



Netherlands Commission for
Environmental Assessment

Review of the ESIA scoping reports for the WaL–Cartagena Project

COLOMBIA



19 March 2025
Ref: 7374



Advice of the Secretariat Advisory Report by the NCEA

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| Title | Review of the ESIA scoping reports for the WaL–Cartagena Project |
| To | The Netherlands Enterprise and Development Agency (RVO) Embassy of the Kingdom of the Netherlands |
| Attn | Mr Robert Proos Ms Mónica Parra Acevedo |
| Request by | Mr Robert Proos Ms Mónica Parra Acevedo |
| Date | 19 March 2025 |
| From | The Netherlands Commission for Environmental Assessment |
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| Cover photo | By the NCEA |
| Reference | 7374 |

© Netherlands Commission for Environmental Assessment (NCEA). *Review of the ESIA scoping reports for the WaL–Cartagena Project. 2025. 17 pages.*

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Environmental Assessment

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Date: 20 March 2025
Subject: 7374 Review of the ESIA scoping reports as part of
the Water as Leverage–Cartagena project, Colombia

Dear Robert, dear Mónica,

By a letter of 25 February 2023, you formally invited support of the Netherlands Commission for Environmental Assessment (NCEA) in the Water as Leverage (WaL)–Cartagena project. The trajectory consists of multiple phases, which started with the development of conceptual designs, further specified in project proposals on pre-feasibility level, which will ultimately be detailed out in one full feasibility study per team. As Environmental and Social Impact assessment (ESIA) is a key component of WaL, you considered involvement of the NCEA an important added value in terms of performing an independent quality review of the information and deliverables that are part of the different phases.

It is my pleasure to submit herewith our advice titled “Review of the ESIA scoping reports for the WaL Project”, prepared by an independent working group of the NCEA. These ESIA scoping reports form part of the deliverables that mark the end of Phase 2 of WaL.

I would like to express my appreciation for your support in the organisation of the visit and assuring NCEA presence during various working sessions with the teams and other stakeholders. This has allowed the NCEA to receive necessary information in a short period of time, which helped us to find some answers and getting a clear idea of the issues at hand in a complex situation.

The attached advisory report highlights our most important observations. In addition, I would like to point out a few additional issues.

During our visit and as part of the discussions with the teams, we noticed some constraints in the communications with the Municipality of Cartagena. For the successful preparation and



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implementation of the projects, it is crucial that all partners involved, including the Municipality, take full ownership of the WaL process to ensure continuity and sustainable impact. WaL potentially offers a great opportunity for the Municipality to adopt an innovative development pathway as proposed and agreed upon, which is not only highly beneficial for the city and its communities but can also help to showcase the benefits of an integral and multi-faceted approach to water related challenges to the outside world.

We already briefly discussed options to further strengthen ownership and secure successful follow up of the intentions for a multi-annual partnership, expressed in the recently signed MOU. One of those could take the form of an invitation to the mayor and a number of key stakeholders, both from the municipality and potentially also non-governmental and corporate representatives, for a well-targeted working visit to The Netherlands. This would not only enable the mayor and his delegation to experience innovative solutions that The Netherlands have developed to keeping our country and its population safe by using water as a leverage, but also to acquaint themselves with relevant potential private sector partners for future implementation.

We also noticed some challenges as regards the most effective alignment of decision-making processes regarding WaL project development and financial commitments to be made. Great strides have already been made and both parties have a positive stand regarding the importance of the projects that are being developed. Agendas, however, put pressure on the timeline at both sides. It might therefore be highly advisable to have the mayor and Invest International sign a letter of intent or a similar document on the readiness to invest, as soon as phase 3 has been executed in a satisfactory manner. This would add comfort for especially the mayor and his team, as well as for the teams working on a full ESIA involving the communities that are being asked to provide their opinion on a regular basis and have developed high expectations, and prevent undesirable surprises at a late stage.

Finally, in our presentation of our preliminary findings at the Advisory Board meeting on the 14th of March, we indicated that in this stage of the process, we did not encounter any red flags. However, as the projects and ESIA component thereof will have to meet IFC Performance Standards on Environmental and Social sustainability, there potentially could be a red flag developing. It regards resettlement, especially in relation to the Juan Angola project but also potentially in other WaL projects. IFC PS 5 on land acquisition and involuntary resettlement attaches great importance and requires very careful approaches on this subject. At this stage, it was not yet entirely clear if, and how many people would be affected, but we already want to flag that this topic needs to be carefully assessed.

