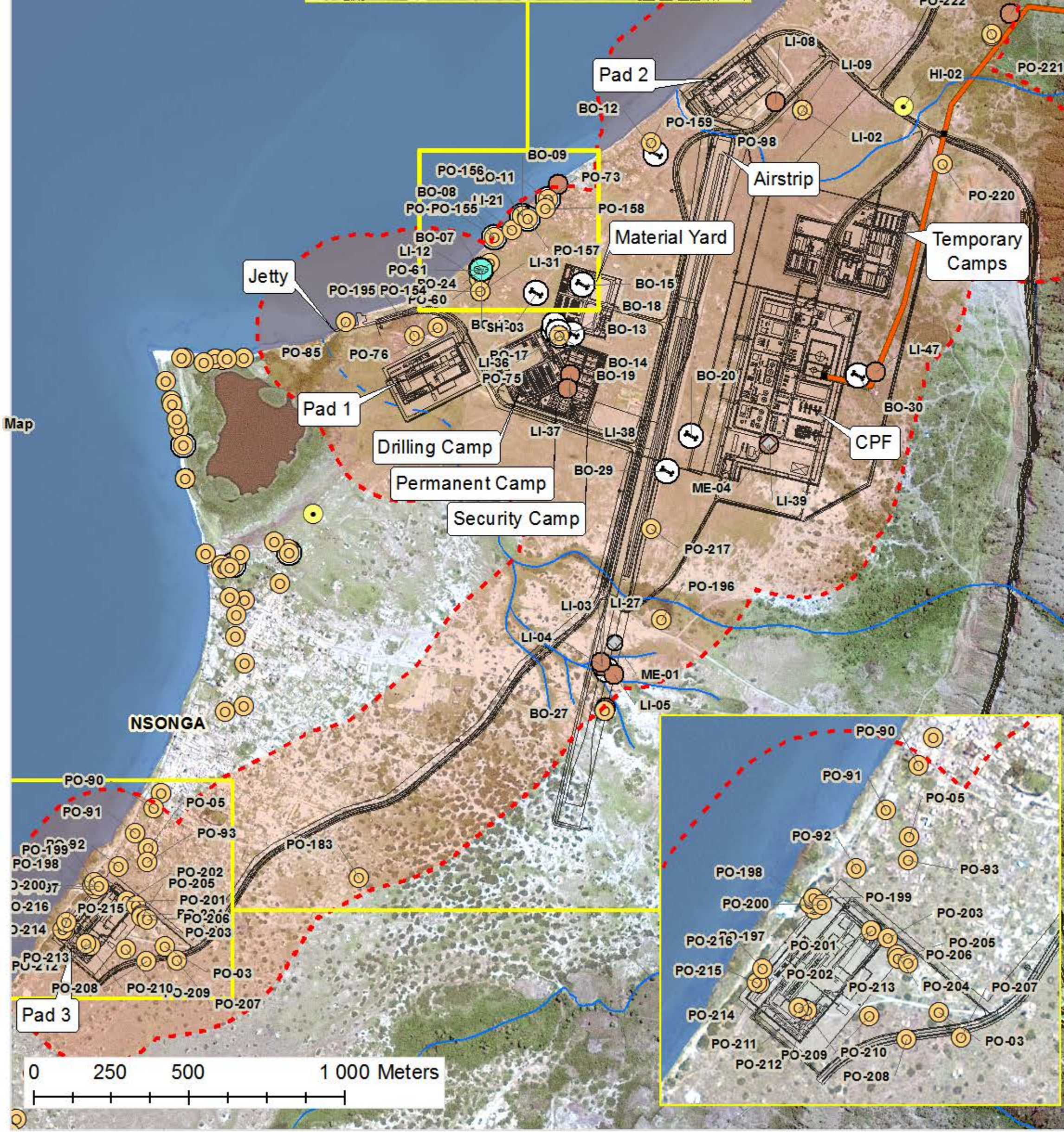
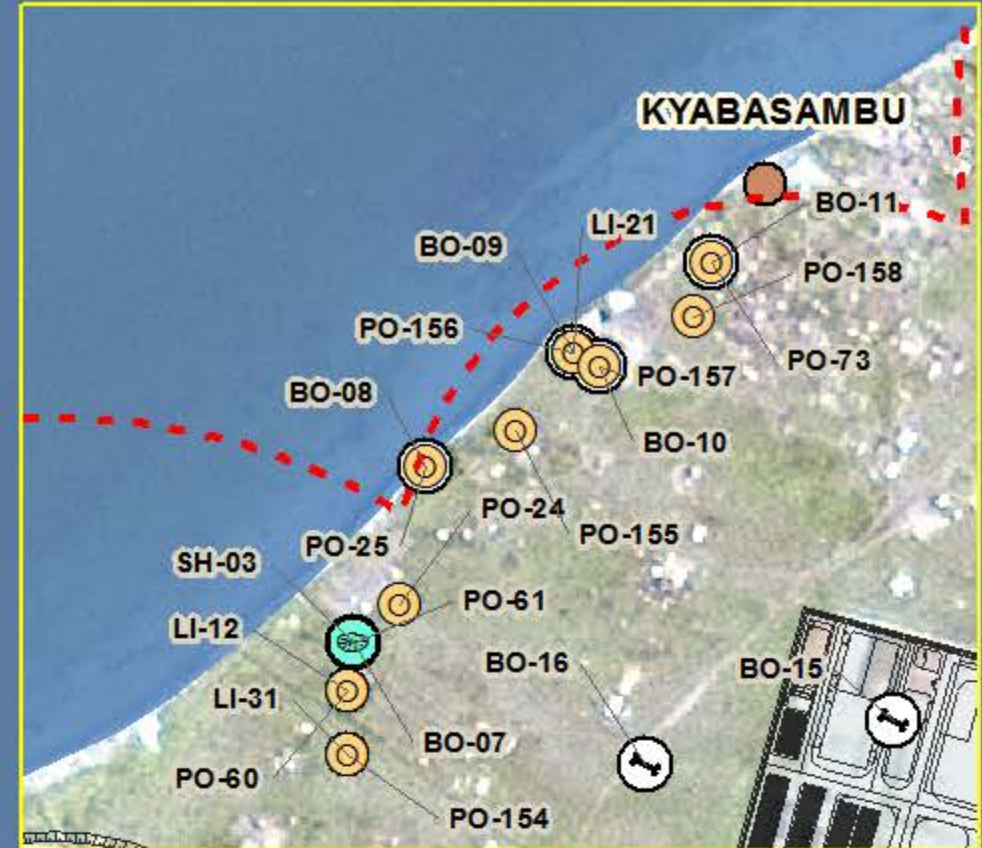
A. Burials are done at individual family land.



APPENDIX D

2017 Archaeological Site Map - overview

- - - 250 m from infrastructure
-  Faunal remains
-  Historical site
-  Lithics
-  Metal
-  Pottery
-  Quarry Site
-  Shells
-  Slag

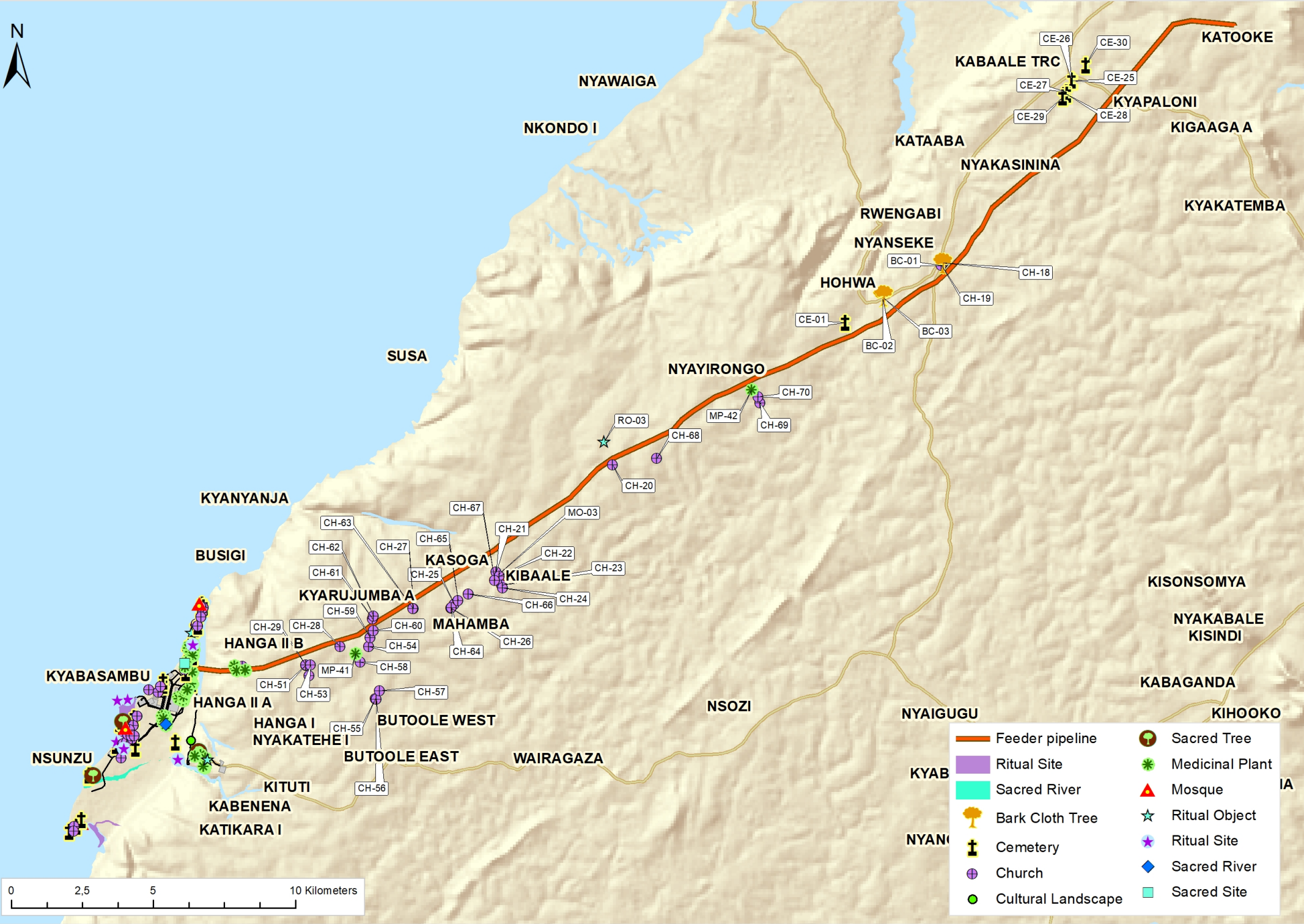


Map



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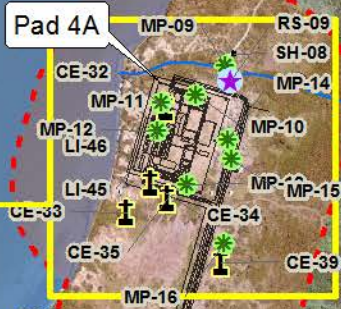


- | | | | |
|--|--------------------|--|-----------------|
| | Feeder pipeline | | Sacred Tree |
| | Ritual Site | | Medicinal Plant |
| | Sacred River | | Mosque |
| | Bark Cloth Tree | | Ritual Object |
| | Cemetery | | Ritual Site |
| | Church | | Sacred River |
| | Cultural Landscape | | Sacred Site |

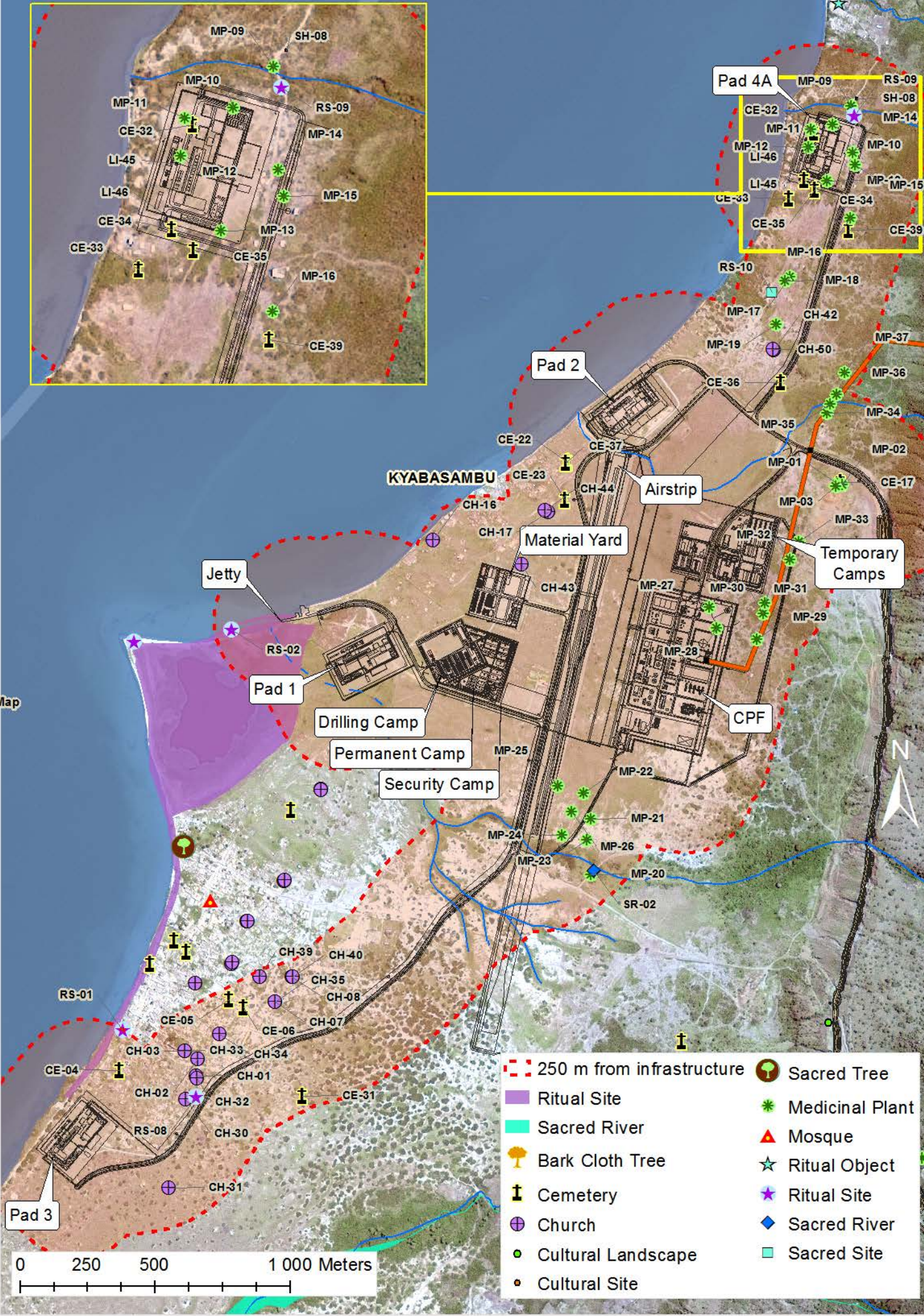


APPENDIX E

2017 Cultural Site Map: Overview



Map



- - - 250 m from infrastructure
- Ritual Site
- Sacred River
- 🌳 Bark Cloth Tree
- ⚰ Cemetery
- ⊕ Church
- 🌿 Cultural Landscape
- Cultural Site
- 🌳 Sacred Tree
- 🌿 Medicinal Plant
- ▲ Mosque
- ★ Ritual Object
- ★ Ritual Site
- ◆ Sacred River
- Sacred Site

0 250 500 1 000 Meters

2023/05/15 10:30:00 AM Project: T7616_CROO CIMX201201201616177616_Culture_0000016.mxd
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 Path: C:\Users\Administrator\AppData\Local\Temp\1616177616_Culture_0000016.mxd
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 Date: 2023/05/15 10:30:00 AM
 Author: Administrator
 Title: T7616_CROO CIMX201201201616177616_Culture_0000016.mxd



APPENDIX F

2017 Cultural Heritage Baseline Update - Field Survey Data

Cultural Heritage Sites - 2017 - Flats Archeology

| ID | WP | SITE | VILLAGE | TYPE | DESCRIPTION | Comment | PERIOD | North | East | DATE |
|--------|-----|-------|-------------|----------------|--|---------|----------------|--------|--------|------|
| BO-29 | 825 | FLATS | CPF ROADS | faunal remains | bone fragment | | | 249406 | 137560 | 2017 |
| PO-183 | | FLATS | Nsunzu | Pottery | Cemetery , Pottery | | | 248415 | 136254 | 2017 |
| PO-184 | 761 | FLATS | PAD 4A | Pottery | potsherd (plain) concentration | | | 250499 | 139977 | 2017 |
| PO-185 | 762 | FLATS | PAD 4A | Pottery | plain thick bodied pottery, reddish colour | | | 250425 | 139819 | 2017 |
| PO-186 | 763 | FLATS | PAD 4A | Pottery | plain pottery scatters at close to new bar | | | 250400 | 139846 | 2017 |
| PO-187 | 770 | FLATS | PAD 4A | Pottery | pottery scatters of 4x4m, finger impression and roulette | | MIA-LIA | 250283 | 139755 | 2017 |
| PO-188 | 771 | FLATS | PAD 4A | Pottery | pottery, roulette | | | 250263 | 139750 | 2017 |
| PO-189 | 773 | FLATS | PAD 4A | Pottery | string knotted roulette rim | | | 250265 | 139690 | 2017 |
| PO-190 | 779 | FLATS | PAD 4A | Pottery | plain pottery | | | 250296 | 139626 | 2017 |
| PO-191 | 785 | FLATS | PAD 4A | Pottery | 5 pieces of pottery | | | 250483 | 139679 | 2017 |
| PO-192 | 786 | FLATS | PAD 4A | Pottery | decorated pottery bagged | | | 250457 | 139649 | 2017 |
| PO-193 | 789 | FLATS | PAD 4A | Pottery | plain pottery, dark grey colour | | | 250396 | 139479 | 2017 |
| PO-194 | 791 | FLATS | PAD 4A | Pottery | plain pottery with dark interior suggesting cooking | | | 250344 | 139479 | 2017 |
| PO-195 | 806 | FLATS | PAD 1 ROADS | Pottery | pottery heavily abraded | | | 248594 | 137996 | 2017 |
| PO-196 | 815 | FLATS | CPF ROADS | Pottery | ceramics, scatter | | | 249388 | 137082 | 2017 |
| PO-197 | 829 | FLATS | PAD 3 ROADS | Pottery | pottery concentration | | | 247567 | 136218 | 2017 |
| PO-198 | 830 | FLATS | PAD 3 ROADS | Pottery | pottery concentration | | | 247560 | 136228 | 2017 |
| PO-199 | 831 | FLATS | PAD 3 ROADS | Pottery | pottery concentration about 20x20m string knotted roulette | | LIA | 247566 | 136238 | 2017 |
| PO-200 | 832 | FLATS | PAD 3 ROADS | Pottery | thick bodied pottery flat topped rim | | EIA | 247581 | 136226 | 2017 |
| PO-201 | 833 | FLATS | PAD 3 ROADS | Pottery | pottery scatters | | | 247671 | 136179 | 2017 |
| PO-202 | 834 | FLATS | PAD 3 ROADS | Pottery | pottery scatters | | | 247670 | 136179 | 2017 |
| PO-203 | 835 | FLATS | PAD 3 ROADS | Pottery | plain pottery | | | 247700 | 136165 | 2017 |
| PO-204 | 836 | FLATS | PAD 3 ROADS | Pottery | pottery scatters 10x10m | | | 247716 | 136135 | 2017 |
| PO-205 | 837 | FLATS | PAD 3 ROADS | Pottery | pottery concentration horizontal triangular punctates | | EIA | 247718 | 136129 | 2017 |
| PO-206 | 838 | FLATS | PAD 3 ROADS | Pottery | pottery concentration | | | 247736 | 136120 | 2017 |
| PO-207 | 841 | FLATS | PAD 3 ROADS | Pottery | 2 plain potsherds | | | 247831 | 135987 | 2017 |
| PO-208 | 842 | FLATS | PAD 3 ROADS | Pottery | roulette pottery 1 and plain 1 | | | 247733 | 135984 | 2017 |
| PO-209 | 844 | FLATS | PAD 3 ROADS | Pottery | concentration of pottery | | | 247666 | 136025 | 2017 |
| PO-210 | 845 | FLATS | PAD 3 ROADS | Pottery | finger nail impressions | | MIA (bourdine) | 247547 | 136039 | 2017 |
| PO-211 | 846 | FLATS | PAD 3 ROADS | Pottery | finger nail impressions | | MIA (bourdine) | 247544 | 136039 | 2017 |
| PO-212 | 847 | FLATS | PAD 3 ROADS | Pottery | stretch mark for pottery concentration | | | 247554 | 136035 | 2017 |
| PO-213 | 848 | FLATS | PAD 3 ROADS | Pottery | stretch mark for pottery concentration | | | 247539 | 136041 | 2017 |
| PO-214 | 850 | FLATS | PAD 3 ROADS | Pottery | huge pottery concentration roulette | | LIA | 247470 | 136084 | 2017 |
| PO-215 | 851 | FLATS | PAD 3 ROADS | Pottery | huge pottery concentration roulette | | LIA | 247465 | 136086 | 2017 |
| PO-216 | 852 | FLATS | PAD 3 ROADS | Pottery | huge pottery concentration roulette | | LIA | 247475 | 136111 | 2017 |
| PO-217 | 861 | FLATS | CPF ROADS | Pottery | plain pottery | | | 249355 | 137376 | 2017 |
| PO-218 | 966 | FLATS | PAD 4A | Pottery | Pottery, rouletting and some grooves | | LIA | 250800 | 141184 | 2017 |
| PO-219 | 970 | FLATS | PAD 4A | Pottery | Pottery | | | 250422 | 139517 | 2017 |

