
**Check of EIA v.2. the Horizon Tannery project
(PSIP13SS24) in South Sudan**

To RVO

Attn. Mr. Herman van Wissen

CC Mr. Michel Ridder

From the Netherlands Commission for Environmental Assessment (NCEA)

Date 8 June 2015

Subject Check of the 2nd version of the EIA report for the Horizon Tannery project (PSIP13SS24) in South Sudan, 28 May 2015

By: the Secretariat of the Netherlands Commission for Environmental Assessment – Ms Ineke Steinhauer, Mrs. Bobbi Schijf

1. Introduction

In March 2015, RVO requested a quick scan of the EIA for the Horizon tannery. The NCEAs review was meant to inform the RVO decision on the extent to which the project developers are meeting the subsidy conditions. One of the conditions was: "Positive outcome of the Final Report on the Environmental and Social Impact Assessment (ESIA)". RVO also requested that the EIA report be delivered together with the license/permit of the local environmental authorities.

The results of the quick scan were published in an advisory report on the 16th of March 2015 by the NCEA Secretariat (2015-06- Quick Scan (Review) of the EIA Report on the Horizon Tannery project (PSIP13SS24) in South Sudan, no date). Aside from informing RVO decision-making, the NCEA review advice was also intended to help to come to a better project design.

Approach

In May 2015, the developers submitted a second version of the EIA report to RVO, after which RVO asked the NCEA to check whether the recommendations made in the earlier quick scan, were given adequate follow up. This document presents the findings of this check. For easy reference, it maintains the structure and sequence of the first quick scan. Throughout the text below we repeat (in italics) the original recommendations, after which the follow-up on that recommendation in the new version of the EIA is discussed, followed by an overall recommendation or conclusion. This document therefore does not represent a complete and technical review of the newly submitted EIA.

2. Key observations and their follow-up

Please refer to the original quick scan for detailed observations on the first version of the EIA and an explanation of the recommendations made.

2.0 Overall conclusion on follow-up

The revised EIA report represents an improvement in relation to the previous report. However, the NCEA concludes that serious uncertainties concerning the management of environmental and social impacts remain.

Concerning the regulatory framework for the project, the revised EIA report makes clear that the regulatory context is problematic. The project developers have made an effort to provide additional information on how the project fits with the policies of the South Sudanese government, but very little information is available, and it appears to be difficult to provide documentation of contacts with the Ministry of Environment. A license for the project has been provided, and included in the revised EIA report, but this license does not include further requirements for management of environmental or social risks. There are apparently no environmental standards set for this project. The project developer therefore suggests to refer to the Ethiopian standards (for which of course no enforcement mechanism exists in

South Sudan). The NCEA recommends that the RVO and the project developer discuss the significance of this weak regulatory framework for the project, and agree on an appropriate approach to management of impacts in these circumstances.

This may require some additional follow-up by RVO.

Regarding the technical content of the revised EIA report, NCEA notices improvements in the description of the baseline information. The NCEA also concludes that the stakeholder consultation part of the EIA is now sufficient, and does not require any further action.

However, the revised EIA does not yet provide a complete basis to evaluate the effectiveness of the mitigation and management approaches in dealing with the key risks of this project. Particularly, concerning the potential negative impacts on other water users as a result of the release of (treated) effluent.

The IFC Environmental, Health, and Safety Guidelines for tanning and leather finishing do not seem to have been considered in the revision of the EIA report. These guidelines provide an overview of alternatives techniques, as well as a range of mitigation and management measures. The guideline also provides a set of effluent guidelines. The project developer could either be asked to demonstrate that the Ethiopian guidelines they propose to follow, are of similar quality as the IFC guidelines or explain for which reasons they propose to deviate from these IFC standards and which (potential) risks this may lead to.

Consequently...

The NCEA recommends that the EIA is supplemented, before decision making on the project on the following points:

- Project context: justification on project feasibility in terms of market access guarantees and related transport movements. This may have consequences for alternative transport modes and related impacts (for comparison by road or by boat).
- Project description: The revised EIA considers the waste water treatment plant and the incinerator as an integral part of the project. Outlines of these project components are provided in the Annexes of the revised EIA report. When the designs will be further detailed as part of the revised EIA, this may require a check by an expert in the matter as to assess whether these project components will indeed be able to meet the set standards regarding air and water quality.
- The proposed mitigation measures still need some further elaboration as some of these are currently formulated as 'intentions' but not described in sufficient detail. This is crucial to warrant environmentally sound project execution. The need for describing these mitigation measures as detailed as possible (including required budget for instance) is particularly relevant in the situation in South Sudan, where the institutional capacity for environmental monitoring and enforcement will be weak if not absent.
- When this additional information will have been provided, it is also required to present this in a clear and easily accessible non-technical summary to the EIA.