Finally, I would like to indicate that the NCEA is willing to continue providing support in the next stages of WaL, when it comes to independent review of the ESIA's that will need to be submitted in Phase 3 of WaL, and for advice in general.



Yours sincerely,

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1. Introduction

1.1 The project & request to the NCEA

['Water as Leverage Cartagena'](#) is a partnership between the City of Cartagena and the Government of the Netherlands through the Netherlands Enterprise and Development Agency (RVO). The partnership focuses on the development of innovative, integral and implementable projects, as part of an inclusive process. Two multidisciplinary teams were hired to develop infrastructural interventions for water and climate change adaptation in Cartagena. 'Water as Leverage' (WaL) has three phases. In phase 1, eleven conceptual designs were developed out of which 5 designs have been selected. In phase 2, the selected designs have been further specified in project proposals on a pre-feasibility level. In phase 3, two remaining proposals will be detailed out in one full feasibility study per team. RVO, endorsed by the Netherlands Embassy in Bogotá and Invest International, has asked NCEA¹ support in this partnership. The following options for independent review of deliverables (in bold below) have been identified:

- **Phase 1 includes an indicative risk and impact assessment** for 4–6 conceptual designs per team as one of the deliverables (NCEA input completed in 2023).
- **Phase 2** includes as one of the deliverables for at least 3 project proposals per team **Risk- and impacts assessment: E&S scoping, and Terms of reference for the ESIA according to the IFC Performance Standards and Colombian ESIA requirements** (NCEA visit to Cartagena to review ESIA scoping reports from 10–15 March 2025).
- **Phase 3:** Assuming a positive 'GO' decision from the Advisory Board², the teams will develop the selected project proposal from phase 2 to full feasibility level (1 proposal per team = 2 in total). This includes amongst the deliverables: **Environmental and Social Impact Assessment (ESIA)** (the NCEA can then again review the full ESIA's).

1.2 Approach by the NCEA

To carry out this review, the NCEA formed a working group with members covering different areas of expertise, including climate change, water governance, urban development and resilience, ecology/wetlands/biodiversity, social impacts and human rights, and ESIA application. The composition of the working group and the background of the individual experts are presented in the colophon. The NCEA working group visited the project areas from 10–15 March 2025, to interact with various institutions/stakeholders and perform site verifications (see Annex 1 for program of visit).

As benchmarks for the NCEA review of the ESIA scoping studies and ToR, the working group made use of the following:

- Colombian EIA³ regulations: Decree 1076/2015
- International Finance Corporation Performance Standards (IFC PS, 2012)
- Working group members' expertise in reviewing ESIA's for comparable projects
- In-depth knowledge of the local situation of some working group members.

¹ Netherlands Commission for Environmental Assessment

² The Advisory Board consists of the Cartagena municipality, the Colombian Department of National Planning, the Colombian Ministry of Environmental and Sustainable Development, the Dutch Ministry of Infrastructure and Water Management and Invest International–Public programs

³ Colombia uses the abbreviation EIA, whereas the NCEA uses ESIA

Prior to the visit to Cartagena, the NCEA only received Spanish versions of the draft deliverables of the two priority projects: Canal Juan Angola (combined consortia Raíces/ConAgua) and La Bocana (consortium ConAgua)⁴. The deliverables are in the form of a booklet per project, containing all the required information by RVO. The NCEA has focused its review on the ESIA chapters of these deliverables.

The draft deliverables on the three non-priority projects⁵ became available during the NCEA visit. The consortia intend to submit the final versions of all projects end of March.

The purpose of the review and recommendations by the NCEA is to advise on the quality of the ESIA scoping documents and ToR for ESIA, in order to inform the Advisory Board (and through them both consortia). This in turn will provide guidance in carrying out the ESIA in phase 3, that are complete, correct and relevant for decision making and include a transparent and inclusive process. Note that the working group does not express an opinion on the feasibility or acceptability of the projects itself, but only comments on the project impacts and quality and completeness of the ESIA scoping studies/ToR at this stage.