Additional Cultural Heritage Sites - 2017 - Flats Archeology

| ID | WP | SITE | VILLAGE | TYPE | DESCRIPTION | PERIOD | North | East | DATE |
|--------|-----|-------|-------------|----------------|--|----------------|--------|--------|------|
| BO-29 | 825 | FLATS | CPF ROADS | faunal remains | bone fragment | | 249406 | 137560 | 2017 |
| PO-183 | | FLATS | Nsunzu | Pottery | Cemetery , Pottery | | 248415 | 136254 | 2017 |
| PO-184 | 761 | FLATS | PAD 4A | Pottery | potsherd (plain) concentration | | 250499 | 139977 | 2017 |
| PO-185 | 762 | FLATS | PAD 4A | Pottery | plain thick bodied pottery, reddish colour | | 250425 | 139819 | 2017 |
| PO-186 | 763 | FLATS | PAD 4A | Pottery | plain pottery scatters at close to new bar | | 250400 | 139846 | 2017 |
| PO-187 | 770 | FLATS | PAD 4A | Pottery | n | MIA-LIA | 250283 | 139755 | 2017 |
| PO-188 | 771 | FLATS | PAD 4A | Pottery | pottery, roulette | | 250263 | 139750 | 2017 |
| PO-189 | 773 | FLATS | PAD 4A | Pottery | string knotted roulette rim | | 250265 | 139690 | 2017 |
| PO-190 | 779 | FLATS | PAD 4A | Pottery | plain pottery | | 250296 | 139626 | 2017 |
| PO-191 | 785 | FLATS | PAD 4A | Pottery | 5 pieces of pottery | | 250483 | 139679 | 2017 |
| PO-192 | 786 | FLATS | PAD 4A | Pottery | decorated pottery bagged | | 250457 | 139649 | 2017 |
| PO-193 | 789 | FLATS | PAD 4A | Pottery | plain pottery, dark grey colour | | 250396 | 139479 | 2017 |
| PO-194 | 791 | FLATS | PAD 4A | Pottery | plain pottery with dark interior suggesting cooking | | 250344 | 139479 | 2017 |
| PO-195 | 806 | FLATS | PAD 1 ROADS | Pottery | pottery heavily abraded | | 248594 | 137996 | 2017 |
| PO-196 | 815 | FLATS | CPF ROADS | Pottery | ceramics, scatter | | 249388 | 137082 | 2017 |
| PO-197 | 829 | FLATS | PAD 3 ROADS | Pottery | pottery concentration | | 247567 | 136218 | 2017 |
| PO-198 | 830 | FLATS | PAD 3 ROADS | Pottery | pottery concentration | | 247560 | 136228 | 2017 |
| PO-199 | 831 | FLATS | PAD 3 ROADS | Pottery | pottery concentration about 20x20m string knotted roulette | LIA | 247566 | 136238 | 2017 |
| PO-200 | 832 | FLATS | PAD 3 ROADS | Pottery | thick bodied pottery flat topped rim | EIA | 247581 | 136226 | 2017 |
| PO-201 | 833 | FLATS | PAD 3 ROADS | Pottery | pottery scatters | | 247671 | 136179 | 2017 |
| PO-202 | 834 | FLATS | PAD 3 ROADS | Pottery | pottery scatters | | 247670 | 136179 | 2017 |
| PO-203 | 835 | FLATS | PAD 3 ROADS | Pottery | plain pottery | | 247700 | 136165 | 2017 |
| PO-204 | 836 | FLATS | PAD 3 ROADS | Pottery | pottery scatters 10x10m | | 247716 | 136135 | 2017 |
| PO-205 | 837 | FLATS | PAD 3 ROADS | Pottery | pottery concentration horizontal triangular punctates | EIA | 247718 | 136129 | 2017 |
| PO-206 | 838 | FLATS | PAD 3 ROADS | Pottery | pottery concentration | | 247736 | 136120 | 2017 |
| PO-207 | 841 | FLATS | PAD 3 ROADS | Pottery | 2 plain potsherds | | 247831 | 135987 | 2017 |
| PO-208 | 842 | FLATS | PAD 3 ROADS | Pottery | roulette pottery 1 and plain 1 | | 247733 | 135984 | 2017 |
| PO-209 | 844 | FLATS | PAD 3 ROADS | Pottery | concentration of pottery | | 247666 | 136025 | 2017 |
| PO-210 | 845 | FLATS | PAD 3 ROADS | Pottery | finger nail impressions | MIA (bourdine) | 247547 | 136039 | 2017 |
| PO-211 | 846 | FLATS | PAD 3 ROADS | Pottery | finger nail impressions | MIA (bourdine) | 247544 | 136039 | 2017 |
| PO-212 | 847 | FLATS | PAD 3 ROADS | Pottery | stretch mark for pottery concentration | | 247554 | 136035 | 2017 |
| PO-213 | 848 | FLATS | PAD 3 ROADS | Pottery | stretch mark for pottery concentration | | 247539 | 136041 | 2017 |
| PO-214 | 850 | FLATS | PAD 3 ROADS | Pottery | huge pottery concentration roulette | LIA | 247470 | 136084 | 2017 |
| PO-215 | 851 | FLATS | PAD 3 ROADS | Pottery | huge pottery concentration roulette | LIA | 247465 | 136086 | 2017 |
| PO-216 | 852 | FLATS | PAD 3 ROADS | Pottery | huge pottery concentration roulette | LIA | 247475 | 136111 | 2017 |
| PO-217 | 861 | FLATS | CPF ROADS | Pottery | plain pottery | | 249355 | 137376 | 2017 |
| PO-218 | 966 | FLATS | PAD 4A | Pottery | Pottery, rouletting and some grooves | LIA | 250800 | 141184 | 2017 |
| PO-219 | 970 | FLATS | PAD 4A | Pottery | Pottery | | 250422 | 139517 | 2017 |
| LI-45 | 769 | FLATS | PAD 4A | Lithics | discoid (MSA) | | 250283 | 139755 | 2017 |
| LI-46 | 774 | FLATS | PAD 4A | Lithics | levallois multi platform core | | 250261 | 139671 | 2017 |

Cultural Heritage Sites - 2017 - Flats Cultural

| ID | WP | SITE | VILLAGE | TYPE | DESCRIPTION | Comment | North | East | DATE |
|-------|-------------------|-------|------------|-----------------|--|---|----------------------------|----------------------------|------|
| CE-31 | 874 | FLATS | Nsunzu | Cemetery | Cemetery | its is surrounded by cactus and pottery | 248415 | 136254 | 2017 |
| CE-32 | 766 | FLATS | PAD 4A | Cemetery | 1 grave for son of Ezra Manja called Bosco | | 250309 | 139822 | 2017 |
| CE-33 | 777 | FLATS | PAD 4A | Cemetery | 12 graves but only two names known | | 250218 | 139577 | 2017 |
| CE-34 | 778 | FLATS | PAD 4A | Cemetery | Oguti Ociro was burried mother of chairperson and the step mother | | 250274 | 139645 | 2017 |
| CE-35 | 780 | FLATS | PAD 4A | Cemetery | 14 graves with only one cemented, one of Olum Oram Etieno cemented | | 250311 | 139610 | 2017 |
| CE-36 | 799 | FLATS | PAD 4A | Cemetery | 1 grave of Odaga under Ober Giyo | | 250186 | 138895 | 2017 |
| CE-37 | 855 | FLATS | Kyabasambu | Cemetery | | | 249391 | 138598 | 2017 |
| CE-38 | 963 | FLATS | PAD 4A | Cemetery | Cemetery, its 5m from the chruh with alot of pottery scatters | | 250618 | 140531 | 2017 |
| CE-39 | 971 | FLATS | PAD 4A | Cemetery | grave | | 250439 | 139459 | 2017 |
| CH-30 | 866 | FLATS | Nsunzu | Church | Afrocreed Church (Lamwethekwaro) | | 247983 | 136242 | 2017 |
| CH-31 | 868 | FLATS | Nsunzu | Church | FePaco Church | its incomplete | 247920 | 135913 | 2017 |
| CH-32 | 870 | FLATS | Nsunzu | Church | Nsunzu Seventhday Adventist Church | | 248025 | 136320 | 2017 |
| CH-33 | 872 | FLATS | Nsunzu | Church | Nsunzu Protestant Church | | 247980 | 136420 | 2017 |
| CH-34 | 875 | FLATS | Nsunzu | Church | Tree of Life Pentecostal Church | | 248108 | 136483 | 2017 |
| CH-35 | 877 | FLATS | Nsunzu | Church | Faith of Unity Church | | 248315 | 136602 | 2017 |
| CH-36 | 878 | FLATS | Nsonga | Church | Kiguli Catholic Church Nsonga | | 248350 | 137053 | 2017 |
| CH-37 | 879 | FLATS | Nsonga | Church | Nsonga Church of Uganda | | 248211 | 136901 | 2017 |
| CH-38 | 881 | FLATS | Nsunzu | Church | Nsunzu Church of God | | 248157 | 136747 | 2017 |
| CH-39 | 882 | FLATS | Nsunzu | Church | Nsunzu Disciple Church | | 248258 | 136694 | 2017 |
| CH-40 | 883 | FLATS | Nsonga | Church | Nsonga Church of the Rock | | 248380 | 136694 | 2017 |
| CH-41 | 884 | FLATS | Nsonga | Church | Nsonga Miracle Church | | 248485 | 137387 | 2017 |
| CH-42 | 798 | FLATS | PAD 4A | Church | Kyakapere Catholic Church | | 250159 | 139014 | 2017 |
| CH-43 | 853 | FLATS | Kyabasambu | Church | | | 249228 | 138221 | 2017 |
| CH-44 | 854 | FLATS | Kyabasambu | Church | | | 249312 | 138423 | 2017 |
| CH-45 | 962 | FLATS | PAD 4A | Church | Catholic Church | | 250615 | 140548 | 2017 |
| CH-46 | 964 | FLATS | PAD 4A | Church | Pentecostal Church of Uganda | | 250779 | 141002 | 2017 |
| CH-47 | 965 | FLATS | PAD 4A | Church | Chruh of God | | 250824 | 141178 | 2017 |
| CH-48 | 967 | FLATS | PAD 4A | Church | Protestant Church (Church of Uganda) | | 250732 | 141217 | 2017 |
| CH-49 | 969 | FLATS | PAD 4A | Church | Lamathekwaro cult church | | 250730 | 140851 | 2017 |
| CH-50 | 972 | FLATS | PAD 4A | Church | Catholic Church | | 250157 | 139017 | 2017 |
| LI-45 | 769 | FLATS | PAD 4A | Lithics | discoïd (MSA) | | 250283 | 139755 | 2017 |
| LI-46 | 774 | FLATS | PAD 4A | Lithics | levallois multi platform core | | 250261 | 139671 | 2017 |
| MO-04 | 880 | FLATS | Nsonga | Mosque | Nsonga Mosque | | 248076 | 136979 | 2017 |
| MO-05 | 968 | FLATS | PAD 4A | Mosque | Mosque | | 250690 | 141319 | 2017 |
| MP-09 | 758 | FLATS | PAD 4A | Medicinal plant | cactus, aloevera | | 250446 | 139919 | 2017 |
| MP-10 | 764 | FLATS | PAD 4A | medicinal plant | aloevera | | 250377 | 139850 | 2017 |
| MP-11 | 765 | FLATS | PAD 4A | medicinal plant | Neem tree | | 250296 | 139833 | 2017 |
| MP-12 | 767 | FLATS | PAD 4A | medicinal plant | aloevera | | 250289 | 139768 | 2017 |
| MP-13 | 781 | FLATS | PAD 4A | medicinal plant | cactus | | 250357 | 139642 | 2017 |
| MP-14 | 783 | FLATS | PAD 4A | medicinal plant | cactus at newly constructed house | | 250454 | 139745 | 2017 |
| MP-15 | 784 | FLATS | PAD 4A | medicinal plant | aloevera | | 250463 | 139701 | 2017 |
| MP-16 | 788 | FLATS | PAD 4A | medicinal plant | cactus and aloevera | | 250444 | 139506 | 2017 |
| MP-17 | 793 | FLATS | PAD 4A | medicinal plant | 2 big cactuses | | 250221 | 139286 | 2017 |
| MP-18 | 794 | FLATS | PAD 4A | medicinal plant | kulumbero for eyes | | 250203 | 139273 | 2017 |
| MP-19 | 797 | FLATS | PAD 4A | medicinal plant | aloevera shrub | | 250168 | 139111 | 2017 |
| MP-20 | 818 | FLATS | CPF ROADS | medicinal plant | medicinal plants catcus | | 249483 | 137074 | 2017 |
| MP-21 | 822 | FLATS | CPF ROADS | medicinal plant | medicinal plants catcus | | 249484 | 137279 | 2017 |
| MP-22 | 823 | FLATS | CPF ROADS | medicinal plant | medicinal plants eye medicine | | 249455 | 137376 | 2017 |
| MP-23 | 858 | FLATS | CPF ROADS | Medicinal plant | cactus and mukubyakubya | | 249467 | 137201 | 2017 |
| MP-24 | 859 | FLATS | CPF ROADS | Medicinal plant | cactus | | 249375 | 137219 | 2017 |
| MP-25 | 862 | FLATS | CPF ROADS | Medicinal plant | kulumbero | | 249362 | 137401 | 2017 |
| MP-26 | 864 | FLATS | CPF ROADS | Medicinal plant | kulumbero | | 249411 | 137305 | 2017 |
| RS-08 | 867 | FLATS | Nsunzu | Ritual Site | Swamp for the Afrocreed holywater | | 248022 | 136250 | 2017 |
| RS-09 | 757 | FLATS | PAD 4A | Ritual Site | cow skull (recent) the stream is also used for ritual purposes | | 250459 | 139884 | 2017 |
| RS-10 | 795 | FLATS | PAD 4A | Sacred Site | site called coet | | 250154 | 139230 | 2017 |
| SH-08 | 759 | FLATS | PAD 4A | faunal remains | shell | | 250468 | 139947 | 2017 |
| SR-02 | 819 | FLATS | CPF ROADS | Sacred River | River Kyamasinga calvete | originates on escarpment | 249496 | 137087 | 2017 |
| ST-03 | 865 | FLATS | Nsunzu | Sacred Tree | tree | tree cut by CNOOC | 246908 | 135263 | 2017 |
| RS-11 | 802 805 809 | FLATS | Pad 1 | Sacred Site | Kagera Well / Swamp site | Marshy area at Pad 1 | 248581 248585 248397 | 137857 137985 138028 | 2017 |

Additional Cultural Heritage Sites - 2017 - Flats Cultural

| ID | WP | SITE | VILLAGE | TYPE | DESCRIPTION | Site Guardian | North | East | DATE |
|-------|-------------------|-------|------------|-----------------|--|----------------------|--------------|--------------|------|
| CE-31 | 874 | FLATS | Nsunzu | Cemetery | Cemetery | | 248415 | 136254 | 2017 |
| CE-32 | 766 | FLATS | PAD 4A | Cemetery | 1 grave for son of Ezra Manja called Bosco | | 250309 | 139822 | 2017 |
| CE-33 | 777 | FLATS | PAD 4A | Cemetery | 12 graves but only two names known | | 250218 | 139577 | 2017 |
| CE-34 | 778 | FLATS | PAD 4A | Cemetery | Oguti Ociro was burried mother of chairperson and the step mother | | 250274 | 139645 | 2017 |
| CE-35 | 780 | FLATS | PAD 4A | Cemetery | 14 graves with only one cemented, one of Olum Oram Etieno cemented | | 250311 | 139610 | 2017 |
| CE-36 | 799 | FLATS | PAD 4A | Cemetery | 1 grave of Odaga under Ober Giyo | | 250186 | 138895 | 2017 |
| CE-37 | 855 | FLATS | Kyabasambu | Cemetery | | | 249391 | 138598 | 2017 |
| CE-38 | 963 | FLATS | PAD 4A | Cemetery | Cemetery, its 5m from the chruh with alot of pottery scatters | | 250618 | 140531 | 2017 |
| CE-39 | 971 | FLATS | PAD 4A | Cemetery | grave | | 250439 | 139459 | 2017 |
| CH-30 | 866 | FLATS | Nsunzu | Church | Afrocreed Church (Lamwethekwaro) | | 247983 | 136242 | 2017 |
| CH-31 | 868 | FLATS | Nsunzu | Church | FePaco Church | | 247920 | 135913 | 2017 |
| CH-32 | 870 | FLATS | Nsunzu | Church | Nsunzu Seventhday Adventist Church | | 248025 | 136320 | 2017 |
| CH-33 | 872 | FLATS | Nsunzu | Church | Nsunzu Protestant Church | | 247980 | 136420 | 2017 |
| CH-34 | 875 | FLATS | Nsunzu | Church | Tree of Life Pentecostal Church | | 248108 | 136483 | 2017 |
| CH-35 | 877 | FLATS | Nsunzu | Church | Faith of Unity Church | | 248315 | 136602 | 2017 |
| CH-36 | 878 | FLATS | Nsonga | Church | Kiguli Catholic Church Nsonga | | 248350 | 137053 | 2017 |
| CH-37 | 879 | FLATS | Nsonga | Church | Nsonga Church of Uganda | | 248211 | 136901 | 2017 |
| CH-38 | 881 | FLATS | Nsunzu | Church | Nsunzu Church of God | | 248157 | 136747 | 2017 |
| CH-39 | 882 | FLATS | Nsunzu | Church | Nsunzu Disciple Church | | 248258 | 136694 | 2017 |
| CH-40 | 883 | FLATS | Nsonga | Church | Nsonga Church of the Rock | | 248380 | 136694 | 2017 |
| CH-41 | 884 | FLATS | Nsonga | Church | Nsonga Miracle Church | | 248485 | 137387 | 2017 |
| CH-42 | 798 | FLATS | PAD 4A | Church | Kyakapere Catholic Church | | 250159 | 139014 | 2017 |
| CH-43 | 853 | FLATS | Kyabasambu | Church | | | 249228 | 138221 | 2017 |
| CH-44 | 854 | FLATS | Kyabasambu | Church | | | 249312 | 138423 | 2017 |
| CH-45 | 962 | FLATS | PAD 4A | Church | Catholic Church | | 250615 | 140548 | 2017 |
| CH-46 | 964 | FLATS | PAD 4A | Church | Pentecostal Church of Uganda | | 250779 | 141002 | 2017 |
| CH-47 | 965 | FLATS | PAD 4A | Church | Chruh of God | | 250824 | 141178 | 2017 |
| CH-48 | 967 | FLATS | PAD 4A | Church | Protestant Church (Church of Uganda) | | 250732 | 141217 | 2017 |
| CH-49 | 969 | FLATS | PAD 4A | Church | Lamathekwaro cult church | | 250730 | 140851 | 2017 |
| CH-50 | 972 | FLATS | PAD 4A | Church | Catholic Church | | 250157 | 139017 | 2017 |
| MO-04 | 880 | FLATS | Nsonga | Mosque | Nsonga Mosque | | 248076 | 136979 | 2017 |
| MO-05 | 968 | FLATS | PAD 4A | Mosque | Mosque | | 250690 | 141319 | 2017 |
| MP-09 | 758 | FLATS | PAD 4A | Medicinal plant | cactus, aloevera | | 250446 | 139919 | 2017 |
| MP-10 | 764 | FLATS | PAD 4A | medicinal plant | aloevera | | 250377 | 139850 | 2017 |
| MP-11 | 765 | FLATS | PAD 4A | medicinal plant | Neem tree | | 250296 | 139833 | 2017 |
| MP-12 | 767 | FLATS | PAD 4A | medicinal plant | aloevera | | 250289 | 139768 | 2017 |
| MP-13 | 781 | FLATS | PAD 4A | medicinal plant | cactus | | 250357 | 139642 | 2017 |
| MP-14 | 783 | FLATS | PAD 4A | medicinal plant | cactus at newly constructed house | | 250454 | 139745 | 2017 |
| MP-15 | 784 | FLATS | PAD 4A | medicinal plant | aloevera | | 250463 | 139701 | 2017 |
| MP-16 | 788 | FLATS | PAD 4A | medicinal plant | cactus and aloevera | | 250444 | 139506 | 2017 |
| MP-17 | 793 | FLATS | PAD 4A | medicinal plant | 2 big cactuses | | 250221 | 139286 | 2017 |
| MP-18 | 794 | FLATS | PAD 4A | medicinal plant | kulumbero for eyes | | 250203 | 139273 | 2017 |
| MP-19 | 797 | FLATS | PAD 4A | medicinal plant | aloevera shrub | | 250168 | 139111 | 2017 |
| MP-20 | 818 | FLATS | CPF ROADS | medicinal plant | medicinal plants catcus | | 249483 | 137074 | 2017 |
| MP-21 | 822 | FLATS | CPF ROADS | medicinal plant | medicinal plants catcus | | 249484 | 137279 | 2017 |
| MP-22 | 823 | FLATS | CPF ROADS | medicinal plant | medicinal plants eye medicine | | 249455 | 137376 | 2017 |
| MP-23 | 858 | FLATS | CPF ROADS | Medicinal plant | cactus and mukuyakubuya | | 249467 | 137201 | 2017 |
| MP-24 | 859 | FLATS | CPF ROADS | Medicinal plant | cactus | | 249375 | 137219 | 2017 |
| MP-25 | 862 | FLATS | CPF ROADS | Medicinal plant | kulumbero | | 249362 | 137401 | 2017 |
| MP-26 | 864 | FLATS | CPF ROADS | Medicinal plant | kulumbero | | 249411 | 137305 | 2017 |
| RS-08 | 867 | FLATS | Nsunzu | Ritual Site | Swamp for the Afrocreed holywater | | Confidential | Confidential | 2017 |
| RS-09 | 757 | FLATS | PAD 4A | Ritual Site | cow skull (recent) the stream is also used for ritual purposes | | Confidential | Confidential | 2017 |
| RS-10 | 795 | FLATS | PAD 4A | Sacred Site | site called coet | | Confidential | Confidential | 2017 |
| SH-08 | 759 | FLATS | PAD 4A | faunal remains | shell | | 250468 | 139947 | 2017 |
| SR-02 | 819 | FLATS | CPF ROADS | Sacred River | River Kyamasinga calvete | | Confidential | Confidential | 2017 |
| ST-03 | 865 | FLATS | Nsunzu | Sacred Tree | Site of cut tree | Zakaria | Confidential | Confidential | 2017 |
| RS-11 | 802 805 809 | FLATS | Pad 1 | Sacred Site | Kagera Well / Swamp site | Alex Olhur / Lwutung | Confidential | Confidential | 2017 |