2.1 Conformity with national ESIA procedure and standards

- *The NCEA has therefore not been able to perform a check of the tannery EIA report against the South Sudan EIA regulations, and recommends that the EIA consultant and/or developer contact the Ministry of the Environment in Juba to identify the relevant EIA requirements, and provides conclusions on the applicable requirements in the EIA report.*

Chapter 4.1 in the revised EIA explains that environmental legislation for South Sudan is still under development. Since 2013 there is a civil war ongoing in South Sudan and the political situation is unstable. Horizon Tannery has spoken with the governor about the realisation and operation of the tannery and states that the governor was positive about the plans. Horizon Tannery also requested and received an operational licence from the Ministry of Commerce, Industry, Mining & Investment from Juba (which is attached as annex 2 to the revised EIA). This license however gives no regulatory requirements for the operations. The revised EIA states that this is probably due to the lack of South Sudanese standards. Given that situation, the EIA proposes that because Horizon Tannery is familiar with the situation in Ethiopia, where there is a similar environment as in South Sudan, and that Horizon tannery will at the very least meet the Ethiopian standards. In addition the EIA states that on top of this, they intend to limit the environmental impacts as much as is reasonably achievable through implementing of an environmental management system. However, reasonable achievable is not further specified.

NCEA recommendation: The project developers have not contacted the Ministry of Environment, but explain that environmental legislation is still developing. They have made an effort to obtain other licences and support. They do commit themselves to following the Ethiopian standards as a minimum. (see also NCEA recommendation under 3.3)

2.2 Quality of Technical content

- *Consequently, the NCEA recommends a revision of the EIA report, so that the current draft can be completed with the following (each aspects will be detailed in chapter 3 of this advice).*

- *The description of the project EIA objectives and the project context, as well as any relevant alternatives (such as alternative locations or technologies) is too limited and needs to be further elaborated.*

See NCEA recommendations in 3.2

- *The description of the receiving environment where the project will be located is also insufficient, The description in text is too limited, and maps and photos are lacking. A detailed description of the receiving environment is needed, and this section should should identify any specific characteristics that will influence the appreciation of the potential impacts of the project and the relevance of measures.*

The NCEA concludes that on this point the revised EIA report is now sufficient..

- *The EIA report should also prioritise potential impacts in relation to the receiving environment and compare measures that can be implemented to address these impacts. The EIA report needs to be specific about which measures will in fact be*

implemented and how these measures will be incorporated into the project design. The EIA report also needs to set out what standards these measures are expected to achieve in terms of emission to air, effluent levels, etc.

See NCEA recommendations in 3.3. and 3.5

- *In addition the EIA report currently does not present a clear, measurable environmental monitoring and management approach (environmental management plan and monitoring plan) to track residual impacts and manage day-to-day operational risks.*

See NCEA recommendations in 3.6

- *Finally, the participatory elements of this EIA appear to be weak. The EIA report does not demonstrate that stakeholder have been consulted (people living near the proposed area, but also South Sudanese governmental stakeholders). The report should include not only an explanation of who has been consulted, but also of how the concerns raised have been taken into account in project design. Lack of such consultation would be a missed opportunity to gather relevant information and to prioritise impacts, but also to raise awareness on, and support for, the project, which in turn may lead to resistance during project implementation.*

The NCEA concludes that on this point the revised EIA report is now sufficient.

3. Detailed observations per chapter

Please refer to the original quick scan for detailed observations on the first version of the EIA and an explanation of the recommendations made. The structure of this chapter follows the original EIA report.

3.1 Background and Introduction

- *The NCEA recommends to include a non-technical summary that summarizes information that is contained in the report itself, at the very beginning of the report.*

The NCEA observes that a non-technical summary is still lacking. The revised EIA starts with half a page called "Background" only.

NCEA recommendation: Add a summary on the main findings of the revised EIA report, for the reader to understand and assess the project, its anticipated environmental consequences and the mitigation measures that Horizon Tannery will implement.