Chapter 2 highlights several strengths of the ESIA scoping studies/ToR and provides a summary of important shortcomings. These are shortcomings that according to the NCEA need to be addressed (e.g. in the final ESIA scoping reports) before moving to the next phase where full ESIA will be developed. Chapter 3 describes key findings in detail and gives recommendations on improvements of the ESIA scoping reports/ToR.

The NCEA has reviewed the documents, including the ESIA scoping reports, for five different projects. NCEA observations will be applicable for all projects, with reference to some specific projects by way of example.

⁴ 20250303_Wal_2phase_Canales y Lagos report_Draft_consolidated.pdf, 352 p.

20250303_Wal_2phase_Cienaga_dela_Virgen_Bocana_Draft.pdf, 211 p.

⁵ 'Matute', 66p, 'Bahía de Cartagena', 121p. and 'Zona de los canales San Martín, Líbano y 'Salim Bechara', 94p.

2. Summary conclusions and recommendations

The NCEA observes that the submitted reports reflect an innovative approach, which offers the Cartagena municipality the possibility to develop this approach into a potential showcase. It is laudable that the municipality undertakes serious efforts on balancing economic, social and environmental aspects of development, reflected in the projects through the nature-based solutions approach. The design and visualisations presented are clear and understandable and useful for communication with all stakeholders. The NCEA also noticed an open attitude, flexibility and a clear commitment of the teams towards questions that the communities and the NCEA posed. In addition, it is considered encouraging that communities keep participating in the various workshops, even while there may be doubts on aspects of the projects.

The documents in general are fairly well written and provide a good overview of the proposed project and potential impacts. This is less so the case for the ESIA scoping reports as part of the documents. Although it is clear that the ESIA scoping reports are still drafts, the NCEA concludes that shortcomings at this stage remain. These shortcomings should be addressed in the ESIA scoping reports, so they can be addressed in the subsequent phase when the full ESIA's will be developed.

2.1 Overview of shortcomings and recommendations

Executive summary

- The documents do not yet contain fit for purpose summaries.

Accessibility of information

- The documents present a wealth of data and details, but fail to analyse these data in such a way that the key issues come out. Because of the voluminous documents, the readers get easily lost in the quantity of information. In addition, not all information presented is relevant for the projects.

Transparency of information and substantiation of conclusions drawn

- It is not always clear how the reports come to conclusions, based on arguments and facts and how desired impacts will be achieved through the planned interventions.
- The social and biodiversity baseline information is either not always relevant or too limited to support proper impact assessment.

Regulatory, institutional and project context

- The description of the national legal and regulatory framework is still incomplete, and an overview of strategic plans relevant for the projects is missing.
- Also missing is an overview of how the projects align, or may conflict with ongoing or planned plans/programs and projects.
- Information of the IFC PS is mentioned but only in very general terms.
- Colombian ESIA regulations, environmental licenses and permits are not clearly described.
- A complete overview of institutions with a potential role in the project is lacking.

Project justification and objectives

- The project justifications and objectives are not clearly presented in terms of being able to understand whether the project objectives are all equally important.

Project description and alternatives

- The longer-term sustainability of the project interventions does not become clear.
- Operation and maintenance arrangements have not been addressed.
- Information about policies and projects to improve water quality in the water system at the locations of the projects is missing.
- Solid waste is a potential threat for the anticipated benefits of the projects, but remains insufficiently addressed.
- The quality of the dredged materials and the disposal thereof received insufficient attention
- Assessing the impact of infiltration of rainwater on the hillside requires information about the subsoil, which is currently lacking.
- Governance arrangements to sustain the objectives of the projects have not yet been described.

Alternatives/scenarios

- The sections in the reports on alternatives or scenarios are poorly elaborated.

Socio economic conditions and impacts

- Community proposals have focused on the development of ecotourism projects, but a more in-depth assessment of the communities' needs and capabilities is missing to make these types of projects viable and to identify alternative development or income generating options.
- It remains unclear to what extent resettlement or temporary loss of income will occur and what are the city's possibilities for resettling families (where?) and providing new income.
- The project documents also lack information on required workforce or labour required for project construction and/or operation activities.

Identification of impacts

- Impacts have not yet been quantified and/or localized. It is also difficult sometimes to understand the correlations between the activities and impacts.
- The tables on cumulative impacts have not been sufficiently developed to serve as a basis for their assessment. In addition, the proposed VEC (Valued Environmental Components) approach may be not suitable to encompass cumulative impacts in the social domain.