Cultural Heritage Sites - 2017 - Pipeline Cultural

| ID | WP | SITE | VILLAGE | TYPE | DESCRIPTION | North | East | DATE |
|-------|------|----------|------------|-----------------|--|--------|--------|------|
| BC-02 | 14 | PIPELINE | HOHWA | Cultural Tree | Bark cloth tree | 274774 | 151971 | 2017 |
| BC-03 | 15 | PIPELINE | HOHWA | Cultural Tree | huge bark cloth tree | 274814 | 151999 | 2017 |
| CH-50 | 917 | PIPELINE | Nyantai | Church | Victory Pentecostal Church Nyantai | 252199 | 139129 | 2017 |
| CH-51 | 944 | PIPELINE | HANGA 2B | Church | Hanga Revival Church | 254435 | 139166 | 2017 |
| CH-52 | 948 | PIPELINE | HANGA 2B | Church | Itambiro Lya Bisaka | 254544 | 138800 | 2017 |
| CH-53 | 949 | PIPELINE | HANGA 2B | Church | Jehovah's Witness | 254601 | 139177 | 2017 |
| CH-54 | 951 | PIPELINE | Nyansenge | Church | Catholic church of Nyansenge | 256656 | 139812 | 2017 |
| CH-55 | 954 | PIPELINE | Nyansenge | Church | Rwensambya Church of Uganda | 256881 | 137990 | 2017 |
| CH-56 | 955 | PIPELINE | Nyansenge | Church | Itambiro lya Bisaka - it used to be a ritual place | 256914 | 137976 | 2017 |
| CH-57 | 957 | PIPELINE | Nyansenge | Church | Nyansenge Seventh Day Adventist Church | 257032 | 138267 | 2017 |
| CH-58 | 961 | PIPELINE | Nyansenge | Church | Itambiro lya Bisaka | 256358 | 139264 | 2017 |
| CH-59 | 975 | PIPELINE | Kyarujumba | Church | Katooma Pentecostal Church 1 | 256696 | 140129 | 2017 |
| CH-60 | 976 | PIPELINE | Kyarujumba | Church | Katooma Pentecostal Church 2 | 256813 | 140367 | 2017 |
| CH-61 | 977 | PIPELINE | Kyarujumba | Church | Katooma Pentecostal Church 3 | 256781 | 140786 | 2017 |
| CH-62 | 978 | PIPELINE | Kyarujumba | Church | Kyarujumba Catholic Church and the school opposite each other | 256813 | 140885 | 2017 |
| CH-63 | 983 | PIPELINE | | Church | Fountain of Lif Church | 258199 | 141145 | 2017 |
| CH-64 | 985 | PIPELINE | | Church | Life Church Buhumiro | 259563 | 141168 | 2017 |
| CH-65 | 986 | PIPELINE | | Church | Itambiro Lya Bisaka | 259793 | 141424 | 2017 |
| CH-66 | 987 | PIPELINE | | Church | Pentecostal church | 260160 | 141649 | 2017 |
| CH-67 | 988 | PIPELINE | Kasoga | Church | Mungumwema Church Kasoga | 261096 | 142132 | 2017 |
| CH-68 | 992 | PIPELINE | Kyarusesa | Church | Besel Miracle Centre Church Kyarusesa | 266801 | 146402 | 2017 |
| CH-69 | 999 | PIPELINE | Zahura | Church | Pentecostal (Panikote) church Zahura | 270453 | 148341 | 2017 |
| CH-70 | 1000 | PIPELINE | Zahura | Church | Adventist Church Zahura | 270389 | 148557 | 2017 |
| CL-03 | 973 | PIPELINE | Kingfisher | Cultural Site | View Point - the point from which one can view the entire Buhuuka Flat | 250364 | 136524 | 2017 |
| MP-27 | 885 | PIPELINE | | Medicinal Plant | Kulumbero | 249921 | 138064 | 2017 |
| MP-28 | 886 | PIPELINE | | Medicinal Plant | Kulumbero | 249948 | 137986 | 2017 |
| MP-29 | 891 | PIPELINE | | Medicinal Plant | aloevera | 250099 | 137946 | 2017 |
| MP-30 | 892 | PIPELINE | | Medicinal Plant | concentration of aloevera | 250121 | 138041 | 2017 |
| MP-31 | 893 | PIPELINE | | Medicinal Plant | kulumbero for eyes and measles | 250128 | 138078 | 2017 |
| MP-32 | 895 | PIPELINE | | Medicinal Plant | kulumbero for eyes and measles | 250220 | 138240 | 2017 |
| MP-33 | 896 | PIPELINE | | Medicinal Plant | Kulumbero and depositional rocks from escarpment | 250254 | 138307 | 2017 |
| MP-34 | 901 | PIPELINE | | Medicinal Plant | cactus | 250356 | 138784 | 2017 |
| MP-35 | 902 | PIPELINE | | Medicinal Plant | cactus | 250368 | 138816 | 2017 |
| MP-36 | 903 | PIPELINE | | Medicinal Plant | kulumbero | 250392 | 138852 | 2017 |
| MP-37 | 904 | PIPELINE | | Medicinal Plant | cactus, kulumbero | 250424 | 138931 | 2017 |
| MP-38 | 922 | PIPELINE | Nyantai | medicinal plant | mululuzza | 251904 | 139146 | 2017 |
| MP-39 | 937 | PIPELINE | Nyantai | medicinal plant | kamunye | 252000 | 138970 | 2017 |
| MP-40 | 942 | PIPELINE | Nyantai | medicinal plant | timber, medicinal plant, ee for also trapping birds | 252294 | 138987 | 2017 |
| MP-41 | 952 | PIPELINE | Nyansenge | medicinal plant | mango tree | 256190 | 139563 | 2017 |
| MP-42 | 1 | PIPELINE | Zahura | Medicinal Plant | medicinal plant | 270147 | 148802 | 2017 |

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| ID | WP | SITE | VILLAGE | TYPE | DESCRIPTION | North | East | DATE |
|-------|------|----------|------------|-----------------|--|--------|--------|------|
| BC-02 | 14 | PIPELINE | HOHWA | Cultural Tree | Bark cloth tree | 274774 | 151971 | 2017 |
| BC-03 | 15 | PIPELINE | HOHWA | Cultural Tree | huge bark cloth tree | 274814 | 151999 | 2017 |
| CH-50 | 917 | PIPELINE | Nyantai | Church | Victory Pentecostal Church Nyantai | 252199 | 139129 | 2017 |
| CH-51 | 944 | PIPELINE | HANGA 2B | Church | Hanga Revival Church | 254435 | 139166 | 2017 |
| CH-52 | 948 | PIPELINE | HANGA 2B | Church | Itambiro Lya Bisaka | 254544 | 138800 | 2017 |
| CH-53 | 949 | PIPELINE | HANGA 2B | Church | Jehovah's Witness | 254601 | 139177 | 2017 |
| CH-54 | 951 | PIPELINE | Nyansenge | Church | Catholic church of Nyansenge | 256656 | 139812 | 2017 |
| CH-55 | 954 | PIPELINE | Nyansenge | Church | Rwensambya Church of Uganda | 256881 | 137990 | 2017 |
| CH-56 | 955 | PIPELINE | Nyansenge | Church | Itambiro lya Bisaka - it used to be a ritual place | 256914 | 137976 | 2017 |
| CH-57 | 957 | PIPELINE | Nyansenge | Church | Nyansenge Seventh Day Adventist Church | 257032 | 138267 | 2017 |
| CH-58 | 961 | PIPELINE | Nyansenge | Church | Itambiro lya Bisaka | 256358 | 139264 | 2017 |
| CH-59 | 975 | PIPELINE | Kyarujumba | Church | Katooma Pentecostal Church 1 | 256696 | 140129 | 2017 |
| CH-60 | 976 | PIPELINE | Kyarujumba | Church | Katooma Pentecostal Church 2 | 256813 | 140367 | 2017 |
| CH-61 | 977 | PIPELINE | Kyarujumba | Church | Katooma Pentecostal Church 3 | 256781 | 140786 | 2017 |
| CH-62 | 978 | PIPELINE | Kyarujumba | Church | Kyarujumba Catholic Church and the school opposite each other | 256813 | 140885 | 2017 |
| CH-63 | 983 | PIPELINE | | Church | Fountain of Lif Church | 258199 | 141145 | 2017 |
| CH-64 | 985 | PIPELINE | | Church | Life Church Buhumuro | 259563 | 141168 | 2017 |
| CH-65 | 986 | PIPELINE | | Church | Itambiro Lya Bisaka | 259793 | 141424 | 2017 |
| CH-66 | 987 | PIPELINE | | Church | Pentecostal church | 260160 | 141649 | 2017 |
| CH-67 | 988 | PIPELINE | Kasoga | Church | Mungumwema Church Kasoga | 261096 | 142132 | 2017 |
| CH-68 | 992 | PIPELINE | Kyarusesa | Church | Besel Miracle Centre Church Kyarusesa | 266801 | 146402 | 2017 |
| CH-69 | 999 | PIPELINE | Zahura | Church | Pentecostal (Panikote) church Zahura | 270453 | 148341 | 2017 |
| CH-70 | 1000 | PIPELINE | Zahura | Church | Adventist Church Zahura | 270389 | 148557 | 2017 |
| CL-03 | 973 | PIPELINE | Kingfisher | Cultural Site | View Point - the point from which one can view the entire Buhuuka Flat | 250364 | 136524 | 2017 |
| MP-27 | 885 | PIPELINE | | Medicinal Plant | Kulumbero | 249921 | 138064 | 2017 |
| MP-28 | 886 | PIPELINE | | Medicinal Plant | Kulumbero | 249948 | 137986 | 2017 |
| MP-29 | 891 | PIPELINE | | Medicinal Plant | aloevera | 250099 | 137946 | 2017 |
| MP-30 | 892 | PIPELINE | | Medicinal Plant | concentration of aloevera | 250121 | 138041 | 2017 |
| MP-31 | 893 | PIPELINE | | Medicinal Plant | kulumbero for eyes and measles | 250128 | 138078 | 2017 |
| MP-32 | 895 | PIPELINE | | Medicinal Plant | kulumbero for eyes and measles | 250220 | 138240 | 2017 |
| MP-33 | 896 | PIPELINE | | Medicinal Plant | Kulumbero and depositional rocks from escarpment | 250254 | 138307 | 2017 |
| MP-34 | 901 | PIPELINE | | Medicinal Plant | cactus | 250356 | 138784 | 2017 |
| MP-35 | 902 | PIPELINE | | Medicinal Plant | cactus | 250368 | 138816 | 2017 |
| MP-36 | 903 | PIPELINE | | Medicinal Plant | kulumbero | 250392 | 138852 | 2017 |
| MP-37 | 904 | PIPELINE | | Medicinal Plant | cactus, kulumbero | 250424 | 138931 | 2017 |
| MP-38 | 922 | PIPELINE | Nyantai | medicinal plant | mululuza | 251904 | 139146 | 2017 |
| MP-39 | 937 | PIPELINE | Nyantai | medicinal plant | kamunye | 252000 | 138970 | 2017 |
| MP-40 | 942 | PIPELINE | Nyantai | medicinal plant | timber, medicinal plant, ee for also trapping birds | 252294 | 138987 | 2017 |
| MP-41 | 952 | PIPELINE | Nyansenge | medicinal plant | mango tree | 256190 | 139563 | 2017 |
| MP-42 | 1 | PIPELINE | Zahura | Medicinal Plant | medicinal plant | 270147 | 148802 | 2017 |

Cultural Heritage Sites - 2017 - Pipeline Archeology

| ID | WP | SITE | VILLAGE | TYPE | DESCRIPTION | PERIOD | North | East | DATE |
|--------|-----|----------|-------------|----------------|--|--------|--------|--------|------|
| BO-30 | 887 | PIPELINE | | Fauna | Bone | | 250020 | 137868 | 2017 |
| BO-31 | 5 | PIPELINE | Zahura | Faunal Remains | teeth | | 270006 | 149116 | 2017 |
| LI-47 | 889 | PIPELINE | | Lithic | quartz multi platform core | | 250076 | 137879 | 2017 |
| LI-48 | 907 | PIPELINE | | Lithics | core | | 250508 | 139030 | 2017 |
| LI-49 | 925 | PIPELINE | Nyantai | Lithics | Lithics, whole flake | | 251575 | 139051 | 2017 |
| LI-50 | 926 | PIPELINE | Nyantai | Lithics | Lithics, whole flake | | 251456 | 138986 | 2017 |
| LI-51 | 928 | PIPELINE | Nyantai | Lithics | Lithics flake fragments made on quartz | | 251391 | 138951 | 2017 |
| LI-52 | 933 | PIPELINE | Nyantai | Lithics | lithics Disc, shell | | 251677 | 138954 | 2017 |
| LI-53 | 941 | PIPELINE | Nyantai | Lithics | lithics | | 252254 | 138991 | 2017 |
| LI-54 | 959 | PIPELINE | Nyansenge | Lithics | Lithics core | | 256650 | 138359 | 2017 |
| LI-55 | 4 | PIPELINE | Zahura | Lithics | pottery, LITHICS | | | | 2017 |
| LI-56 | 26 | PIPELINE | KABAALE | Lithics | Lithic | | 285785 | 158813 | 2017 |
| PO-220 | 898 | PIPELINE | | Pottery | highly abraded | | 250292 | 138548 | 2017 |
| PO-221 | 905 | PIPELINE | | Pottery | plain, burnished reddish sherd | | 250450 | 138959 | 2017 |
| PO-222 | 906 | PIPELINE | | Pottery | | | 250450 | 138965 | 2017 |
| PO-223 | 919 | PIPELINE | Nyantai | Pottery | Pottery scatters 4x4m, Plain | | 252286 | 139172 | 2017 |
| PO-224 | 920 | PIPELINE | Nyantai | Pottery | Pottery, scatters of 10x10m plain | | 252138 | 139134 | 2017 |
| PO-225 | 923 | PIPELINE | Nyantai | Pottery | Pottery plain | | 251844 | 139152 | 2017 |
| PO-226 | 938 | PIPELINE | Nyantai | pottery | Pottery | | 252028 | 138972 | 2017 |
| PO-227 | 945 | PIPELINE | HANGA 2B | pottery | Pottery scatters 4x4m | | 254215 | 139387 | 2017 |
| PO-228 | 946 | PIPELINE | HANGA 2B | pottery | pottery | | 254161 | 139508 | 2017 |
| PO-229 | 956 | PIPELINE | Nyansenge | Pottery | Pottery, roulette | | 257008 | 138137 | 2017 |
| PO-230 | 958 | PIPELINE | Nyansenge | Pottery | Pottery, plain | | 256838 | 138152 | 2017 |
| PO-231 | 960 | PIPELINE | Nyansenge | Pottery | Pottery | | 256413 | 139183 | 2017 |
| PO-232 | 974 | PIPELINE | Nyansenge A | Pottery | Pottery, plain | | 256620 | 140001 | 2017 |
| PO-233 | 3 | PIPELINE | Zahura | Pottery | plain pottery, LITHICS | | 269992 | 149563 | 2017 |
| PO-234 | 6 | PIPELINE | Zahura | Pottery | pottery, plain | | 270028 | 149123 | 2017 |
| PO-235 | 7 | PIPELINE | Zahura | Pottery | pottery, roulette | | 270041 | 149100 | 2017 |
| PO-236 | 8 | PIPELINE | | Pottery | pottery, plain | | 270015 | 149075 | 2017 |
| PO-237 | 10 | PIPELINE | | Pottery | pottery, plain | | 273521 | 151655 | 2017 |
| PO-238 | 27 | PIPELINE | KABAALE | Pottery | pottery | | 285669 | 159241 | 2017 |
| SH-09 | 921 | PIPELINE | Nyantai | Faunal remains | shell | | 252099 | 139129 | 2017 |
| SH-10 | 984 | PIPELINE | | Faunal Remains | shell | | 258576 | 141036 | 2017 |