3.2 Project description

- *The NCEA recommends a more elaborate description of the project context and alternative options for the project, to such an extent that comparison of alternatives is made possible.*

Regarding the project context, the NCEA notices that the text has not been changed, apart from the addition of two sentences. The facts and figures present estimates for South Sudan only. It can therefore not be justified that the tannery will indeed generate an annual income

of over 3 million euro. There is still no reference to any agri-processing or other relevant policy of the South Sudanese Government, which could serve to demonstrate how this project fits within the current policy context and priorities. Neither is there any further information provided on where the market for the tannery products is expected to be, which is relevant in relation to the transportation movements (and any potential transportation impacts) that the project will generate.

On transport movements the revised EIA now states: "The Horizon Tannery is located near to the roads to Juba. The supplies and the ready product will be transported by truck. Also supply of raw material by boat is researched and if possible implemented".

NCEA recommendation: It could well be that any agri-processing policy is lacking in South Sudan. If this is the case, the EIA should clearly state this. As mentioned earlier, the Governor is positive about the plans. The EIA could have reflected this with somemore detail (documented evidence) to show that the initiative fits within the South Sudan Government policies and/or priorities.

NCEA recommendation: Regarding transport, the revised EIA only mentions the number of truck movements during construction (500 in total), but does not provide such numbers for the operational stage of the project. It would be relevant to have these numbers available for the developer to compare the road versus boat transport options that they intend to assess. The project developer however does not make clear when they want to further assess these options.

The revised EIA has now added a chapter on alternatives:

"Horizon Tannery needs a location near to the water which is central to the road. Due to the political situation in South Sudan and the fact that it is a young country the ownership of real estate is not clear in all cases. Horizon Tannery researched three locations. Only for one location the ownership is clear. For this reason the other locations are not available".

"Because off the demand on wet blue leather and the experience with this process, Horizon Tannery constructs a "wet blue tannery". The tannery will meet international standards on environmental rules".

NCEA conclusion: The revised EIA now better substantiates why location alternatives or different processing methodologies are not realistic in this case. No further action required.

■ *The NCEA also recommends to include a more complete description of the project activities in the EIA, allowing the reader to fully understand what exactly is being proposed and where. It could be very helpful to also provide a map with the project location, a figure showing project lay-out, including the different project components, as well a some illustrative material, such as photos.*

The revised EIA now indeed includes a map (from google maps) and has included some photos to illustrate some of the processing steps and surroundings of the project site.

The revised EIA report also explains that the water treatment plant and incinerator will indeed be part of the project (and not only optional mitigating measures) and meeting standards as

specified in par. 4.3.1 and 4.3.2. This has also led to another adaptation to the project: the required hot water will be generated by a heat exchanger on the waste incinerator instead of the earlier planned solar heaters.

NCEA recommendation: The revised EIA now gives a better impression on project activities. The NCEA however also notices that there is some information available on the project (drawings of factory design, waste treatment layout), but which is currently not part of the revised EIA. These details should be incorporated in the EIA to enable better understanding of the project components.

3.3 Environmental policy framework

■ *The NCEA recommends that the proponent specify exactly which standards will be met by the project, as well as provide information on the mechanisms in place to ensure that these standards are met, including agencies within the South Sudanese government responsible for checking whether standards are adhered to. The NCEA would like to draw attention to the standards provided in the IFC Environmental, Health, and Safety Guidelines for Tanning and Leather finishing.*

The revised EIA has removed the paragraph on International standards and Annex A, where emission limits were indicated for countries around the world as a comparison. Instead a paragraph was included explaining that the Ethiopian Environmental regulations for Tanning and Leather finishing will be used to set the emission limits and environmental goals for Horizon Tannery. These regulations do indeed give specific standards or limits for emissions to air quality and discharge to water. But it is not clear whether these meet international standards like those of IFC.

For soil contamination, odour, waste incineration, waste management and noise, the Ethiopian regulations do not provide clear standards. In those cases the revised EIA proposes (more or less) concrete options for how to deal with these gaps:

- “To prevent spills to contaminate the soil, installations with soil-hazardous-fluids will be operated above impermeable or liquid-retaining floors. The location and presence of impermeable or liquid-retaining floors will be part of the design of the tannery”.
- “Horizon tannery will take actions to prevent odour nuisance for inhabitants”.
- “The waste incineration will oblige the emission concentration limits. Besides that, the principle will be adapted to the incineration of chromium containing waste”.
- “Horizon Tannery will follow the waste rules (= hierarchy from prevention to disposal) and will process the wastes without proper disposal possibility, such as sludge with chromium, in their own plant”.
- “Horizon Tannery will take actions to keep noise on acceptable levels for inhabitants, this prevents noise nuisance”.