Stakeholder engagement

- It remains unclear whether, and to what extent concerns raised during the numerous stakeholder engagement events have been addressed in the ESIA scoping report, in terms of whether and how this has been taken on board in the project designs.

ToR for the full ESIA

- Various gaps in information have been identified, but these have not been translated into issues that therefore should be included in the ToR for the full ESIA.
- Overall, the ToRs are still very general and seem to be to a large extent similar for all 5 projects. They do not reflect the outcome of the ESIA scoping and are as such not tailor-made and location specific for the 5 projects as part of WaL.

A Summary of Recommendations for the ESIA scoping reports and ToR for the ESIA is provide in the table on the next page.

1. Include crystal clear, easily understandable, good quality project summaries.
2. Include summaries of the key issues and delete superfluous parts of the documents or remit them to technical annexes. Provide information on what needs to be done next in concrete terms to assure an environmentally sound and socially acceptable project.
3. Make any conclusions drawn transparent, understandable and imitable and provide clear insight in how desired impacts can be achieved through the projects.
4. Ensure fit for purpose social and environmental baseline descriptions.
5. Complete the description of the legal and regulatory frameworks and their implications for the projects.
6. Assess to what extent the projects contribute to objectives as identified in strategic plans of the municipality and/or national government.
7. Provide an overview of ongoing or planned programmes and projects that may potentially conflict with the WaL projects and/or can create synergy.
8. Give an overview of which IFC PS are triggered by the projects, to guarantee that their implications are further elaborated in the full ESIA.
9. Describe which agencies will need to issue environmental licenses and/or permits according to their jurisdictions.
10. Add information on roles, responsibilities, mandates and jurisdictions of institutions and how this is relevant for the projects (e.g. providing information, licensing, monitoring).
11. Justify the project interventions, including to what extent these contribute to the desired objectives (improved hydrology and/or better livelihoods and/or biodiversity values).
12. Assess adequate O&M arrangements, both financial and on governance, to enhance the sustainability of the project benefits. Monitoring and subsequent acting is needed as part of overall asset management.
13. Pay key attention to the water quality and pollution issues.
14. Analyse the current and expected future solid waste management practice and arrangements, and how this impacts the sustainability of the project interventions.
15. Describe dredged materials and the transport, disposal and/or reutilization thereof.
16. Assess whether subsurface runoff from infiltration areas might cause resurfacing of the flow in downstream areas, with potentially unexpected or undesirable impacts.
17. Mention the directly responsible and involved institutions in the implementation and operation stages of the projects, including institutions that are responsible for critical issues that bear upon the success and sustainability of the projects.
18. Substantiate the selection of alternatives more clearly and consider developing alternative pathways for development.
19. Pay attention to the importance and feasibility of community activities in terms of capabilities and capacities required to enhance the sustainability of the projects.
20. Consider neighbourhoods or sectors of the city specifically as the areas of influence of the WaL projects due to potential economic or physical resettlement.
21. Provide clarity on the number and source of (local) labour required for project activities according to Colombian legislation.
22. Include a proper assessment of impacts and of cumulative impacts for the relevant VECs. Also clarify how cumulative social impacts will be assessed.
23. Include, in addition to the summary of the findings of the stakeholder consultations, the more elaborate minutes and explain how concerns and observations were dealt with.
24. Adjust the ToR in such a way that these clearly reflect the issues requiring further study in the full ESIA as identified in the ESIA scoping report. Pay specific attention to the recommendations made above.

3. Key findings and recommendations

3.1 Executive Summary

The summary is essential for decision makers and interested and affected parties who need to understand the main findings, conclusions and recommendations and who may not be able to review the full reports. Currently, the summaries of the ESIA scoping reports do not yet meet this purpose.

The NCEA recommends improving the accessibility of reports, and the ESIA scoping reports in particular, by adding a good quality summary that presents the major issues, based on a brief but thorough analysis, in a good narrative. This implies a clear description of what the main issues or impacts to be dealt with are. Any conclusions drawn in the summary should be transparent and understandable. The summary should also clearly present the risks and impacts associated with these projects and which management choices are still to be made.