Additional Cultural Heritage Sites - 2017 - Pipeline Archeology

| ID | WP | SITE | VILLAGE | TYPE | DESCRIPTION | PERIOD | North | East | DATE |
|--------|-----|----------|-------------|----------------|--|--------|--------|--------|------|
| BO-30 | 887 | PIPELINE | | Fauna | Bone | | 250020 | 137868 | 2017 |
| BO-31 | 5 | PIPELINE | Zahura | Faunal Remains | teeth | | 270006 | 149116 | 2017 |
| LI-47 | 889 | PIPELINE | | Lithic | quartz multi platform core | | 250076 | 137879 | 2017 |
| LI-48 | 907 | PIPELINE | | Lithics | core | | 250508 | 139030 | 2017 |
| LI-49 | 925 | PIPELINE | Nyantai | Lithics | Lithics, whole flake | | 251575 | 139051 | 2017 |
| LI-50 | 926 | PIPELINE | Nyantai | Lithics | Lithics, whole flake | | 251456 | 138986 | 2017 |
| LI-51 | 928 | PIPELINE | Nyantai | Lithics | Lithics flake fragments made on quartz | | 251391 | 138951 | 2017 |
| LI-52 | 933 | PIPELINE | Nyantai | Lithics | lithics Disc, shell | | 251677 | 138954 | 2017 |
| LI-53 | 941 | PIPELINE | Nyantai | Lithics | lithics | | 252254 | 138991 | 2017 |
| LI-54 | 959 | PIPELINE | Nyansenge | Lithics | Lithics core | | 256650 | 138359 | 2017 |
| LI-55 | 4 | PIPELINE | Zahura | Lithics | pottery, LITHICS | | | | 2017 |
| LI-56 | 26 | PIPELINE | KABAAL | Lithics | Lithic | | 285785 | 158813 | 2017 |
| PO-220 | 898 | PIPELINE | | Pottery | highly abraded | | 250292 | 138548 | 2017 |
| PO-221 | 905 | PIPELINE | | Pottery | plain, burnished reddish sherd | | 250450 | 138959 | 2017 |
| PO-222 | 906 | PIPELINE | | Pottery | | | 250450 | 138965 | 2017 |
| PO-223 | 919 | PIPELINE | Nyantai | Pottery | Pottery scatters 4x4m, Plain | | 252286 | 139172 | 2017 |
| PO-224 | 920 | PIPELINE | Nyantai | Pottery | Pottery, scatters of 10x10m plain | | 252138 | 139134 | 2017 |
| PO-225 | 923 | PIPELINE | Nyantai | Pottery | Pottery plain | | 251844 | 139152 | 2017 |
| PO-226 | 938 | PIPELINE | Nyantai | pottery | Pottery | | 252028 | 138972 | 2017 |
| PO-227 | 945 | PIPELINE | HANGA 2B | pottery | Pottery scatters 4x4m | | 254215 | 139387 | 2017 |
| PO-228 | 946 | PIPELINE | HANGA 2B | pottery | pottery | | 254161 | 139508 | 2017 |
| PO-229 | 956 | PIPELINE | Nyansenge | Pottery | Pottery, roulette | | 257008 | 138137 | 2017 |
| PO-230 | 958 | PIPELINE | Nyansenge | Pottery | Pottery, plain | | 256838 | 138152 | 2017 |
| PO-231 | 960 | PIPELINE | Nyansenge | Pottery | Pottery | | 256413 | 139183 | 2017 |
| PO-232 | 974 | PIPELINE | Nyansenge A | Pottery | Pottery, plain | | 256620 | 140001 | 2017 |
| PO-233 | 3 | PIPELINE | Zahura | Pottery | plain pottery, LITHICS | | 269992 | 149563 | 2017 |
| PO-234 | 6 | PIPELINE | Zahura | Pottery | pottery, plain | | 270028 | 149123 | 2017 |
| PO-235 | 7 | PIPELINE | Zahura | Pottery | pottery, roulette | | 270041 | 149100 | 2017 |
| PO-236 | 8 | PIPELINE | | Pottery | pottery, plain | | 270015 | 149075 | 2017 |
| PO-237 | 10 | PIPELINE | | Pottery | pottery, plain | | 273521 | 151655 | 2017 |
| PO-238 | 27 | PIPELINE | KABAAL | Pottery | pottery | | 285669 | 159241 | 2017 |
| SH-09 | 921 | PIPELINE | Nyantai | Faunal remains | shell | | 252099 | 139129 | 2017 |
| SH-10 | 984 | PIPELINE | | Faunal Remains | shell | | 258576 | 141036 | 2017 |

**ARCHAEOLOGY AND CULTURAL HERITAGE BASELINE AND IMPACT
ASSESSMENT OF CNOOC BLOCK 3A ESIA UPDATE FOR KINGFISHER, HOIMA
DISTRICT, UGANDA**



By Elizabeth Kyazike

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Abbreviations and Acronyms

| | |
|------------|---|
| CLO | Community Liaison Officer |
| CNOOC | China National Offshore Oil Corporation |
| CPF | Central Processing Facility |
| ESIA | Environmental Social Impact Assessment |
| GPS | Geographical Positioning System |
| LSA | Later Stone Age |
| MSA | Middle Stone Age |
| NEMA | National Environmental Management Authority |
| PAD | Oil well pad |
| PCU | Pentecostal Church of Uganda |
| PEAP | Poverty Eradication Plan |
| SDIP | Social Development Sector Strategic Investment Plan |
| Total E& P | Total Exploration and Production Company |
| UDHR | Universal Declaration of Human Rights |
| UNESCO | United Nations Educational Scientific and Cultural Organisation |
| UTM | Universal Transverse Mercator coordinate system |

1.0 Introduction

In November 2017 Dr. Kyazike Elizabeth was contracted as a sole proprietor by the ESIA team leader to carry out the archaeology and cultural heritage impact assessment to update the ESIA that was carried out in 2014. This was under the CNOOC Cultural Heritage 2017 Update project number 1776816-Sub-007 of November 2017. Field work was carried out from the 6th November to 11th November 2017. Actual field work was from the 7th November and ended on 10th November 2017. The field team was made up of two people these were Dr. Kyazike Elizabeth as a team leader who was supported by Ssemulende Robert as the field assistant.

1.1 Executive Summary

The field work involved undertaking fieldwork in support of the 2017 cultural heritage update for the CNOOC ESIA. The update was required following changes to CNOOC's project description, including updates in the proposed site layout on the Buhuka Flats; and deviations from the original export pipeline route.

1.2 Project Description

The project lies in CNOOC Block 3A and is made up of mainly roads, Central Processing Facility (CPF), well pad 4A and the feeder pipeline as detailed in unit 1.2.1.

1.2.1 Scope and Nature of the Project

The project comprised of the following major key elements

- (i) The new export feeder pipeline from Kingfisher to the Kabaale refinery
- (ii) Existing roads and infrastructure on the Buhuka Flats
- (iii) The villages in close proximity to Buhuka Flats that included; Nsonga, Nsunzu, Kyabasambu and Kyakapere
- (iv) The villages in proximity to the pipeline route that are: Nyantai, Hanga 2B, Nyansenge 2B, Nyansenge 2A, Kyarujumba A, Kyarujumba B, Kasoga, Kyarusesa, Hohwa, Nyanseke, Ndongo, Kitegwa, Zahura, Kamukenduke, Kaseeta, Nyairongo and Kabaale

1.3 Objectives of the field work

This fieldwork had two main objectives:

- (i) To determine the survival of cultural resources (e.g. sacred sites) identified during the 2014 fieldwork phase and relevant to the new project layout; and
- (ii) To identify new archaeological or cultural resources in areas not surveyed in 2014 and now relevant to the new project layout.

1.4 Methodology

To comply with the objectives of identifying, describing, mapping and describing new archaeological, historical, cultural, religious and scared sites identified during the CNOOC Block 3A the following methods were utilised.

1.4.1 Methods of Data Collection

- Site record sheets for some newly identified cultural heritage (archaeological, sacred and religious) sites were filled.
- GPS readings in UTM coordinate system of the centre points in most cases were taken though at some archaeological sites the UTM readings of the site boundaries were also taken.
- Key features at each site and some associated features like footpaths were photographed.
- A questionnaire was administered to identify both tangible and intangible data on a one on one basis as indicated in Plate 1. In most cases, we were three people who were the interviewer, interviewee and the interpreter.



Plate 1: Interview in Nsonga and Nyantai respectively

- Archaeological survey involved unsystematic survey using foot walks. In the course of foot walking diagnostic materials were photographed, recorded using a GPS and on the site record sheets. A few of the samples of pottery and lithics were collected and bagged and analysed at camp.
- Analysis of the few collected samples involved examination of the key attributes of material type, then raw material type for lithics, temper and surface finishing for the ceramics materials.
- Community interviews involved a one on one and key informant interview. This entailed collaboration with the local council chairpersons and the Community Liaison Officers of CNOOC.
- Refined interview guide of 2014 was utilised and the consultant transcribed the answers to the questions.

1.4.2 Field equipment

The team used the following equipment to execute the field work

- (i) Two hand held Geographical Positioning Systems (GPS)
- (ii) Digital camera and smart phone cameras
- (iii) Black and white scale bar for taking photographs
- (iv) Note books, pens, paper
- (v) Zip lock bags for bagging the samples collected

- (vi) Manila paper for writing the tags to be placed in the sample bags.
- (vii) Marshalltown trowel for simple trowelling and small scale clearing of on some of the materials insitu.
- (viii) Two laptop computers
- (ix) Voice recorder
- (x) Four flash discs

1.4.3 Limitations to data collection

The main limitations to data collection that must be put into consideration during the next phase of the project included the following:

- (i) The time allocated to the field work was too limited that meant that work was done in a hurry especially from Kyarujumba to Kabaale along the pipeline route where interviews were almost abandoned and emphasis was put on the archaeology. This thus implies that in the next phase oral interviews in this area should be considered seriously as they are a very important source of information on cultural heritage.
- (ii) The month of November is a rainy season in Uganda thus rain was very problematic that created delays and sometimes we could not proceed with the use of the record sheets but rather just used the GPS recordings. The rain also made the roads almost impassable and thus delay in the movements.
- (iii) The volume of work was too much in view of the number of people who were in the field compared to what happened in 2014.
- (iv) The assumption at the planning of this field work that nothing had changed as stated in the work plan was not right. Given the construction of the road across the escarpment the population has increased, new entrants pursuing business in the area are also many meaning a change in the cultural heritage aspects of the area.
- (v) Speculation was extremely high leading to hiding some useful cultural information. This was mainly because of the compensation done for the earlier projects in the area people had an idea of what is compensated and thus there was a tendency to emphasise aspects like burials at the expense of other cultural heritage issues.

- (vi) There was also a limitation of accessibility due to the thick vegetation and topography of the area.
- (vii) Thick vegetation that impeded visibility of archaeological materials (Plate 2) as exemplified in Nyantai.



Plate 2: Archaeological Survey in Nyantai

1.4.4 Solution to the delimitations of data collection

Basing on the above limitations the following are recommended in order to address the research gaps;

- (i) Intense community interviews on the basis of a one on one and use of the key informants with the help of the Local Chairpersons and the CNOOC Community Liaison Officers (CLO).
- (ii) The rainy season limitation was avoided by hiring a car that would move on all roads.
- (iii) In future subsurface survey should be undertaken in the form of excavations to check the stratigraphic sequence of the material remains since none has ever been undertaken in the entire Albertine region as part of the EIA.

1.5 Legal, Policy and Institutional Frameworks

A number of laws, policies and institutions in Uganda are in operational and guide the handling of historical, archaeological and cultural heritage sites. The Ugandan legal, policy and institutional frameworks are supplemented by international ones. This section therefore is divided into the National and international legal, policy and institutional frameworks.

1.5.1 National Legal, Policy and Institutional Frameworks

This section concerns the policies, institutions and laws governing cultural heritage and archaeology in Uganda. The following policies were identified.

1.5.1 Policy Frameworks

Uganda government policies and plans take cognisance of culture. Key among these are the Poverty Eradication Plan (PEAP) and the Social Development Sector Strategic Investment Plan (SDIP). The PEAP 2004 recognises culture as being intrinsically valuable and an important dimension of identity and as form of capital which, when well harnessed, can help to move people out of poverty. In the SDIP, culture contributes to social protection through promotion of cultural industries, indigenous knowledge and also through support to actors and institutions that promote culture.

1.5.1.1 The 1995 Ugandan Constitution

The 1995 Constitution was the first legal instrument in Uganda's history to directly provide for the protection and promotion of our heritage and also to provide for the promotion and development of Ugandan languages as part of Ugandan culture. The 1995 Constitution recognises the importance of Ugandan cultures and supports their promotion and preservation of those cultural values and practices that enhance the dignity and wellbeing of Ugandans.

Objective XXIV of the 1995 Ugandan Constitution states that, "cultural and customary values that are consistent with the fundamental human rights and freedoms, human dignity and democracy and with the constitution of Uganda may be developed and incorporated in all aspects of Ugandan

life. Objective XXV also mandates the state and its citizens to preserve and promote public property and Uganda's heritage.

With regard to culture and similar rights Article 37 of the constitution states that, 'every person has a right as applicable to belong, enjoy, practice, profess, maintain and promote any culture, cultural institution, language, tradition, creed or religion in community with others'.

Article 26 that applies to cultural institutions states protection from deprivation of property, either individually or in association with others and that no person shall be compulsorily deprived of property (unless for public use and fully compensated for). This is very valid in the current project area as it will guide on how to deal with the historical and archaeological sites identified.

1.5.1.2 The National Cultural Policy 2006

This was the first comprehensive policy that took into consideration of the diversity of Ugandan cultures. It recognises the importance of culture in Uganda's development processes and the institutions responsible for the promotion of culture. The National cultural policy defines culture as the sum total of the ways in which a society preserves, identifies, organises or sustains and expresses itself. The policy aims at promoting culture and enhancing its contribution to community empowerment through cultural industries, research and development, performing art, indigenous knowledge, language and literary art, cultural beliefs, traditions and values and cultural sites and monuments. The Policy also recognises the institutions that promote culture such as the traditional/cultural institutions, the family, statutory institutions, civil society organisation and the private sector. This policy will go a long way in guiding in the identification of all cultural aspects that are defined by the policy.

1.5.1.3 The National Land Policy, 2013

The Land Policy states among other provisions that,

- (a) Government shall, 'protect the land rights and land resources of customary owners, individuals and communities owning land in areas where mineral and petroleum deposits are discovered'.

- (b) Provide for the restitution of land rights in event of minerals or oil being exhausted or expired depending on the mode of acquisition.
- (c) Guarantee rights to the sharing of benefits by land owning communities and recognise the stake of cultural institutions over ancestral lands with minerals and petroleum deposits, and
- (d) Adopt an open policy on information to the public and seek consent of communities and local governments concerning prospecting and mining of these resources.

In section C (iv) concerning the Land rights of pastoral communities the Land policy considers land swapping, resettlement or compensation for pastoral communities displaced by government from their ancestral lands. Since archaeological and historical sites appear on land mainly it is important to understand the land policy.

1.5.2 Legal Frameworks

Uganda has a number of Acts of Parliament related to culture that range from those that deal with heritage preservation to those concerning land and cultural institutions. Some of the Acts are recent while others have evolved over time while others are yet to be updated as discussed below.

The Historical Monuments Act, 1967

This Act is under review and the review process begun in 2015. This Act provided for the preservation, protection and promotion of historical monuments and objects of archaeological, paleontological, ethnological and traditional interest. The Act further provides for means to list objects on the national list and stipulates how these should be protected and maintained.

Section 1 (1) States that, ‘The Minister may by statutory instrument, declare any object of archaeological, paleontological, ethnographical, traditional or historical interest to be a preserved object for purposes of this Act.

Section 8 of this Act also states that there will be maintenance of the objects (including sites, places, fortifications etc.) for the purposes of maintenance and inspection of any preserved or protected object there shall be an inspector of monuments who shall be appointed by the minister.

The Local Government Act, 1997; amended 2002

The Local Government Act, 1997 lists cultural affairs as one of the decentralised services, activities and functions of the district authorities. The Act also mandates the Ministry of Local Government to assess the performance of culture in local governments and to ensure that the culture function benefits from the grants sent to the local governments.

Article 178 (a) (ii) assigns responsibility for promoting local cultures to local authorities, while Article 33(2) specifies sites to be places to be preserved by local authorities.

The Local Government Act provides opportunities for local cultural resources to be protected, promoted, and developed at local community levels. It also provides opportunities for cultures to be integrated into the local government programs.

The National Environment Management Act, 1998

General Principle (2) (d) of this Act provides for conservation of the cultural heritage and use of the environment and natural resources of Uganda for the benefit of both present and future generations. The Act integrates culture into the environment management principles as one way to sustainably conserve the environment. However, it does not provide much information on how to integrate culture in environment management.

The Mining Act, 2003

The Act states that the entire property in and control of all minerals in, on or under, any land or water in Uganda are and shall be vested in the Government.

A person may however, acquire the right to search for, retain, mine and dispose of any mineral by acquiring a licence. However, a holder of a mineral right shall not exercise any of his or her rights under that mineral right in respect of or on any land set apart for any public purpose, other than mining, or any land which is (i) dedicated place of burial; or (ii) a place of religious significance, or (iii) the site of a public building, or near inhabited or cultivated land, or any land which is held communally for cultural rites, without written consent of the community concerned.

Further the rights conferred by a mineral right shall be exercised reasonably and in such a manner as not to adversely affect the interests of any owner or occupier of the land on which the rights are exercised.

The owner or lawful occupier of any land subject to a mineral right is entitled to compensation under either Section 82 of this Act or to a share of royalties (3%).

The Petroleum (Exploration, Development and Production) Act, 2013

The purpose of this Act is to operationalize the National Oil and Gas Policy of Uganda (among others) establishing an effective legal framework and institutional structures to ensure that the exploration, development and production of petroleum resources of Uganda is carried out in a sustainable manner that guarantees optimum benefits for all Ugandans, both the present and future generations.

The Act echoes that, in accordance with **Article 244** of the Constitution, the entire property in, and the control of petroleum in its natural condition in, on, under any land or waters in Uganda is vested in the Government on behalf of the Republic of Uganda. The Government of Uganda therefore shall hold petroleum rights on behalf of and for the benefit of the people of Uganda.

With regard to surface rights, the Act states that, a petroleum licence shall not exercise any right under a licence

- (a) Without the written consent of the relevant authority, upon any land dedicated or set apart for a public purpose or for a place of burial, or upon any land over which a mining lease, an exploration licence or a right to cultural site has been granted;
- (b) Without the written consent of the land owner
- (c) Upon any land which is the site of or which is within two hundred meters of any inhabited, occupied or temporarily unoccupied house or building;
- (d) Within 50m of any land which has been cleared or ploughed or otherwise bona fide prepared for the growing of agricultural crops or on which agricultural crops are growing;
- (e) Upon any land from which, during the year immediately preceding, agricultural crops have been reaped; or

- (f) Upon any land which is the site of or which is 100 meters of a cattle dip-tank, dam or water used by human beings or cattle.

A land owner in an exploration or development area shall retain the right to graze stock upon or to cultivate the surface of the land insofar as the grazing or cultivation does not interfere with petroleum activities or safety zones in the area.

The Act states that the rights conferred by a licence shall be exercised reasonably so as to effect as little as possible the interests of any land owner of the land on which the rights are exercised, and petroleum activities shall be carried out in a proper manner.

Finally, a licence shall, on demand being made by a land owner, pay the land owner fair and reasonable compensation for any disturbance of his or her rights and for any damage done to the surface of the land due to petroleum activities, and shall at the demand of the owner of any crops, trees, buildings or works damaged during the course of the activities, pay compensation for the damage.

1.5.3 International and Regional Laws and Conventions

In cases where the Ugandan institutions and laws have loopholes or need to be backed they will be strengthened by reference to the international and regional laws and frameworks. This will also involve reference to the international conventions especially those that were ratified by Uganda. The focus on international laws and conventions is also because cultural heritage may not only have significant values to the local community and users alone but also universal value from the point of view of history, art and science (Total E& P Human Rights guide page 15)

1.5.3.1 The Universal Declaration of Human Rights (1948)

Uganda adopted the UDHR and is a member state of the United Nations since 25th October 1962. Article 27(1) and (2) state that:

- (a) Everyone has a right to freely participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits

- (b) Everyone has the right to the protection of the moral and material interests resulting from any scientific literary or artistic production for which he is the author.

N.B The declaration provided guidelines for the international conventions relevant to the protection of cultural rights such as the 2005 UNESCO Convention on the Promotion and Protection of the Diversity of Cultural Expressions.

1.5.3.2 International covenant on Economic, Social and Cultural Rights, 1966

The Ugandan government ratified this convention in 1987. Article 15 of this convention states that the States Parties to the Convention recognise the right of everyone to take part in cultural life and to recognise the benefits to be derived from the encouragement and development of international contacts and cooperation in the scientific and cultural fields.