NCEA recommendation: The revised EIA now provides better and more specific information on standards that will be adhered to. The revised EIA does not provide information on how environmental enforcement will be assured by South Sudanese institutions, probably due to the non-existence of these. The NCEA advises that these measures be further specified, e.g. what kind of actions will be taken, and what does ‘proper disposal’ imply. These specific

standards could then be part of the RVO conditions, thus providing a mechanism to ensure that these standards are indeed met, in the absence of South Sudanese enforcement mechanisms.

3.4 Current environment – baseline situation

- *The NCEA recommends a revision of this chapter on baseline environmental and social conditions along the lines of the above observations. Specific attention will need to be paid to the verifiability of the information. The guidelines of the EBRD or the IFC on the environmental and social management of impacts of tanneries could be informative in identifying the relevant factors to describe in the baseline.*

The revised EIA has added some information on the description of the project area, e.g on land use in the vicinity, vegetation and nature and soil type. Also some information on the river water quality is now available, because one sample has been taken and analysed. Two maps and one photo have been added to give more information about the project location.

The additional information shows that there are no vulnerable or protected areas near the site. It also makes clear that the project area is mostly empty and unused, apart from incidental use for food crop growing presumably by local residents (two families living at a distance of app. 500m). In the immediate surrounding (app. 1.000 m) of the project nobody indicated to use the land. The land owner indicated not to know of any use of the land. The revised EIA states that it is not anticipated that the project will cause any negative impact on the closest housing.

Approximately 1 km down the river, in the direction of Juba, agriculture activities are taking place, mostly along the river, using the river water for irrigation (if needed since rainfall is quite common almost year round). The small farms, many not inhabited, grow sorghum, maize, cassava and vegetables. Further down the river at approximately 3 km, population density increases and people take their drinking water from the river (as well as releasing their faeces and urine into it). The nearest densely inhabited areas of Juba are about 6 km downstream from the tannery location. At approximately 12,5 km the main intake of water (mostly by trucks) for Juba town takes place. This water is supplied to different facilities which treat water on small scale (such as hotels) but it is also used untreated. Juba still lacks an adequate clean drinking water supply. Over 90% of the city dwellers depend on water from the River Nile. Only about 10% have access to running tap water or bottled water.

NCEA conclusion: The revised EIA now gives a better impression on the project area. The report also provides information to support the conclusions that potential land tenure issues are not relevant for this project, and that there are no other stakeholders, apart from the 2 families, that should have been consulted also. The paragraph however makes very clear that release of the treated wastewater of the tannery to the Nile river may form a risk to people using the water downstream for various purposes.

3.5 Impacts, mitigation and residual impacts

■ *The NCEA recommends to provide additional information on impacts in this EIA report, as follows:*

- *for the construction phase: include information showing consultation with authorities and other stakeholders to make sure that current land use will not be negatively affected by the projet. The suggested environmental protection measures should include budget and responsabilites;*
- *continue with a chapter for the operational phase, containing a step by step assessment of each of the identified impacts. This chapter should end with a summary table providing an overview of identified impacts and their importance;*
- *finally, include a chapter identifying mitigation measures to implement for each of the impacts. Again, conclude this chapter with a summary table that gives an easy overview of impacts, their importance and ways to mitigate them, and the effectiveness of the mitigation (e.g, for effluents: the load in mg/l per pollutant after mitigation, as compared to the standard adhered to). Distinguish between measures which are absolutely necessary and measures which are optional, including their cost implications and responsibilities.*
- *special attention is needed for the proponents proposal to include incineration of solid waste as mitigating measure. Sludge and solid waste from skin handling after tanning contain trivalent chromium that, upon incineration, can transform to carcinogenous hexavalent chromium. For sludge, the EIA proposes chrome recovery through pretreatment with phosphoric acids and recycling in a chrome recycler or immobilisation in cement. The EIA does not describe the potential impact of chrome emissions of the proposed incineration of solid waste streams from skin handling after tanning (> 1000 kg of waste per day). This emission should be described, including its dispersion, numbers of exposed persons and potential health impact. The EIA should propose mitigating measures for this potential impact, assess their effectiveness and any possible residual impacts.*

The NCEA notes that impacts in the construction phase have not been described separately in this chapter, because according to the revised EIA, they will be short and limited as opposed to the impact in operation phase. Current land use is not negatively affected by the project.