3.2 Accessibility of information

The project documents, including the ESIA scoping reports, are not yet fit for purpose, namely facilitating informed and adequate decision making. The 5 project documents together consist of around 800 pages, which makes it difficult to read and understand them properly. As a consequence, the readers get lost in the quantity of data and pages. Because of the size, it is inevitable to pay less attention to sections, skip them, or skip fairly large parts. The documents present a wealth of data and details, but fail to analyse these data in such a way that the key issues come out. In addition, the ESIA scoping reports present a lot of information on the social baseline, which only adds to the size of the documents, but is irrelevant for the project interventions at hand. At the same time, other relevant information for the projects is lacking.

The NCEA recommends including summaries of the key issues and delete superfluous parts of the documents or remit them to technical annexes. In order to be accessible for all relevant stakeholders, the reports themselves also need to have a structure and content that allows readers to easily find the texts on specific subjects. In addition, it is recommended including information on what needs to be done next in concrete terms to assure an environmentally sound and socially acceptable project.

3.3 Transparency of information and justification of conclusions drawn

It is not always clear how the reports come to conclusions, based on clear arguments and facts. In addition, the reports in general do not always present a clear argumentation on how desired impacts will be achieved through the planned interventions, and based on relevant baseline information. For example, it is not clear how the social baseline information in the ESIA scoping reports will be used to, for instance, determine whether resettlement will be required, and if so, how many people will be affected and how this will be addressed as part of an Environmental and Social Management Plan (ESMP) in the form of an Resettlement Action Plan or Livelihoods Restoration Plan (see also section 3.7). Similarly, a good quality

biodiversity baseline is a prerequisite to be able to assess impacts of the project on the biodiversity: what species, services and functions support the project areas currently, and what will change during and as consequence of the project?

The NCEA recommends making an effort in the ESIA scoping report and subsequent ESIA reports to make any conclusions drawn transparent, understandable and imitable. The NCEA also recommends improving the description of the social baseline (e.g. not just the tables, and skip irrelevant information). This can be done at the ESIA stage and instructions for this should therefore be part of the ToR. Information regarding land use, and whether or not (temporary/economic) resettlement is needed and agreed, is however crucial to include in the ESIA scoping report at this stage, and is also required by IFC PS 5⁶. The NCEA finally recommends to, following IFC PS 6⁷, include up-to-date information (particularly on mangroves and associated flora/fauna) and maps of the correct scale in the ESIA scoping report and the subsequent ESIA. In general, only baseline information should be included that will be relevant for arguments and conclusions.

3.4 Regulatory, institutional and project context

3.4.1 National legal and regulatory framework

The chapters in the ESIA scoping reports on the applicable national legal and regulatory framework contain duplications and omissions. During its visit, the NCEA learnt that important documents such as the 'Plan de Desarrollo Cartagena 2024–2027–Ciudad de Derecho', the 'Plan 4 C Cartagena para la adaptación al cambio climática', the 'Plan de Ordenamiento Territorial (POT) Cartagena' and the 'Plan de Ordenamiento de Manejo de Cuencas Hidrográficas (POMCA)' are not discussed, which makes it difficult to assess whether and how the proposed projects align with these strategic plans.

In general, just listing an overview of laws and regulations is not very useful. ESIA scoping is meant to indicate the specific implications of all these for the projects at hand. Also, the copy-paste of forms regarding environmental permits does not provide useful information. As an example, it remains unclear how the proposed project interventions fit within the broader context of conservation and enhancing biodiversity, maintaining and improving ecosystem services, and how this meets international, national and local ambitions and regulations. Another example applies to flood protection: norms are apparently in place when it comes to protection levels but are not mentioned in the documents.

Also missing is an overview of how the projects align or may conflict with ongoing or planned plans/programs and projects. For instance, for the Bahia project it would be important to assess the potential interaction between the social impact/expected benefits of the project

⁶ IFC PS 5 on Land Acquisition and Involuntary Resettlement requires that the ESIA scoping report identify if any (temporary) economical or physical resettlement is needed (or could be desirable from a safety point of view). Such resettlement can then be further planned in the ESIA.

⁷ IFC PS 6 on Biodiversity Conservation and Sustainable Management of Living Natural Resources implies that the scoping report will need to identify any possible biodiversity-issues, including protected areas and endangered species, but also other (non-protected) sensitive areas and species that may suffer or benefit from the project. Activities include mangrove removal and compensation, which could affect biodiversity values.

and the environmental cleanup plans of the Cartagena Bay⁸. Ongoing or planned projects could imply restrictions or preconditions for successful project implementation (e.g. the legalization process of the project areas in the Bahia project areas or the planned expansion of the airport for the La Bocana or Juan Angola projects), but could also create synergy.