1.5.3.3 The 1972 UNESCO Convention concerning the Protection of the World Cultural and Natural Heritage

The government of Uganda ratified this convention in 1987. The convention encourages States Parties to it to conserve and protect their heritage. It provided for the protection of both natural and cultural aspects of heritage. This laid the foundation for other international and national legal instruments related to culture. To date Uganda has three sites on the list of the World Heritage sites namely: Kasubi tombs enlisted in 2001; Bwindi Impenetrable Forest National Park and Rwenzori Mountains National Park. In 2005, UNESCO proclaimed the art of bark cloth making in Uganda, a master piece of the Oral and Intangible Heritage of Humanity.

1.5.3.4 The 2003 UNESCO Convention for Safeguarding the Intangible Cultural Heritage.

Uganda ratified this Convention in 2009. According to this Convention States Parties are required to identify and devise appropriate means of preserving Intangible Cultural Heritage

1.5.3.5 The 2005 UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions

Uganda has not yet ratified this Convention but it recognises the distinctive nature of cultural goods and services and affirms in international law the right of countries to apply policies to support their

cultural industries. It also provides for the protection of the cultural expressions, cultural diversities, cultural industries, cultural activities, goods and services so that they flourish and freely interact in maturely beneficial manner. It affirms the importance of the link between culture and development and supports action undertaken nationally to secure recognition of the true values of the link.

1.5.3.6 African Union and East African Community

Uganda is a member of the African Union, and yet one of its objectives is to promote sustainable development at the economic, social and cultural level.

In the East African Community that Uganda ratified in 2000, its Article 119 states that, Partner states agreed to promote close cooperation in culture and sports.

1.5.4 Institutional Frameworks

The institutions concerned with archaeology, history and cultural heritage are both local and national. At the local level are the traditional institutions such as the Bunyoro and Alur kingdoms. The Ugandan Government has also put in place statutory institutions responsible for promoting cultural heritage. The institutions can further be categorised as central government ministries while others are at the local government level some of which are as discussed below.

1.5.4.1 Central Government Ministries

These are the central government ministries in Uganda tasked with responsibilities of promoting cultural heritage, archaeology and history in one or another through their enumerated roles. Such ministries include: Ministry of Foreign Affairs, Ministry of Energy and Mineral Development, Ministry of Water and Environment, Ministry of Agriculture, Animal Industry and Fisheries, Ministry of Local government, Ministry of Internal Affairs among the many. These ministries are either directly or indirectly supposed to be in charge of facilitating the oil and gas activities or general duties that facilitate the promotion of cultural heritage. Some of the ministries are as elaborated below.

1. Ministry of Gender, Labour and Social Development (MoGLSD)

The Ministry has overall responsibility for the cultural affairs of Uganda and shall therefore take the leading role in the implementation of the National Culture Policy. The Ministry is responsible for:

- Ensuring the development of programmes in all areas of culture;
- Ensuring the initiation, review and dissemination of regulations, standards and guidelines for culture;
- Mobilising resources for culture;
- Creating awareness about culture
- Establishing mechanisms for coordination of institutions that promote culture;
- Building the capacity of culture practitioners, service providers and institutions that promote culture;
- Ensuring the participation of young people in culture;
- Developing a National Action Plan on Culture

2. Uganda National Cultural Centre (UNCC)

The Centre shall:

- Provide and establish theatres and cultural centres;
- Encourage and develop cultural and artistic activities;
- Provide accommodation for societies, institutions or organisations of a cultural, artistic, academic, philanthropic or educational nature.

3. The National Library of Uganda (NLU)

The National Library of Uganda shall:

- Promote culture of reading;
- Preserve published national culture;

- Acquire from any person or institution, any manuscript or literature that may be considered to be of interest to the country.

4. Ministry of Education and Sports (MoES)

The Ministry shall:

- Integrate culture issues and concerns into educational policies, plans, programmes and curricula;
- Promote the development and use of local language in educational programmes at all levels;
- Promote culture festivals in institutions of learning at all levels;
- Promote the development of traditional sports in institutions of learning at all levels

5. Ministry of Health (MoH)

The MoH shall:

- Design capacity building programmes for traditional health service providers;
- Train traditional health service providers;
- Promote healthy traditional nutrition programmes; Uganda National Culture Policy 28;
- Research, document and disseminate findings on traditional medicine and traditional service providers;
- Develop and disseminate minimum traditional health service delivery standards, guidelines and indicators.

6. Ministry of Finance, Planning and Economic Development (MFPED)

The MFPED shall:

- Provide funds for the implementation of the culture function;
- Mobilise resources for the culture function at all levels;
- Monitor the contribution of the culture function to National Development;

- Provide investment incentives for the culture sub-sector.

7. Uganda Bureau of Statistics

The Uganda Bureau of Statistics collects and disseminate statistics on culture.

8. Ministry of Tourism, Trade and Industry (MTTI)/ Ministry of Tourism, Wild life and Antiquities

The MTTI shall:

- Promote cultural tourism;
- Develop and promote natural and cultural sites;
- Ensure community, civil society and private sector participation in the conservation and promotion of natural and cultural sites;
- Ensure the protection of local communities from negative influences of tourism;
- Lobby investment incentives for the culture sub-sector;
- Promote the development of culture industries.
- Custodian of all tangible cultural heritage resources

9. The Uganda Museum and Monuments Department

The Department of Museums and Monuments shall:

- Collect and showcase items of cultural interest;
- Undertake research and documentation in cultural fields;
- Identify, document, gazette and present sites and monuments;
- Conserve and store cultural objects;
- Carry out educational outreach programmes on cultural heritage to schools and communities.

10. Ministry of Justice and Constitutional Affairs (MoJCA)

The MoJCA has to spear head the formulation and revision of laws concerning culture.

11. Ministry of Foreign Affairs (MoFA)

The MoFA has the responsibility to:

- Ratify international and regional instruments that promote and are relevant to culture;
 - Participate in negotiation and clearance of cultural agreements;
 - Domesticate international and regional conventions relating to culture.
- a) Ministry of Energy and Mineral Development

12. The Ministry of Energy and Mineral Development

The Ministry of Energy and Mineral Development shall:

- Promote safe traditional methods of preservation of natural resources;
- Promote awareness about the value of indigenous plants and animal species.

The development of upstream petroleum projects is under the overall responsibility of this ministry

13. Ministry of Water and Environment

This Ministry evaluates and disseminates findings on traditional practices of environmental management as per the Uganda National Culture Policy 30.

14. Ministry of Agriculture, Animal Industry and Fisheries

The Ministry of Agriculture, Animal Industry and Fisheries is supposed to:

- Undertake research and dissemination on indigenous Knowledge and plants in agriculture;
- Promote safe traditional methods of production, processing and preservation of cash and food crops;
- Promote indigenous crops especially food crops.

15. Ministry of Local government

The Ministry of Local Government is mandated to:

- Assess the performance of culture in local governments;
- Ensure that the culture function benefits from grants sent to the local governments

16. Ministry of Internal Affairs

The Ministry of Internal Affairs ensures the enforcement of laws and regulations relevant to culture.

17. The Department of Information-Office of the Prime minister

This Department in the Office of the Prime Minister is supposed to:

- Sensitise the public on culture through available media;
- Regulate the operations and usage of the media and information communication technologies with the intention of protecting people from negative foreign cultural influences.
- Promote dissemination and sharing of local cultures

18. National Planning Authority

The National Planning Authority has to ensure that there is mainstreaming of culture into the National Planning process.

1.5.5 International Legal, Policy and Institutional Frameworks

1.5.5.1 IFC Performance Standard 8: Cultural Heritage

The IFC 8 is instrumental in defining cultural heritage. According to the IFC 8 cultural heritage refers to the, ‘unique and non-renewable resource that possesses cultural, scientific, spiritual or religious value and includes moveable or immovable objects, sites structures, groups of structures, natural features, or landscapes that have archaeological, paleontological, historical, cultural, artistic, and religious values, as well as unique natural environmental features that embody cultural values’. This form of definition is adopted in this report at its working definition wherever reference is made to cultural heritage.

The IFC 8 also gives very important guidelines that were taken into consideration when conducting the study. These appear in form of questions that have been answered concerning the protection of cultural heritage in the project design and execution as follows:

- Is the project located in a legally protected area or a legally defined buffer zone? yes
- Has the client sited the project to avoid significant damage to cultural heritage? yes
- Is the project located in an area where cultural heritage is expected to be found? yes
- If yes, has a Chance Find Procedure been established? (i.e. a procedure that automatically is triggered in case cultural heritage is found unexpectedly) yes
- If yes, is access to the public granted? Not sure yet
- Has the client identified proposed project use of cultural resources? If so, has the client informed these communities of their rights and shared benefits? Not yet but in due course it will be done.

1.6 Consultations with the Villages Close and In the Project Area

1.6.1 Introduction

Interviews that were one on one were held with 30 informants as outlined in Table 1. These were held specifically in seven villages and these were Kyakapere, Nsonga, Nsunzu and Kyabasambu in Buhuka Flat while other villages like Nyantai, Hanga 2B, Nyansenge A, Kitegwa, Nyairongo and Zahura were along the pipeline route (Figure 1).

Figure 1: Villages consulted close to the project area

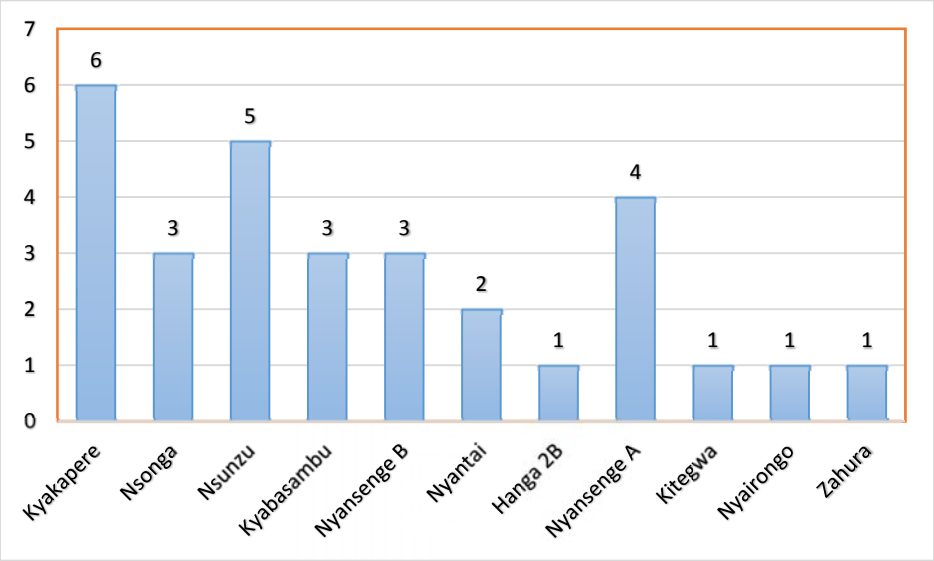


Table 1: List of informants

| S/N | Names | Village | Date of birth | birth place | Ethnic group | year of settlement | Date of interview |
|-----|---------------------------|-------------|---------------|-----------------|-------------------|--------------------|-------------------|
| 1 | Ugerwoth Amula | Kyakapere | 1960 | Bugoigoi | Alur | ?? | 7th Nov. 2017 |
| 2 | Kabagambe Yunusu | Kyakapere | 5/12/1977 | Kyakapere | Munyoro | since birth | 7th Nov. 2017 |
| 3 | Penjonga Loius Kothe | Kyakapere | 20/02/1961 | Panyamur | Alur | 1977 | 7th Nov. 2017 |
| 4 | Kisembo Yoshua | Kyakapere | 8/7/1947 | Congo | Munyoro | 1999 | 7th Nov. 2017 |
| 5 | Ozinga Agen Orwoth | Kyakapere | 17/11/1937 | Congo | Alur | 1976 | 7th Nov. 2017 |
| 6 | Ndahura Gregore | Kyakapere | 1961 | Kigorobyia | Munyoro | 22 years ago | 7th Nov. 2017 |
| 7 | Zachariah Khalisa Alali | Nsonga | 1924 | Nsonga | Munyoro | since birth | 8th Nov. 2017 |
| 8 | Twinomujuni Paulson | Nsonga | 1971 | Kabaale(Kigezi) | Mukiga | 2010 | 8th Nov. 2017 |
| 9 | Lwamukaaga Stephen | Nsonga | 26/04/1962 | ?? | Mugungu | 1993 | 8th Nov. 2017 |
| 10 | Kaahwa Yusufu | Nsunzu | 7/3/1976 | Nsunzu | Mukobya (Munyoro) | since birth | 8th Nov. 2017 |
| 11 | Kamugisha Eriya | Nsunzu | 1/1/1946 | Bushenyi | Munyankole | 1986 | 8th Nov. 2017 |
| 12 | Uzinga Jackline | Nsunzu | 1960 | Panyamur | Alur | 1993 | 8th Nov. 2017 |
| 13 | Alex Onenchan | Nsunzu | 1968 | Pakwach | Alur | 1980 | 8th Nov. 2017 |
| 14 | Bosco Orombi | Nsunzu | 1960 | Panyamur | Alur | 1994 | 8th Nov. 2017 |
| 15 | Jolly Mbabazi | Kyabasambu | 16/08/1980 | Kyabasambu | Munyoro | 1980 | 7th Nov. 2017 |
| 16 | Jonathan Kahawa | Kyabasambu | 1953 | Buliisa | Mugungu | 1970 | 7th Nov. 2017 |
| 17 | John Busingye | Kyabasambu | 1968 | Buliisa | Mugungu | 40 years | 7th Nov. 2017 |
| 18 | Barnabas Mbonigaba | Nyansenge B | 1960 | Isingiro | Mukiga | 1993 | 9th Nov.2017 |
| 19 | Patrick Isingoma | Nyantai | 3/7/1989 | Kyangwali | Munyoro | 2014 | 9th Nov.2017 |
| 20 | Oketcha Kibojo | Nyantai | 1963 | ?? | Alur | 1992 | 9th Nov.2017 |
| 21 | Asaba Nyansio | Hanga 2B | 20/04/1964 | Kyangwali | Mutooro | 1994 | 9th Nov.2017 |
| 22 | Kabanyoro Florence Akiiki | Nyansenge B | 21/02/1968 | Kyangwali | Mutooro | 1988 | 9th Nov.2017 |
| 23 | Wilson Ngirabari | Nyansenge B | 3/5/1959 | ?? | Mukiga | 1981 | 9th Nov.2017 |
| 24 | Ndora Zakayo | Nyansenge A | 12/7/1972 | Kagadi | Mufumbira | 1992 | 9th Nov.2017 |
| 25 | Nzerwe Bagamuhunda | Nyansenge A | 1951 | Kabaale(Kigezi) | Mukiga | 1997 | 10th Nov.2017 |
| 26 | Christopher Ategeka | Nyansenge A | 5/4/1954 | Kisolo | Mufumbira | 1997 | 10th Nov.2017 |
| 27 | Richard Aliganyira | Nyansenge A | 1982 | Kabaale(Kigezi) | Mukiga | 2005 | 10th Nov.2017 |
| 28 | Godfrey Byabataguuzi | Kitegwa | 18/02/1953 | Kitegwa | Munyoro | since birth | 10th Nov.2017 |
| 29 | Byamugusha Ian | Nyairongo | 2/7/1986 | Kampala | Mukiga | 2013 | 10th Nov.2017 |
| 30 | Moses Kasupaali | Zahura | 1981 | Rwanda | Rwandese | 2014 | 10th Nov.2017 |

1.6.2 Origin of the Village names

1.6.2.1 Kyakapere

The area used to be a hunting ground but many people migrated from Congo from a place called Kyakapere and they also named their new settlement in Buhuka Kyakapere hence the name Kyakapere. According to Pejonga, Kisembo, and Ozinga (Refer to Table 1) the name Kyakapere was derived from the first settler in the place called Kapere and then people started saying the place of Kapere which literally is Kyakapere. The latter story seems to be more convincing as it is common and related to the 2014 result from stake holder consultations.

Kyakapere seems to be now divided into two. There is Kyakapere at the extreme end of the flat and then another part of Kyakapere called Kuwait. The two areas are separated by a gorge and a seasonal stream running from up the escarpment but whose name was not identified. The area that is part of PAD4 now is the area termed as Kuwait. The term Kuwait to them is linked to the place in Saudi Arabia and they believe the Kyakapere Kuwait was also just taken over by the Alur.

In Kyakapere a number of religious places were identified during the interviews and these were; 2 catholic churches where one is in the main Kyakapere and another one in Kuwait Kyakapere. Other churches were; Pentecostal Church of Uganda, Alleluia Church of God and a Mosque. Of these the churches that were physically recorded with a GPS are those in Table 2 below.

Table 2: Churches in Kyakapere

| SITE | Village | Name | UTM | | Elevation |
|-------------|----------------|--------------------------------------|------------|--------|------------------|
| PAD 4 | Kyakapere | Catholic Church | 250615 | 140548 | 636 |
| PAD 4 | Kyakapere | Pentecostal Church of Uganda | 250779 | 141002 | 644 |
| PAD 4 | Kyakapere | Church of God | 250824 | 141178 | 646 |
| PAD 4 | Kyakapere | Protestant Church (Church of Uganda) | 250732 | 141217 | 632 |
| PAD 4 | Kyakapere | Lamathekwaro cult church | 250730 | 140851 | 643 |
| PAD 4 | Kyakapere | Catholic Church | 250157 | 139017 | 639 |
| PAD 4 | Kyakapere | Kyakapere Catholic Church | 250159 | 139014 | 634 |

Besides the churches the shrine of Ochaka is also popular in Kyakapere.

1.6.2.2 Nsonga

The name Nsonga is derived from the lagoon which was also known as Iziba lya Wamara or Luzira which is also known as Luzira (Plate 3). This is like the eye of Lake Albert or lake spit that protrudes into the lake which is also one of the famous cultural site that is known in all villages in Buhuka Flat.



Plate 3: Luzira from which the name Nsonga is derived.

The churches identified in Nsonga during the interviews were;

1. Nsonga Church of Uganda (Plate 4)



Plate 4: Nsonga Church of Uganda

2. Kiguli Catholic Church Plate 5



Plate 5: Kiguli Catholic Church

3. Nsonga Mosque (Plate 6) and other churches like the Church on the rock, Miracle Church and the Revival Church of Nsonga.



Plate 6: Nsonga Mosque

1.6.2.3 Nsunzu

Nsunzu was originally known as Kikobya meaning a place of the Bakobya the original inhabitants of the Village but with the influx of foreign ethnic groups especially the Alur the village was renamed Nsunzu. This new name of Nsunzu was derived from one of the dominant grass types in the area called nsunzo. This grass was mainly used for basket making.

The churches identified from the interviews in Nsunzu were; Lamethekwa, Zambemalamu, Church of Uganda, Adventist Church and Pentecostal Church of Uganda.

N.B It should be noted that the demarcation between Nsonga and Nsunzu does not seem to be clear to be people. Some of the names of the churches listed under Nsunzu were actually in Nsonga.

1.6.2.4 Kyabasambu

The name Kyabasambu has its origin from the Basambu clan one of the clans of the Bakobya (Banyoro) believed to be the original inhabitants of the village. The Bakobya were the original clan that used to stay around the lake fishing while the other Banyoro stayed up the escarpment and beyond (Mbabazi Jolly). In Kyabasambu churches identified through the interviews were; Kyabasambu Church of Uganda, Halleluya Church, Catholic Church, Church of Uganda, and the Pentecostal church of Uganda. It should be noted that most of the churches mentioned in Kyabasambu were in the neighbouring villages where they would easily go to pray and it also shows that there is a big problem in the Flats of village demarcations.

1.6.2.5 Nyansenge

The name Nyansenge was derived from the name of rodents called *Nsenge* (edible rat) that was in plenty in the place. Nyansenge is divided into two local councils that are Nyansege A and Nyansenge B. It was noted that the village used to have very many wild animals such as edible rats (*nsege*), warthogs, buffalos, *mpalaki* and *nsama* among the many.

In Nyansenge five churches were recorded with a GPS as indicated in Table 3.