The impacts during the operation phase are, in the revised EIA report, now indeed provided in a summary table, indicating the possible impacts and their importance by adding scores (ranging from ++ to --), including a (very) brief explanation for the reasons behind these scores. Only the five highest scoring impacts are subsequently further appraised, being soil and water pollution (by solid and liquid waste and waste water), air pollution, workers health hazards, odor and water resource depletion (the latter not being relevant as there is sufficient water available in the Nile river, so therefore it is not really clear why it received a high score).

Mitigation and residual impacts in the revised EIA are now described in a separate chapter 7, which however does not follow the same sequence of the impacts identified and described in the previous chapter 6 (called Environmental impacts). It starts for instance with a paragraph on impacts and mitigation during the construction phase, mentioning 5 significant effects,

followed by a set of 3 environmental mitigation measures. This paragraph is then followed by a paragraph on mitigation during the operational phase and distinguishes the following categories:

- Efficient use of process chemicals: application of some selected mitigation strategies at the production stage of the project are 'advised to be adopted by Horizon'
- Waste prevention techniques: describing 10 measures that Horizon Tannery will use
- Waste reduction and treatment: describing that the wastes of the plant will be reused if possible and when not possible, properly disposed. Four measures are said to be implemented or further investigated (depending on e.g. economic viability)
- Water treatment plant: stating that Horizon Tannery will treat the waste water before discharging it in the river, reducing the pollution in the waste water at least till the emission limit values for discharge to water as described in paragraph 4.3.2.
- Incineration of tannery sludge and solids: the methane occurring from the effluent treatment plant is also used in the incinerator. The emissions off the waste incinerator will meet the legislative emission concentration limits as described in paragraph 4.3.1. It is also stated that the design will pay special attention for the chromium in de waste. This means that a two-stage incinerator with a starved air primary chamber is inserted to avoid the oxidation of chromium(III) to chromium(VI). Also the temperature of gases in the secondary combustion chamber will be held above 1123 K (850 °C) for a minimum of 2 seconds, to ensure the destruction of dioxins and furans.
- Reducing work hazards: mentioning 6 measures that Horizon tannery will apply.

NCEA recommendation: The revised EIA makes a good effort to identify the most important impacts. This is followed by a presentation of mitigation measures, which are confusingly categorized differently than the impacts. Therefore mitigation measures for e.g air pollution and odor are not specifically addressed in this chapter. Moreover the measures need some further detailing in terms of concrete measures/activities that will indeed be applied/executed, and/or need further research or investigation. This should also include clear budget reservations.

3.6 Management and monitoring

■ *The NCEA recommends the elaboration of an EMP, and its direct integration in the EIA report. The EMP should be presented in a form allowing 1) easy consideration of the acceptability of the proposed project for the decision maker, and 2) once approved, easy implementation and monitoring, including designation of the organisations executing each measure and the necessary budget requirements.*

The revised EIA report has not included an EMP, but instead describes an environmental management program consisting of an Environmental Management and Ergonomics Department and a Cleaner Production Audit Team. For both, the duties are specified. However, these are not directly linked to the identified mitigation measures.

NCEA recommendation: For easier check of the required implementation of the mitigation measures, it is advised to bring these more clearly in line with the duties of both teams.

■ *Similarly, the NCEA recommends the elaboration and integration into the EIA report of a detailed monitoring plan to monitor implementation of the EMP. To ensure execution of the EMP and the monitoring plan, institutional capacity should be identified and appointed as well.*

The revised EIA report now indeed includes a monitoring plan in tabular form, with monitoring measures, frequency and some comments on specific parameters.

NCEA recommendation: It is clear that this will be mainly in-house monitoring, as institutional capacity in South Sudan for these tasks is probably not available. To ensure execution of the monitoring plan, this also could be put as a condition by RVO.

3.7 Annexes

■ *The NCEA recommends integration of these annexes into the EIA report itself so ensure readability of the report. Clarify the relevance on the standards given in annex A, as well as the status of the waste treatment plan specification.*

The revised EIA report has deleted annex A. Instead it now contains 5 annexes. Two annexes are new: one on legislation and an annex providing the specifications of the incinerator.

NCEA recommendation: Both the designs for the waste water treatment plant and the incinerator will have to be further detailed based on first outlines provided in Annex 4 and 5. It is also recommended to have the final designs checked by an expert before project approval.