Table 3: Churches in Nyansenge

| SITE | Village | Name | UTM | | Elevation |
|----------|-----------|--|--------|--------|-----------|
| Pipeline | Nyansenge | Catholic church of Nyansenge | 256656 | 139812 | 1195 |
| Pipeline | Nyansenge | Rwensambya Church of Uganda | 256881 | 137990 | 1200 |
| Pipeline | Nyansenge | Itambiro Iya Bisaka | 256914 | 137976 | 1197 |
| Pipeline | Nyansenge | Nyansenge Seventh Day Adventist Church | 257032 | 138267 | 1195 |
| Pipeline | Nyansenge | Itambiro Iya Bisaka | 256358 | 139264 | 1198 |

Other than those marked some another church within this village is the Nyansenge Pentecostal Church.

1.6.2.6 Nyantai

Nyantai is a village located at the top of the escarpment or where the pipeline leaves the escarpment. The area used to be a forest but of later people have started occupying the area especially from Rwanda, Congo and West Nile. Nyantai used to be part of Hanga but because it was huge it was divided up for proper administration.

The origin of the name Nyantai is a bird locally known as *ntai* (probably wood pecker) that is black and white that was very common in the place.

In Nyantai the churches stated through the interviews were; Nyantai Victory church, St. Kizito Catholic Church, Lamthekwaro church and Nyantai Pentecostal Church. However St. Kizito Catholic Church was later confirmed to be in Hanga village instead.

1.6.2.7 Hanga

The name Hanga was used since the coming of the Alur in the area (Asaba Nyansio). This name was derived from the Kinyoro word *kihanga* that literally mean a gorge. Thus Hanga means people who settled in *ekihanga* meaning people who settled in a gorge. Actually, there some sort of gorge that separates Hanga from Nyantai.

Within Hanga are also religious places especially the churches such as Anglican Boma Church of Uganda, Boma Mosque and Hanga West Pentecostal Church. The churches within Hanga that were recorded with the GPS are as indicated in Table 4.

Table 4: Churches in Hanga Village

| SITE | Village | Name | North | East | Elevation |
|-------------|----------------|----------------------|--------------|-------------|------------------|
| Pipeline | HANGA 2B | Hanga Revival Church | 254435 | 139166 | 1191 |
| Pipeline | HANGA 2B | Itambiro Lya Bisaka | 254544 | 138800 | 1177 |
| Pipeline | HANGA 2B | Jehovah's Witness | 254601 | 139177 | 1186 |

1.6.2.8 Zahura

Zahura is a village towards the end of the pipeline. Given the limited time only one interview was held here with one of the inhabitants. According to him (Moses Kasupaali) he is not aware as to why the place is called Zahura. The entire village is inhabited by mainly farmers who just settled

from several other places such as Rwanda, Ankole, Buganda, Kisoro (Bafumbira), Kabaale (Bakiga), West Nile (Alur). He came to this place to look for a living.

Among the churches identified in Zahura were: Zahura Pentecostal Church, Zahura Church of Uganda (Protestant) and Zahura Adventist church.

1.6.2.9 Kitegwa

The name Kitegwa was derived from a person's name called Kitegwa who used to live in Kipron a place that is close to the Kabaale airport close to the Kabaale refinery (Byabataguuzi Godfrey). Historically the people in Kitegwa have been agriculturalists planting especially cash crops like; cotton, coffee and tobacco and other food crops.

1.6.2.10 Nyairongo

The term Nyairongo according to Byamugisha (Table 1) might have been derived from a kinyoro word that means a place of prostitutes. In Nyairongo several churches were mentioned during the interview though only one church called Exodus Miracle Church was recorded with a GPS. The other churches include: Victory Church for pastor Tumusiime, Full Gospel Church for Pastor Tumushabe John, Nyairongo Catholic church, Adventist church, Itambiro (Faith of Unity), Church of Uganda, Nyairongo Mosque, Pentecostal Church of Uganda (PCU) and Adiperi church. The latter is a church said to hail from Rwanda

1.6.3 Churches

In the one on one community interviews one of the questions required named of the churches within the village. Of the churches identified 41 churches were recorded with a GPS as presented in Table 5.

From the list of the churches (Table 5) what is clear is that the traditional churches have been maintained and these are the Church of Uganda for the Protestants, The Roman Catholic Church and the Seventh Day Adventist church. The Pentecostal churches have mushroomed in the place as the general trend is for Uganda generally for these type of churches. These Pentecostal churches are mainly for the born again Christians. Besides these, is the Itambiro Iya Bisaka (Faith of Unity)

churches whose origin as per the 2014 survey is Kagadi. All these church types stated above were identified in 2014. This implies that only one church type is new in the area the Lamthekwaro church has been identified by the November 2017 survey. The latter church ways are as detailed in Unit 1.6.3.1.

Table 5: List of Churches

| SITE | Village | Name | North | East | Elevation |
|-------------|----------------|---------------------------------------|--------------|-------------|------------------|
| Pipeline | HANGA 2B | Hanga Revival Church | 254435 | 139166 | 1191 |
| Pipeline | HANGA 2B | Itambiro Lya Bisaka | 254544 | 138800 | 1177 |
| Pipeline | HANGA 2B | Jehovah's Witness | 254601 | 139177 | 1186 |
| Pipeline | Nyansenge | Catholic church of Nyansenge | 256656 | 139812 | 1195 |
| Pipeline | Nyansenge | Rwensambya Church of Uganda | 256881 | 137990 | 1200 |
| Pipeline | Nyansenge | Itambiro Iya Bisaka | 256914 | 137976 | 1197 |
| Pipeline | Nyansenge | Nyansenge Seventh Day Adventist | 257032 | 138267 | 1195 |
| Pipeline | Nyansenge | Itambiro Iya Bisaka | 256358 | 139264 | 1198 |
| PAD 4 | Kyakapere | Catholic Church | 250615 | 140548 | 636 |
| PAD 4 | Kyakapere | Pentecostal Church of Uganda | 250779 | 141002 | 644 |
| PAD 4 | Kyakapere | Church of God | 250824 | 141178 | 646 |
| PAD 4 | Kyakapere | Protestant Church (Church of Uganda) | 250732 | 141217 | 632 |
| PAD 4 | Kyakapere | Lamathekwaro cult church | 250730 | 140851 | 643 |
| PAD 4 | Kyakapere | Catholic Church | 250157 | 139017 | 639 |
| PAD 4 | Kyakapere | Kyakapere Catholic Church | 250159 | 139014 | 634 |
| Pipeline | Kyarujumba | Katooma Pentecostal Church 1 | 256696 | 140129 | 1211 |
| Pipeline | Kyarujumba | Katooma Pentecostal Church 2 | 256813 | 140367 | 1205 |
| Pipeline | Kyarujumba | Katooma Pentecostal Church 3 | 256781 | 140786 | 1211 |
| Pipeline | | Fountain of Life Church | 258199 | 141145 | 1193 |
| Pipeline | | Life Church Buhumiro | 259563 | 141168 | 1187 |
| Pipeline | | Itambiro Lya Bisaka | 259793 | 141424 | 1177 |
| Pipeline | | Pentecostal church | 260160 | 141649 | 1170 |
| Pipeline | Kasoga | Mungumwema Church Kasoga | 261096 | 142132 | 1157 |
| Pipeline | Kyarusesa | Besel Miracle Centre Church Kyarusesa | 266801 | 146402 | 1144 |
| Pipeline | Zahura | Pentecostal (Panikote) church Zahura | 270453 | 148341 | 1079 |
| Pipeline | Zahura | Adventist Church Zahura | 270389 | 148557 | 1095 |
| Pipeline | Kyarujumba | Kyarujumba Catholic Church | 256813 | 140885 | 1212 |

| | | | | | |
|------|---------------|-------------------------------------|--------|--------|-----|
| FLAT | Kyabasambu | Kyabasambu Church of Uganda | 249228 | 138221 | 627 |
| FLAT | Kyabasambu | Pentecostal Church of Uganda (PCU) | 249312 | 138423 | 627 |
| FLAT | Nsunzu | Afrocreed Church (Lamwethekwaro) | 247983 | 136242 | 631 |
| FLAT | Nsonga/Nsunzu | FePaco Church | 247920 | 135913 | 630 |
| FLAT | Nsunzu | Nsunzu Seventh day Adventist Church | 248025 | 136320 | 631 |
| FLAT | Nsunzu | Nsunzu Protestant Church | 247980 | 136420 | 630 |
| FLAT | Nsonga/Nsunzu | Tree of Life Pentecostal Church | 248108 | 136483 | 630 |
| FLAT | Nsonga/Nsunzu | Faith of Unity Church | 248315 | 136602 | 633 |
| FLAT | Nsonga | Kiguli Catholic Church Nsonga | 248350 | 137053 | 627 |
| FLAT | Nsonga | Nsonga Church of Uganda | 248211 | 136901 | 626 |
| FLAT | Nsunzu | Nsunzu Church of God | 248157 | 136747 | 625 |
| FLAT | Nsunzu | Nsunzu Disciple Church | 248258 | 136694 | 628 |
| FLAT | Nsonga | Nsonga Church of the Rock | 248380 | 136694 | 629 |
| FLAT | Nsonga | Nsonga Miracle Church | 248485 | 137387 | 621 |

1.6.3.1 Lamthekwaro church

This church is also Afrocreed religion for those who believe in the spirits of the dead. The headquarters are in Panyamur in Pakwach. The chief priest is called Oriema Pithwa who is also regarded as a prophet.

How do they pray?

According to Alex Onenchan (Refer to Table 1 for details) their prayer starts with ‘god who created the earth and everything...’ and the names of any of the spirits of their dead grand parents and relatives are mentioned too. This may be the reason why believers of other religions in the Flat refer to it as the religion that believes in the dead spirits. It should be noted that when praying they don’t include the words of ‘God the son’ in their prayers because they believe he had a human fresh and was a prophet.

They also claimed to treat people who are mentally disturbed as long as they believe in their religion. The swamp where they get holy water is situated in Nsunzu village. It is said the swamp was revealed to them in a dream by the Holy Spirit. However, this was contested by the local people in Nsunzu who claimed that this is a trick by the Lamethekwaro people to claim ownership of the swamp in order to benefit from the likely compensation in case the swamp is affected by the project.

When do they pray?

They pray on the following days; Tuesday, Friday and Sunday. But on Saturday they start praying at 2pm and end at 5:00 pm. In the course of their prayers if one got possessed with the spirits they would sprinkle holy water that they get from a specific swamp located at UTM 248022, 136250 and elevation of 629. They also use the *kabaani* to drive away the evil spirit.

Despite the praying on those particular days they also respect every 20th of every month which is also a day of prayer

Lamethekwaro taboos

A number of taboos are observed by the lamethekwaro religion that are as follows:

- Family members cannot enter the church called the Ugonjo shrine before solving any misunderstanding they may have, otherwise a calamity may occur.
- Women are not allowed to enter the church with makeup or plaited hair, bangles, necklaces and any other jewellery.
- They allow polygamous people to join the religion but after conversion one cannot marry any other wife again.
- They are not allowed to marry members of their own church but rather to pick from outside whom they have to convert before marrying them.
- They don't eat pork

1.6.4 Cultural activities and ceremonies

From all the interviews that were held it seemed that the only cultural activity that engulfed entire communities was the birth of twins' ceremony called *kuturuka mahasa*. In case twins were born it is said that they will stay indoors until they got the first teeth. The mother and father of the twins do not visit their relatives until the ceremony for the twins is performed.

Other than twin ceremonies individual households seemed to have had their own cultural activities and ceremonies that are done silently at the household level.

The cultural activities that take place at the Kasonga and Luzira in Nsonga are also renowned by almost all villages where the chief guardians are members of the Bakobyia clan.

There are also sacrifices made for the lake both in the Flat and on top of the escarpment that have continued till date. These are mainly done by the elders and traditional doctors.

Other ceremonies included kubandwa (worshiping spirits)

1.6.5 Cultural sites

The sites mentioned that are associated with cultural beliefs include the following:

- Akasonga (Nsonga –Luzira). The guardian is known as Ngasira who currently resides in Kaiso of the Bakobyia clan.
- Kasonga in Kiina.

- River Masika
- Lake Albert
- The escarpment
- Musajjamukulu tree in Kiina
- The Kikobya tree in Nsonga which was recorded in 2014. However the tree was cut down and the people insist that it was the CNOOC workers who cut the tree.
- The well known as Kagera in Kyabasambu where they would see people dressed in white (ghosts), kids, puppies, chicks and people still use the place to perform sacrifices. This is the place that is marshy linking to the jetty landing with several warning signs for reptiles like snakes and crocodiles (Plate 7).



Plate 7: Snake and Crocodile Warning Signs

1.6.6 Memorial sites related to Historical events

Most people were not aware of any memorial sites that are related to historical events. Thus only one site was mentioned in this regard in Kituuti village that is the Sir Samuel Baker site that was properly recorded in the CNOOC 2014 ESIA.

1.6.7 Source of the potsherds scattered in the villages

On the issue of who made the potsherds that are scattered in most of the villages all informants unanimously agreed that they were made by people who used to stay in those villages in the past.

1.6.8 Current pottery and iron working activities

Currently it was stated that pottery is still made in Nsunzu by the Bakobya clan members while iron working is still practiced in Nsonga at the centre (Plate 8).



Plate 8: Nsonga Town Centre

Patrick Isingoma of Nyantai village stated that pottery is still being made in Kamwokya village. Okecha Kibojo still in Nyantai actually mentioned the name of the actual pot maker in Kamwokya who is Kinywai Godfrey. Pottery making is also said to be continuing in Butooli in Kyangwali according to Ndora Zakayo (Table 1). In Hanga 2B it is said that there is an Alur family of Kinyai Okira who still make pottery according to Asaba Nyansio (Table 1). In Kitegwa pottery was made by a man called Lubumbi (RIP) but who passed on recently

1.6.9 Reasons as to why they migrated to the project area

A number of reasons were identified by the informants as to why they migrated to Buhuka Flats and these include the following:

- The need to spread the word of God.
- Need for land for cultivation. This was mainly for people along the pipeline route outside the Flat. They claimed that the areas were sparsely populated such as Nyansenge and had land for agriculture.
- Searching for a living or survival
- The contagion factor where some moved in because others were moving.

- There was just one case of a nurse in Nyantai who came in because he had been offered a job in a drug shop. But when the drug shop he worked in closed he opened his own that he is now managing.
- Following the parents who had initially settled in the area as the case was for Busingye John and Kahawa Jonathan who followed their fathers to Kyabasambu.
- Fishing in Lake Albert
- To continue with work as a traditional medicine man.

1.6.9 Means of transport used to come to areas affected by the project

There were mainly two means of transport used by people who settled mainly in Buhuka Flats and these were water and road transport. In the other areas along the pipeline route one means of transport was used that was road

1.6.10 Gender related cultural beliefs

The cultural beliefs identified concerning places that men or women could not access included:

- In the past women were not allowed to go to the escarpment very early in the morning or else they would meet evil spirits. This was mainly from 6:00 am to 12:00 noon and from 6:00 pm onwards.
- Women are not allowed to access all places of traditional worship.
- In the past at the time of appeasing the lake gods no one was allowed to go to the Lake to fish and even women were not allowed to go to the escarpment to fetch firewood.
- If one moved along the escarpment at midday he/she would get lost for about a day without seeing the road/path.
- At the escarpment they used to find food that is already cooked without knowing or seeing who cooked it.
- No sexual activities are allowed at the Kasonga (Luzira)
- Women do not bathe naked in the Lake Albert.
- Women were not allowed to fetch water from the Lake at midday because then they believed the spirits would be moving.

- Women were not allowed to fish in the past and they even had special locations at the lake shore where they fetched water.
- Women like children are not allowed at all cultural sites unless on special occasions especially when they are appeasing the gods to get rid of natural calamities (Kamugusha Eriya, Table 1).

1.7 Results from Archaeological Survey

The findings from archaeological survey included pottery, lithics, faunal remains (bones and shells), fish weights, graves and medicinal plants. These findings are more or less similar to the findings of the 2014 ESIA. Details are elaborated in the sections below.

1.7.1 Graves

The graves are the places where people were buried. These appear in two forms the community grave yards (cemetery) and the family burial grounds. Among the burials recorded it was only in Kyabasambu and Kyakapere (well pad 4A) areas where community burial grounds were recorded (Table 6). The majority of the graves appear at an individual or family level.

Table 6: Graves

| SITE | TYPE | DESCRIPTION | North | East | Elevation |
|------------|------------------------------|--|--------|--------|-----------|
| PAD 4 | 2 graves | Oguti Ociro mother of the chairperson and the step mother | 250274 | 139645 | 629 |
| PAD 4 | burial | 1 grave for son of Ezra Manja called Bosco | 250309 | 139822 | 631 |
| PAD 4 | burial | 1 grave of Odaga under Ober Giyo | 250186 | 138895 | 637 |
| PAD 4 | | 14 graves with only one cemented, one of Olum Oram Etieno cemented | 250311 | 139610 | 630 |
| Kyabasambu | Cemetery already compensated | | 249391 | 138598 | 628 |
| PAD 4 | Cemetery | | 250618 | 140531 | 637 |
| PAD 4 | grave | | 250439 | 139459 | 638 |

There were two forms of graves in the project area identified. These could be categorised as the ordinary and cemented graves.

The ordinary graves are those marked with stones as in Plate 9



Plate 9: Ordinary graves

Cementing of graves as shown in Plate 10 is becoming common in the area especially in areas suspected to be within the project area due the speculation for compensation in case of resettlement.



Plate 10: Cemented Graves

1.7.2 Pottery

Pottery was the most common finding identified during archaeological survey. In some areas and appeared in the form of scatters of potsherds or concentrations (Plate 11). No single whole pot was identified all finds were in form of potsherds. Despite the information from one of the informants in Nyansenge that they usually come across smoking pipe pieces none of these was identified possibly due to the limited archaeology foot walking survey done in this area due to the limited time.



Plate 11: Pottery concentration in Nsunzu

The pottery traditions included mainly roulette impressions with a few punctates as shown in Plate 11.

A total of 33 sites were identified with pottery in Kyakapere to Kyabasambu alone out of the 54 sites with pottery (Table 7). In some instances the pottery was highly abraded or plain that it could not be identified to tradition.

The decorations identified from the pottery included; roulette especially string knotted pottery, finger nail impression, horizontal triangular punctates and grooves. Basing on the decoration types the ceramic traditions identified included Later Iron Age (roulette), Middle Iron Age also known as bourdine or Chobe ware depicted from the finger impressions and Early Iron Age depicted from the punctates and from the flat topped rims forms. This shows that the proposed project areas could be dated from the Early Iron Age to the Late Iron Age.

In terms of surface finishing the pottery was either burnished or slipped. However, for the abraded pottery no surface finishing could easily be detected.

Table 7: Pottery findings

| WP | SITE | DESCRIPTION | decoration | Tradition | UTM | | Elevation |
|-----|----------------|---|---------------------------------|-----------|--------|--------|-----------|
| 761 | PAD 4 | potsherd (plain) concentration | | | 250499 | 139977 | 640 |
| 762 | PAD 4 | plain thick bodied pottery, reddish color | | | 250425 | 139819 | 632 |
| 770 | PAD 4 | pottery scatters of 4x4m | finger impression and roulette | MIA-LIA | 250283 | 139755 | 628 |
| 771 | PAD 4 | pottery | roulette | | 250263 | 139750 | 625 |
| 773 | PAD 4 | string knotted roulette rim | | | 250265 | 139690 | 627 |
| 779 | PAD 4 | plain pottery | | | 250296 | 139626 | 630 |
| 785 | PAD 4 | 5 pieces of pottery | | | 250483 | 139679 | 639 |
| 786 | PAD 4 | decorated pottery bagged | | | 250457 | 139649 | 636 |
| 789 | PAD 4 | plain pottery, dark grey color | | | 250396 | 139479 | 634 |
| 791 | PAD 4 | plain pottery with dark interior suggesting cooking | | | 250344 | 139479 | 630 |
| 763 | PAD 4 | plain pottery scatters at close to new bar | | | 250400 | 139846 | 635 |
| 806 | PAD 1 | pottery heavily abraded | | | 248594 | 137996 | 619 |
| 829 | PAD 3 ROADS | pottery concentration | | | 247567 | 136218 | 624 |
| 830 | PAD 3 ROADS | pottery concentration | | | 247560 | 136228 | 625 |
| 831 | PAD 3 ROADS | pottery concentration about 20x20m | string knotted roulette | LIA | 247566 | 136238 | 622 |
| 832 | PAD 3 ROADS | thick bodied pottery | flat topped rim | EIA | 247581 | 136226 | 625 |
| 833 | PAD 3 ROADS | pottery scatters | | | 247671 | 136179 | 629 |
| 834 | PAD 3 ROADS | pottery scatters | | | 247670 | 136179 | 629 |
| 835 | PAD 3 ROADS | plain pottery | | | 247700 | 136165 | 627 |
| 836 | PAD 3 ROADS | pottery scatters 10x10m | | | 247716 | 136135 | 627 |
| 837 | PAD 3 ROADS | pottery concentration | horizontal triangular punctates | EIA | 247718 | 136129 | 627 |

| | | | | | | | |
|-----|----------------|--|----------------------------|-------------------|--------|--------|------|
| 838 | PAD 3 ROADS | pottery concentration | | | 247736 | 136120 | 627 |
| 841 | PAD 3 ROADS | 2 plain potsherds | | | 247831 | 135987 | 630 |
| 842 | PAD 3 ROADS | roulette pottery 1 and plain 1 | | | 247733 | 135984 | 627 |
| 844 | PAD 3 ROADS | concentration of pottery | | | 247666 | 136025 | 628 |
| 845 | PAD 3 ROADS | pottery | finger nail impressions | MIA (bourdine) | 247547 | 136039 | 629 |
| 846 | PAD 3 ROADS | pottery | finger nail impressions | MIA (bourdine) | 247544 | 136039 | 630 |
| 847 | PAD 3 ROADS | stretch mark for pottery concentration | | | 247554 | 136035 | 629 |
| 848 | PAD 3 ROADS | stretch mark for pottery concentration | | | 247539 | 136041 | 628 |
| 850 | PAD 3 ROADS | huge pottery concentration | roulette | LIA | 247470 | 136084 | 627 |
| 851 | PAD 3 ROADS | huge pottery concentration | roulette | LIA | 247465 | 136086 | 627 |
| 852 | PAD 3 ROADS | huge pottery concentration | roulette | LIA | 247475 | 136111 | 630 |
| 861 | CPF | plain pottery | | | 249355 | 137376 | 634 |
| 898 | PIPELINE | highly abraded | | | 250292 | 138548 | 638 |
| 905 | PIPELINE | plain, burnished reddish sherd | | | 250450 | 138959 | 648 |
| 906 | PIPELINE | | | | 250450 | 138965 | 648 |
| 919 | Nyantai | Pottery | | plain | 252286 | 139172 | 1116 |
| 920 | Nyantai | Pottery | scatters of 10x10m | plain | 252138 | 139134 | 1102 |
| 923 | Nyantai | Pottery | | plain | 251844 | 139152 | 1073 |
| 938 | Nyantai | Pottery | | | 252028 | 138972 | 1087 |
| 945 | HANGA 2B | Pottery scatters 4x4m | | | 254215 | 139387 | 1171 |
| 946 | HANGA 2B | pottery | | | 254161 | 139508 | 1164 |
| 956 | Nyansenge | Pottery | | roulette | 257008 | 138137 | 1197 |
| 958 | Nyansenge | Pottery | | plain | 256838 | 138152 | 1196 |
| 960 | Nyansenge | Pottery | | | 256413 | 139183 | 1197 |

| | | | | | | | |
|-----|-------------|---------|------------------------|----------|--------|--------|------|
| 966 | Kyakapere | Pottery | rouletting and grooves | | 250800 | 141184 | 645 |
| 970 | Kyakapere | Pottery | | plain | 250422 | 139517 | 639 |
| 974 | Nyansenge A | Pottery | | plain | 256620 | 140001 | 1209 |
| 6 | Zahura | pottery | | plain | 270028 | 149123 | 1118 |
| 7 | Zahura | pottery | | roulette | 270041 | 149100 | 1115 |
| 8 | | pottery | | plain | 270015 | 149075 | 1120 |
| 10 | | pottery | | plain | 273521 | 151655 | 1063 |
| 27 | Kabaale | pottery | | plain | 285669 | 159241 | 1097 |
| 3 | Zahura | pottery | | plain | 269992 | 149563 | 1139 |

1.7.3 Lithics

There were less lithic sites (9) compared to the ceramic sites (54). The lithic artefact types identified were broadly cores, disc and flakes. The cores belonged to the patterned platform cores such as the multiplatform core which could be dated to range from the Middle Stone Age (MSA) to the Later Stone Age (LSA) (Table 8).

Table 8: Lithic findings

| WP | Site | Village | type | Date | UTM | | Elevation |
|-----|----------|-----------|---------------------------------|------|--------|--------|-----------|
| 3 | PIPELINE | Zahura | | | 269992 | 149563 | 1139 |
| 889 | PIPELINE | | multi-platform | LSA | 250076 | 137879 | 644 |
| 907 | PIPELINE | | core | | 250508 | 139030 | 653 |
| 769 | PAD 4 | Kyakapere | discoid | MSA | 250283 | 139755 | 627 |
| 774 | PAD 4 | Kyakapere | levallois multi-platform core 7 | MSA | 250261 | 139671 | 624 |
| 941 | Pipeline | Nyantai | core | | 252254 | 138991 | 1107 |
| 959 | Pipeline | Nyansenge | core | | 256650 | 138359 | 1178 |
| 933 | Pipeline | Nyantai | disc | | 251677 | 138954 | 1049 |
| 26 | Pipeline | Kabaale | core | | 285785 | 158813 | 1095 |

A lithic disc was identified in Kyakapere Kuwait area as indicated in Plate 12.



Plate 12: Disc

1.7.4 Medicinal Plants

Medicinal plants as identified in the 2014 ESIA were also identified this time. The medicinal plants identified included; cactus, *kulumbero* (Plate 13) for healing eyes; *mululuza* for fever, *kamunye* for wounds and aloevera that treats several diseases especially malaria.



Plate 13: Medicinal plants; Kulumbero

1.7.5 Faunal Remains

Basically two types of faunal remains were identified and these were bones and shells. At one point a jaw bone was observed as seen in Plate 7. Other were mainly bone fragments. The jaw bone seemed to be for a cow. This is not surprising since the area in the Buhuka flat where it was found is a predominantly a grazing place. The bones could have been for either cows slaughtered for meat of those that died especially during periods of drought or due to any other sickness.



Plate 14: Jaw bone

1.7.6 Fish weights

The weights used on the fishing nets that are commonly used in the area were identified. These indicate the co-existence of two time periods the old and the new that challenges the Law of Superimposition that states that materials in the bottom layers are older than those on top. This does not give due attention to co-existence of materials of different time periods without any disturbance.

The existence of the stone weight and the plastic one as indicated in Plate 15 is an indicator of co-existence of the old and the new.



Plate 15: Stone and Plastic fishing weights

1.8 Impact assessment

The potential impacts could be assessed according to the direction, intensity (or severity), duration, extent and probability of occurrence of the impact (CNOOC ESIA by Golder, 2014). This also entailed examining the importance of the site from the international, National and local point of view. Basing on this one would decide whether the significance of the site is High, moderate, low or negligible. Generally there was only site the Baker's site that holds National value and hence high significance. Sites with lithics, graves and pottery are equally of high value. The rest of the sites significance was very negligible.

1.9 Conclusions

The original inhabitants of the Buhuka Flat are the Bakobya but these have been overtaken by the multiplicity of ethnic groups who come to the place due to especially the lucrative fishing business, due to the proximity of Lake Albert. The Bakobya are just one of the clans of Bunyoro Kitara Kingdom. The dominant ethnic group currently are the Alur. The Alur are both from Uganda's West Nile regions such as Panyamur while other are from Congo (Democratic Republic of Congo).

On the other hand the pipeline route outside the Buhuka Flat is mainly inhabited by the Bakiga who seem to have been attracted to the area due to the virgin land suitable for agriculture. The Bakiga being agriculturalists were attracted by free land for cultivation. Though the Alur and

Rwandese are also common. Most villages have a predominant ethnicity such as Zahura which is mainly for the Rwandese.

Christianity and speculation have destroyed the cultural values of the area.

Most areas along the pipeline route after the escarpment stretch are migrants who know little about the history of the areas likely to be affected by the project.

The cultural sites respected on the lake and escarpment are similar to most of those identified in 2014. Despite this a lot has changed in the area compared to the situation in 2014 especially due to the construction of the road along the escarpment (Plate 16) that had eased transportation to the Buhuka flat areas. For instance unlike in the past (2014) when the area was predominantly made of grass thatched houses the area is now dominated by iron sheet roofed houses.



Plate 16: Sections of the Kingfisher road

The overall assessment of the impact of the project shows that there was no major cultural heritage site identified to warrant change in the proposed project map.

References

The National Environment Authority Act Cap 153 (1998). The EIA Regulations S.1 No. 13 Section 107 of the National Environment Act Part III.

Golder Associates CNOOC ESIA 2014

Golder Associates Archaeology Cultural Heritage work plan rev 1, ESIA for CNOOC Block 3A Project Uganda 19th November, 2013

Appendices

Appendix A: Interviews in Buhuka



Interviews in Buhuuka.pdf

Appendix 2 Interviews in Nyantai



Nyantai interviews.pdf



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Date:

Time:

Which village: Zahura

Interviewer:

(introduction on our work)

Good morning, my name is

What is your name please?

Moses Kasupaali

How long have you lived here?

03

(Were you born here? Do you, mind telling me what year you were born?)

1981

Which tribe are you from? What is the native language here?

Kwandeze

If from another place:

Kwandeze

When did you come?

2014

How? Why?

By road, to look for a living (survival)

We are interested in history of the villages? Do you know anything useful for us?

They are farmers in this village.

What is the origin/meaning of the name of this village?

Doest know he is a settler in the place

(We have heard about old pottery nearby? Do you know when this was made or who made it?)

No

Does anyone still make pottery here? (Iron also/copper)?

No

Are there any traditional beliefs in the villages around here?

Kwandeze, Nyakikore Baganda, Bakiga, Bafumbira, Aho
no clear beliefs

Are there any traditional beliefs in **this** village?

No

Are there any sites associated with these beliefs?

No



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Are there any natural sites that are spiritually important to you? Like a river or a tree?
Who is the guardian of that site? Can they show us the site?

(If on Flats - Is the lake or escarpment important to you, culturally or historically?)

(Are there any stories associated with the Lake / escarpment?)

(Are there any sites nearby which are spiritually important – on the Lake Shore or Escarpment?)

Are there any local laws or practices/taboo's in this area? For example, where men can't go, or where women can't go?

What special cultural ceremonies take place in this village? Where? What time of year?

Is this ceremony for everyone? Or just for certain people? If so, who?

Are there memorial sites here, related to a historic event, a story?

Where are the cemeteries for the village?

Are there burials *within* the village? Where are these places?

they buried in personal land.

Are there any churches here? Or other religious buildings?

- Zahura protestant church.
- Zahura Pentecostal
- Zahura Adventist.

✓



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Date: 10/1/2017 Time: 2:15p.m Which village: Nyairongo Interviewer:

(introduction on our work)

Good morning, my name is ... Elizabeth

What is your name please?

Byamugisha han pastor of exodus church

How long have you lived here?

07 years

(Were you born here? Do you mind telling me what year you were born?)

No? 2nd July, 1986

Which tribe are you from? What is the native language here?

Mukiga - Wukiga

If from another place:

Kampala

When did you come?

2013 December

How? Why?

To minister to God's people

We are interested in history of the villages? Do you know anything useful for us?

People have tried to settle here for three times while failing as they go but now they are settled. Baraka one landlord used to chase away people

What is the origin/meaning of the name of this village?

He suspects its a Kinyoro word meaning a place of prostitutes

(We have heard about old pottery nearby? Do you know when this was made or who made it?)

They were made by people of the past.

Does anyone still make pottery here? (Iron also/copper)?

No

Are there any traditional beliefs in the villages around here?

Using the traditional methods like use of scissors to cut the heads to cut 'akasamba boko' but they don't take them to hospital

Are there any traditional beliefs in this village?

Same.

Are there any sites associated with these beliefs?

The traditional factors shifted most people now use their own houses to pray and yet

Report No. 1776816

witchcraft is still in plenty

998: Exodus Miracle Church.





GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Are there any natural sites that are spiritually important to you? Like a river or a tree?
Who is the guardian of that site? Can they show us the site? *No.*

(If on Flats - Is the lake or escarpment important to you, culturally or historically?) *No*

(Are there any stories associated with the Lake / escarpment?) *No*

(Are there any sites nearby which are spiritually important – on the Lake Shore or Escarpment?)

Are there any local laws or practices/taboo in this area? For example, where men can't go, or where women can't go? *No.*

No - the village has a multiplicity of tribes that tend to oppose each other and thus weaken traditional beliefs.

What special cultural ceremonies take place in this village? Where? What time of year?

Is this ceremony for everyone? Or just for certain people? If so, who? *No*

Hambirohya kesaka *No*
drum at night especially when someone is sick and is on death bed like there's made a ceremony when the chairman was

Are there memorial sites here, related to a historic event, a story?

No the area is newly settled people used to stay in tents in the gardens now they are just settling.

Where are the cemeteries for the village?

No

Are there burials *within* the village? Where are these places?

People bury in the homes some even rent spaces in other people's gardens to bury.

Are there any churches here? Or other religious buildings?

- Exotic miracle church*
- Victory church for pastor Tumurime*
- Evangelical church Tumushabe John.*
- Nyamungo catholic church*
- Adventist church*
- Hambiro (faith of unity)*
- Church of Uganda (protestant)*
- Mosque (1).*

Pentecostal church of Uganda.

Adiperi churches from Rwanda.



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Date: 10/11/12 Time: 4:20 p.m. Which village: Kitegwa Interviewer: Thubeth

(introduction on our work)

Good morning, my name is

What is your name please?

Byabafaguzi Godfrey
meaning things that require hard work, determination

How long have you lived here?

64 years

(Were you born here? Do you, mind telling me what year you were born?)

Yes 18th/2/1953

Which tribe are you from? What is the native language here?

Munyoro - Lunyoro Komyaketara

If from another place:

When did you come?

was born here

How? Why?

N/A

We are interested in history of the villages? Do you know anything useful for us?

They used to plant Cotton, coffee and other food crops

What is the origin/meaning of the name of this village?

There was a man in Chepian close to airport called Kitegwa hence Kitegwa

(We have heard about old pottery nearby? Do you know when this was made or who made it?)

It was for people of long ago.

Does anyone still make pottery here? (Iron also/copper)?

There was a man making them called Lubumba and Lubanga but he is dead now

Are there any traditional beliefs in the villages around here?

They used to be there but now due to religion they are no more

Are there any traditional beliefs in this village?

No

Are there any sites associated with these beliefs?

None



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Are there any natural sites that are spiritually important to you? Like a river or a tree?
Who is the guardian of that site? Can they show us the site?

None

(If on Flats - Is the lake or escarpment important to you, culturally or historically?)

(Are there any stories associated with the Lake / escarpment?)

(Are there any sites nearby which are spiritually important – on the Lake Shore or Escarpment?)

Are there any local laws or practices/taboo's in this area? For example, where men can't go, or where women can't go?

No

What special cultural ceremonies take place in this village? Where? What time of year?

Is this ceremony for everyone? Or just for certain people? If so, who?

None

Are there memorial sites here, related to a historic event, a story?

None

Where are the cemeteries for the village?

None

Are there burials *within* the village? Where are these places?

Every bynas in his place

Are there any churches here? Or other religious buildings?

- Revival Kaseeta
- Braka Hambiro
- Adventist
- Catholic church Keabale
- Church of regard Keabale.



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Date: 10/11/2017 Time: 12:00 noon Which village: Nsanseage-A - Interviewer: SEMUHENE ROBERT

(introduction on our work)

Good morning, my name is

What is your name please?

Aliganyra Richard.

How long have you lived here?

12 yrs

(Were you born here? Do you, mind telling me what year you were born?)

Ihbaale, Buyagga county .. 1982

Which tribe are you from? What is the native language here?

Muthiga

If from another place

Ihbaale

When did you come?

2005

How? Why?

He wanted to look for land for culture

We are interested in history of the villages? Do you know anything useful for us?

None

What is the origin/meaning of the name of this village?

None

(We have heard about old pottery nearby? Do you know when this was made or who made it?)

None

Does anyone still make pottery here? (Iron also/copper)?

None

Are there any traditional beliefs in the villages around here?

None

Are there any traditional beliefs in this village?

None

Are there any sites associated with these beliefs?

None



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Are there any natural sites that are spiritually important to you? Like a river or a tree?
Who is the guardian of that site? Can they show us the site?

None

(If on Flats - Is the lake or escarpment important to you, culturally or historically?)

None

(Are there any stories associated with the Lake / escarpment?)

No

(Are there any sites nearby which are spiritually important – on the Lake Shore or Escarpment?)

None

Are there any local laws or practices/taboo in this area? For example, where men can't go, or where women can't go?

None

What special cultural ceremonies take place in this village? Where? What time of year?

None

Is this ceremony for everyone? Or just for certain people? If so, who?

No

Are there memorial sites here, related to a historic event, a story?

None

Where are the cemeteries for the village?

None

Are there burials *within* the village? Where are these places?

They bury close to the waste

Are there any churches here? Or other religious buildings?

Pentacost churches (3) "katooma"



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Date: 10/11/2017 Time: 11:45 AM Which village: Nyansenge A

Interviewer: STEPHEN MURANDA ROZERI

(introduction on our work)

Good morning, my name is

What is your name please?

Mzerere Bagamuhonda

How long have you lived here?

20 yrs

(Were you born here? Do you, mind telling me what year you were born?)

Ihabale (Ingeri) 1958

Which tribe are you from? What is the native language here?

Muthiga Muthiga

If from another place:

Ihabale

When did you come?

1997

How? Why?

She wanted land.

We are interested in history of the villages? Do you know anything useful for us?

None

What is the origin/meaning of the name of this village?

None

(We have heard about old pottery nearby? Do you know when this was made or who made it?)

NO

Does anyone still make pottery here? (Iron also/copper)?

None

Are there any traditional beliefs in the villages around here?

None

Are there any traditional beliefs in this village?

None

Are there any sites associated with these beliefs?

None



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Are there any natural sites that are spiritually important to you? Like a river or a tree?
Who is the guardian of that site? Can they show us the site?

None

(If on Flats - Is the lake or escarpment important to you, culturally or historically?) *NO*

(Are there any stories associated with the Lake / escarpment?) *None*

(Are there any sites nearby which are spiritually important – on the Lake Shore or Escarpment?)

None

Are there any local laws or practices/taboo in this area? For example, where men can't go, or where women can't go?

None

What special cultural ceremonies take place in this village? Where? What time of year? *None*

Is this ceremony for everyone? Or just for certain people? If so, who?

None

Are there memorial sites here, related to a historic event, a story?

None

Where are the cemeteries for the village?

None

Are there burials *within* the village? Where are these places?

They bury close to their houses

Are there any churches here? Or other religious buildings?

No.



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Date: 10/11/17 Time: 11:25 AM Which village: Muzansenge A. Interviewer: SEMULEMBE ROBERTO

(introduction on our work)

Good morning, my name is

What is your name please?

ATEGEKA Christophe

How long have you lived here?

20 yrs

(Were you born here? Do you, mind telling me what year you were born?)

Musoko District

In 1954 / 05 / 04

Which tribe are you from? What is the native language here?

Muzumbira

Luthiga / Luzumbira

If from another place:

Musoko

When did you come?

1997

How? Why?

To search for land for agriculture.

We are interested in history of the villages? Do you know anything useful for us?

None

What is the origin/meaning of the name of this village?

NO

(We have heard about old pottery nearby? Do you know when this was made or who made it?)

NO

Does anyone still make pottery here? (Iron also/copper)?

None

Are there any traditional beliefs in the villages around here?

None

Are there any traditional beliefs in this village?

None

Are there any sites associated with these beliefs?

None.



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Are there any natural sites that are spiritually important to you? Like a river or a tree?
Who is the guardian of that site? Can they show us the site?

None

(If on Flats - Is the lake or escarpment important to you, culturally or historically?)

(Are there any stories associated with the Lake / escarpment?)

None

(Are there any sites nearby which are spiritually important – on the Lake Shore or Escarpment?)

None

Are there any local laws or practices/taboo's in this area? For example, where men can't go, or where women can't go?

None

What special cultural ceremonies take place in this village? Where? What time of year?
Is this ceremony for everyone? Or just for certain people? If so, who?

None

Are there memorial sites here, related to a historic event, a story?

None

Where are the cemeteries for the village?

None

Are there burials *within* the village? Where are these places?

They bury close to houses

Are there any churches here? Or other religious buildings?

Pentecost churches (3) -



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Date: 9/11/17 Time: 08:00am Which village: Nyantayi Interviewer: SEMMULEMBE ROBERT

(introduction on our work)

Good morning, my name is

What is your name please?

Oaikhani Riba.

How long have you lived here?

From 1992 (25 years)

(Were you born here? Do you, mind telling me what year you were born?)

West Nile (Parambo) 1944

Which tribe are you from? What is the native language here?

Ahur Ahur

If from another place:

west Nile

When did you come?

1992

How? Why?

He came as a peasant farmer.

We are interested in history of the villages? Do you know anything useful for us?

The place has a location where children are not allowed to play from to avoid contracting evil spirits

What is the origin/meaning of the name of this village?

there are many birds (Nyantayi) in the area.

(We have heard about old pottery nearby? Do you know when this was made or who made it?)

No

Does anyone still make pottery here? (Iron also/copper)?

None

Are there any traditional beliefs in the villages around here?

Yes - children are prohibited from playing in a specific area to avoid contracting evil spirits

Are there any traditional beliefs in this village?

do.

Are there any sites associated with these beliefs?

Yes

a sacrificial place helping the whole village.



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Are there any natural sites that are spiritually important to you? Like a river or a tree?

Who is the guardian of that site? Can they show us the site?

The sacrificial place / stone Care father Oaukham Riba

(If on Flats - Is the lake or escarpment important to you, culturally or historically?) yes.

(Are there any stories associated with the Lake / escarpment?) sacrifices help to cure diseases and in fishing

(Are there any sites nearby which are spiritually important - on the Lake Shore or Escarpment?) 3 places on top, middle and flat in the lake shore

Are there any local laws or practices/taboo in this area? For example, where men can't go, or where women can't go?

women can not bath from Oaukham river - children prohibited to playing in a certain area.

What special cultural ceremonies take place in this village? Where? What time of year?

Is this ceremony for everyone? Or just for certain people? If so, who? sacrifices sacrificial stone. February & December

Its carried out with the group members

Are there memorial sites here, related to a historic event, a story?

None

Where are the cemeteries for the village?

None

Are there burials within the village? Where are these places?

Bury close to their house.

Are there any churches here? Or other religious buildings?

- Pentecosto church
- Mosque
- hamthathuaro (Agnocreed)



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Date: 9/11/2017

Time:

Which village: Nyantai

Interviewer: Kyazike

(introduction on our work)

Good morning, my name is Elizabeth

What is your name please?

Patrick Lungoma

How long have you lived here?

2 years 1/2

(Were you born here? Do you, mind telling me what year you were born?)

No. Born in Kyangwaha Sub-County: 3rd July, 1989

Which tribe are you from? What is the native language here?

Munyoro Munyoro

If from another place:

Yes

When did you come?

2014 / Nov 12th

How? Why?

Came as an employee as one of the nurses in the area in a private drug shop. (had's mercy drug shop)

We are interested in history of the villages? Do you know anything useful for us?

Nothing

What is the origin/meaning of the name of this village?

It's from the birds called locally antai that build in houses, its a munyoro word.

(We have heard about old pottery nearby? Do you know when this was made or who made it?)

Doesn't know any one in this area.

Does anyone still make pottery here? (Iron also/copper)?

It's from Kamwaha not here

Are there any traditional beliefs in the villages around here?

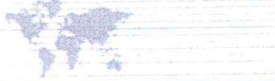
Yes - in when the woman is pregnant the husband is not supposed to go with an man otherwise the woman will not deliver unless the man apologises. Medicinal plants chise for uterus

Are there any traditional beliefs in this village?

Yes and those above.

Are there any sites associated with these beliefs?

None. Apart from hankwais who worship the dead (ghosts) in a house of darkness. Remove shoes in Court yard. The leader died recently called Nyama was in Kamwaha



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Are there any natural sites that are spiritually important to you? Like a river or a tree?
Who is the guardian of that site? Can they show us the site?

No

(If on Flats - Is the lake or escarpment important to you, culturally or historically?) N/A

(Are there any stories associated with the Lake / escarpment?) At night there are burning fires and scary sounds.

(Are there any sites nearby which are spiritually important - on the Lake Shore or Escarpment?)

No

Are there any local laws or practices/taboo in this area? For example, where men can't go, or where women can't go?

No

What special cultural ceremonies take place in this village? Where? What time of year?

None

Is this ceremony for everyone? Or just for certain people? If so, who?

N/A

Are there memorial sites here, related to a historic event, a story?

Baker's Fort for Sir Samuel Baker at Kibuti

Where are the cemeteries for the village?

None

Are there burials *within* the village? Where are these places?

On individual basis

Are there any churches here? Or other religious buildings?

1. Nyantai Victory Church
2. St. Kizito Catholic Church
3. Hamukwan building.



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Date: 9/11/2017

Time: 8:00

Which village: Nyatai

Interviewer: Kyazike

(introduction on our work)

Good morning, my name is ... Enaboth

What is your name please?

Okecha Kibojjo

How long have you lived here?

Since 1992

(Were you born here? Do you, mind telling me what year you were born?)

No 1963

Which tribe are you from? What is the native language here?

Ahur Ahur

If from another place:

When did you come?

1992

How? Why?

Just walked, the moved because others were moving he

We are interested in history of the villages? Do you know anything useful for us?

None. This area used to be forest, people have just started occupying the area esp from Congo, west side (Nebbi), Rwandese.

What is the origin/meaning of the name of this village?

It used to be Hunga and later divided off.

(We have heard about old pottery nearby? Do you know when this was made or who made it?)

No

Does anyone still make pottery here? (Iron also/copper)?

The potmakers are in Kamokya at Kinywai Godfrey.

Are there any traditional beliefs in the villages around here?

None In Kamokya we know of Bisaka's religion

Are there any traditional beliefs in this village?

No idea

Are there any sites associated with these beliefs?

Well (Maji ya Ongeri) is Ongeri, well the water they believed was brought by zakan for home use



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Are there any natural sites that are spiritually important to you? Like a river or a tree?
Who is the guardian of that site? Can they show us the site?

None

(If on Flats - Is the lake or escarpment important to you, culturally or historically?)

(Are there any stories associated with the Lake / escarpment?)

Moving on lake shores for see people burning, no moving at night, ghosts move

(Are there any sites nearby which are spiritually important - on the Lake Shore or Escarpment?)

None

Are there any local laws or practices/taboo in this area? For example, where men can't go, or where women can't go?

None

What special cultural ceremonies take place in this village? Where? What time of year?

Is this ceremony for everyone? Or just for certain people? If so, who?

None

Are there memorial sites here, related to a historic event, a story?

Baker's fort (Kitubi)

Where are the cemeteries for the village?

None

Are there burials within the village? Where are these places?

There is no specified place everyone buries at his or her own place

Are there any churches here? Or other religious buildings?

- * Nyantai Pentecostal church Nyantai.
- * Hamthkwas church
- * St. Kizito Catholic church Hanga.
- - Anglican * Boma Church of Uganda
- Boma Mosque
- Hanga west Pentecostal Church.



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Date: 9/11/17 Time: 12:00pm Which village: Hanga II B Interviewer: SEMVLENDLE ROBERTI

(introduction on our work)

Good morning, my name is

What is your name please?

BIRUMBI ALOYSIUS (ma)

How long have you lived here?

20 years

(Were you born here? Do you, mind telling me what year you were born?) 1966

Rwensambya its the one that was divided to get Hanga II B

Which tribe are you from? What is the native language here?

Munyoro Lunyoro

If from another place:

Rwensambya

When did you come?

1997

How? Why?

He be came independent from his parents.

We are interested in history of the villages? Do you know anything useful for us?

The place was originally was Rwensambya and this spot Hanga II B was a place for Byabalakura

What is the origin/meaning of the name of this village?

People of different backgrounds settled in Byabalakura's village and renamed it Hanga II

(We have heard about old pottery nearby? Do you know when this was made or who made it?)

Yes they are old people. There was a person who was buried in the pot with a smoking pipe - someone tried talking it he became mad

Does anyone still make pottery here? (Iron also/copper)?

None

Are there any traditional beliefs in the villages around here?

None

Are there any traditional beliefs in this village?

None

Are there any sites associated with these beliefs?

None.



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Are there any natural sites that are spiritually important to you? Like a river or a tree?
Who is the guardian of that site? Can they show us the site?

None

(If on Flats - Is the lake or escarpment important to you, culturally or historically?)

yes fishing, money
herding, medicine
stone quarrying

(Are there any stories associated with the Lake / escarpment?)

(Are there any sites nearby which are spiritually important – on the Lake Shore or Escarpment?)

there is a place Mnyanya and Zakhayo is the caretaker

Are there any local laws or practices/taboo in this area? For example, where men can't go, or where women can't go?

None

What special cultural ceremonies take place in this village? Where? What time of year?

Is this ceremony for everyone? Or just for certain people? If so, who?

None

None

Are there memorial sites here, related to a historic event, a story?

None

Where are the cemeteries for the village?

None

Are there burials within the village? Where are these places?

People bury close to their houses

Are there any churches here? Or other religious buildings?

Revival church



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Date: 9/11/2017 Time: 12:30pm Which village: HANGA 2B Interviewer: Kyriake

(introduction on our work)

Good morning, my name is ... Elizabeth.

What is your name please?

Asaba Nyansio

How long have you lived here?

23

(Were you born here? Do you, mind telling me what year you were born?)

No (Kunguak) 20/4/1964

Which tribe are you from? What is the native language here?

Batooro born in Bonyoro - Hutoro / Honyoro

If from another place:

When did you come?

1994

How? Why?

Came on road; He couldn't get land for farming.

We are interested in history of the villages? Do you know anything useful for us?

When they were growing their grandfather used to come to this village to do rituals & worship, he related in several villages around

What is the origin/meaning of the name of this village?

The name Hanga started with the Ahur from a name derived from the Kungu word Kihanga (gorge), meaning people who settled in Kihanga

(We have heard about old pottery nearby? Do you know when this was made or who made it?)

Yes; they assume they were made by people of long ago because they see them when digging

Does anyone still make pottery here? (Iron also/copper)?

Yes there is a Ahur called Kinyai Okira's family

Are there any traditional beliefs in the villages around here?

May be in the past but now there are no more

black & white = Nyantai - Lweksimou - Byaburahura (Hanga) Kamukol fan a name of owner of Byaburahura (Gy Bi)

Are there any traditional beliefs in this village?

As above

Are there any sites associated with these beliefs?

San Samuel Baker site



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Are there any natural sites that are spiritually important to you? Like a river or a tree?
Who is the guardian of that site? Can they show us the site?

None

None

(If on Flats - Is the lake or escarpment important to you, culturally or historically?)

(Are there any stories associated with the Lake / escarpment?)

That the escarpment has ghosts and the lake has a mermaid

(Are there any sites nearby which are spiritually important - on the Lake Shore or Escarpment?)

Does not know.

Are there any local laws or practices/taboo in this area? For example, where men can't go, or where women can't go?

- Woman not allowed to sit on a cooking stone
- Man does not eat chicken wing
- woman not eating grasshoppers, pigs.

He believes these were just due to fear in the past.

What special cultural ceremonies take place in this village? Where? What time of year?

Is this ceremony for everyone? Or just for certain people? If so, who?

Twin ceremonies

Are there memorial sites here, related to a historic event, a story?

Baker's fort.

Where are the cemeteries for the village?

No

Are there burials within the village? Where are these places?

People have individual burials

Are there any churches here? Or other religious buildings?

1. Full gospel church.

2. Uambiyo lyabisaka

3. the mosque is in Hanga A not here in Hanga B.

4. Jehovah's witness



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Date: 9/11/2017 Time: 2:45p.m Which village: Nyansenge B Interviewer: Elizabeth

(introduction on our work)

Good morning, my name is Elizabeth

What is your name please?

Kabanyoro Florence Akiki

How long have you lived here?

29

(Were you born here? Do you, mind telling me what year you were born?)

No - 21 Feb 1968

Which tribe are you from? What is the native language here?

Muboro - Muboro

If from another place:

Came Nyamihembo in Kyangwali

When did you come?

1988

How? Why?

By road, the area of Nyansenge was sparsely populated

We are interested in history of the villages? Do you know anything useful for us?

they wanted land for cultivation the village used to have many wild animals such as nsege, ngiri, buffalo, mpalaki, entama etc

What is the origin/meaning of the name of this village?

Because there many animals called nsege

(We have heard about old pottery nearby? Do you know when this was made or who made it?)

they just see them while digging, smoking pipes are very common

Does anyone still make pottery here? (Iron also/copper)?

The had and now people use sawcepano

Are there any traditional beliefs in the villages around here?

they had a man called Zakyap (RIP) who had magic book for people who would get lost in the wilderness He was was in Nyakate I village.

Are there any traditional beliefs in this village?

Nothing while fetching firewood you cut a piece then you hear someone cut also you cant see.

Are there any sites associated with these beliefs?

Yes at Hambin site N.B. marked as a church. In the past it used to be associated with spirits especially at new moon.



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Are there any natural sites that are spiritually important to you? Like a river or a tree?
Who is the guardian of that site? Can they show us the site?

None

(If on Flats - Is the lake or escarpment important to you, culturally or historically?)

(Are there any stories associated with the Lake / escarpment?)

before chose they wanted to make a road and they failed as the spirits demanded they do it at night.

(Are there any sites nearby which are spiritually important - on the Lake Shore or Escarpment?)

No.

Are there any local laws or practices/taboo's in this area? For example, where men can't go, or where women can't go?

No.

What special cultural ceremonies take place in this village? Where? What time of year?

No

Is this ceremony for everyone? Or just for certain people? If so, who?

N/A -

Are there memorial sites here, related to a historic event, a story?

No

Where are the cemeteries for the village?

No

Are there burials *within* the village? Where are these places?

Burials are at the family level

Are there any churches here? Or other religious buildings?

- Catholic Church
- Anglican Church
- Humber



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Date: 9/11/2017

Time: 2:15 p.m

Which village: Nyandenge B

Interviewer: Elizabeth

(introduction on our work)

Good morning, my name is

What is your name please?

Wilson Ngrakaxana Ngiralsari

How long have you lived here?

30 years

(Were you born here? Do you, mind telling me what year you were born?)

No: 03/05/1959.

Which tribe are you from? What is the native language here?

Mukaga mukaga

If from another place:

Yes

When did you come?

1981

How? Why?

By road, He came to get land

We are interested in history of the villages? Do you know anything useful for us?

Nothing

What is the origin/meaning of the name of this village?

There used to be animals called 'nsege' that resemble pigs (warthogs) so it is after nsege/warthogs they used to hunt.

(We have heard about old pottery nearby? Do you know when this was made or who made it?)

He is not aware when they were made but to him it means people lived there in the past.

Does anyone still make pottery here? (Iron also/copper)?

No.

Are there any traditional beliefs in the villages around here?

No. Yes in Mahamba very far from here

Are there any traditional beliefs in **this** village?

No.

Are there any sites associated with these beliefs?

None



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Are there any natural sites that are spiritually important to you? Like a river or a tree?

Who is the guardian of that site? Can they show us the site?

Those were in the past now Busaka (Owobosozi) has eliminated them.

(If on Flats - Is the lake or escarpment important to you, culturally or historically?)

(Are there any stories associated with the Lake / escarpment?)

Yes, he had the escarpment has ghosts and the lake side has them

(Are there any sites nearby which are spiritually important - on the Lake Shore or Escarpment?)

The lake supplies fish and also has oil.

Are there any local laws or practices/taboo in this area? For example, where men can't go, or where women can't go? None

What special cultural ceremonies take place in this village? Where? What time of year?

on the birth of boys any time

Is this ceremony for everyone? Or just for certain people? If so, who?

for the entire community

Are there memorial sites here, related to a historic event, a story?

None

Where are the cemeteries for the village?

No

Are there burials within the village? Where are these places?

They have family burials but not for the entire village

Are there any churches here? Or other religious buildings?

- * Nyasenge Church of Uganda
- * Nyasenge Catholic Church
- * Hambiro bya Bushobozi
- *

They don't have hamthikwaw, those wets are among the Akur.



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Date: 9/11/2017 Time: 3:10 p.m. Which village: Nyansenge A. Interviewer: Phabelle

(introduction on our work)

Good morning, my name is Phabelle

What is your name please?

Ndora Zakayo

How long have you lived here?

24

(Were you born here? Do you, mind telling me what year you were born?)

No

12/July/1972

Which tribe are you from? What is the native language here?

Mufumbira

Lunyoro because he was born here but should have used Mufumbira

If from another place:

He is from Kagadi

When did you come?

1992

How? Why?

by foot, he came to get land for farming

We are interested in history of the villages? Do you know anything useful for us?

there were no cars, no hospitals, not even a bicycle they used to walk on foot.

What is the origin/meaning of the name of this village?

Had many animals called ensenge

(We have heard about old pottery nearby? Do you know when this was made or who made it?)

They were made by the our grandparents who die

Does anyone still make pottery here? (Iron also/copper)?

they are there, in Butooti kyangwari

Are there any traditional beliefs in the villages around here?

they believe that if you move at night you can meet ghosts

Are there any traditional beliefs in this village?

No In the road to Nyansenge X there are ghosts

Are there any sites associated with these beliefs?

In the escarpment



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Are there any natural sites that are spiritually important to you? Like a river or a tree?

Who is the guardian of that site? Can they show us the site?

No
None

(If on Flats - Is the lake or escarpment important to you, culturally or historically?)

(Are there any stories associated with the Lake / escarpment?)

The escarpment sacrifices people because of disturbing path of ghosts
(Are there any sites nearby which are spiritually important - on the Lake Shore or Escarpment?) even the lake sacrifices

At a place called Kyenyanja.

Are there any local laws or practices/taboo in this area? For example, where men can't go, or where women can't go?

They interact because now people follow Christianity

What special cultural ceremonies take place in this village? Where? What time of year?

Is this ceremony for everyone? Or just for certain people? If so, who?

Two ceremonies for those who are not saved.

Are there memorial sites here, related to a historic event, a story?

No in Nyansenge apart from kitoti

Where are the cemeteries for the village?

No village cemeteries

Are there burials within the village? Where are these places?

Each family has its own burial site

Are there any churches here? Or other religious buildings?

* Mungumwema Pentecostal church
- Seventh day adventist church.
on the way to Kyenyanja
bordering Nyans.
in the footpath
route.



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Date: 9/11/17 Time: 2:30pm Which village: Myansenge B Interviewer: SSEMUREMDE ROBERT

(introduction on our work)

Good morning, my name is

What is your name please?

Inbonigaba Barnabus

How long have you lived here?

From 1993

(Were you born here? Do you mind telling me what year you were born?)

No Isigiro 1960

Which tribe are you from? What is the native language here?

Mulhigga Lulhigga

If from another place:

Isingiro

When did you come?

1993

How? Why?

He came for cultivation and looking for food.

We are interested in history of the villages? Do you know anything useful for us?

None

What is the origin/meaning of the name of this village?

He assumes there were rodents called Myansenge.

(We have heard about old pottery nearby? Do you know when this was made or who made it?) (amusu)

Yes. He believes people used to stay there.

Does anyone still make pottery here? (Iron also/copper)?

None.

Are there any traditional beliefs in the villages around here?

Yes ey believes in wobushobori.

Are there any traditional beliefs in this village?

None

Are there any sites associated with these beliefs?

None



GOLDER ASSOCIATES COMMUNITY INTERVIEW QUESTIONS

Are there any natural sites that are spiritually important to you? Like a river or a tree?
Who is the guardian of that site? Can they show us the site?

None

(If on Flats - Is the lake or escarpment important to you, culturally or historically?) No

(Are there any stories associated with the Lake / escarpment?) No

(Are there any sites nearby which are spiritually important – on the Lake Shore or Escarpment?)

None

Are there any local laws or practices/taboo in this area? For example, where men can't go, or where women can't go?

None.

What special cultural ceremonies take place in this village? Where? What time of year?

None

Is this ceremony for everyone? Or just for certain people? If so, who?

None

Are there memorial sites here, related to a historic event, a story?

None-

Where are the cemeteries for the village?

None

Are there burials within the village? Where are these places?

The people bury in their home places

Are there any churches here? Or other religious buildings?

- Catholic church
- Pentocosto "
- Adventist church
- Church of Uganda
- Mubushobor