The NCEA recommends correcting and updating the section on the legal and regulatory framework in the ESIA scoping document, to guarantee that their implications for the projects are further elaborated in the full ESIA. This includes an overview of strategic plans in which the projects have to be embedded or at least seek alignment with. In addition, it is recommended providing an overview of ongoing or planned programmes and projects that may potentially conflict with the WaL projects and/or can create synergy.

3.4.2 International Standards and guidelines

The IFC PS are only mentioned in a generic sense. As the projects need to meet the IFC PS (as per RVO requirement, but also required by potential funders such as Invest International), the ESIA scoping documents will need to highlight whether and which IFC PS is applicable. This information is not yet included.

The NCEA recommends including in the ESIA scoping report a section on IFC PS, with an overview of which of these will be potentially triggered by the projects, to guarantee that their implications are further elaborated in the full ESIA.

3.4.3 Colombian ESIA regulations, environmental licenses and permits

The NCEA checked whether Colombian ESIA requirements have been correctly reflected in the ESIA scoping documents. Prior to its visit, the NCEA was informed that the consortia formally consulted CARDIQUE, as to whether an (updated) Environmental License may need to be obtained for the priority projects. It is expected that this will not be necessary for Juan Angola (only permits will probably be needed here). In the case of la Bocana, CARDIQUE would examine whether the proposed components and activities fall within the current Environmental License, whether it needs to be updated, or whether a new Environmental License is needed. This will determine whether an EIA (according to Colombian regulations) is required. However, even if according to Colombian regulations no ESIA is required, this is still a requirement from RVO and potential funding agencies such as Invest International or IDB. (IFC PS1 always requires ESIA commensurate to the project). The information on environmental licensing or permitting and related competent authorities (e.g. CARDIQUE, EPA or DIMAR) is not available in the ESIA scoping documents yet.

The NCEA recommends including in the ESIA scoping report information on who will need to issue environmental licenses and/or permits according to their jurisdictions.

⁸ The Bahia project includes ecotourism activities by the communities, but how and to what extent could these be negatively impacted by the Bahia recuperation activities (Sentencia de la Corte) in the medium and long term?

3.4.4 Institutional framework

The tables in the scoping reports regarding this topic seem to be incomplete, as there are much more institutions with a potential role in the project. The Conceptual designs from 2024 mention in the chapters 'Trámites y permisos ambientales', in addition to EPA and CARDIQUE being competent authorities when it comes to environmental permitting and licensing, other actors such as the Alcaldía, CIOH, MADS, Sec. Infraestructura, Sec. Planeación, DIMAR (the environmental authority for the sea), Corvivienda, EDURBE, CAMACOL.

The NCEA recommends adding a section in the chapter in the ESIA scoping reports on the Institutional framework, describing the responsibilities, mandates and jurisdictions of the various institutes and how this is relevant for the projects. It needs to be clear what role which institute is likely to play in the process (e.g. providing information, licensing, monitoring etc.). In particular, it is relevant to indicate who will finally hold the projects' environmental permits or licenses.

3.5 Project justification and objectives

The justification and objectives of the projects are insufficiently clear from the documents. For example: is flood protection a main objective and are other objectives (social and environmental) subordinated to that or are they equally important? Insight into the (hierarchy) of project objectives will steer the required collection of baseline data and development of alternatives development options or scenarios. Clarity about the (main) project objectives, facilitates carrying out an adequate social characterization⁹ and identify the positive and negative impacts that the communities and individuals will have. The same holds true for the environmental base line.

The NCEA recommends including a clear line of argumentation between the project objectives and the information collected, to be able to scope out information that is not relevant. The full ESIA's then need to include a clear justification for the project interventions and how each of these contributes to the desired objectives (improved hydrology and/or better livelihoods and/or higher biodiversity values).

3.6 Project description and alternatives

3.6.1 Long term sustainability of the project

The scope of the project descriptions seems to be limited to the proposed interventions and activities. The projects are expected to result in many positive impacts for the communities in, and in some cases also those adjacent to the project areas. However, the longer-term sustainability of the project interventions does not become clear from the reports. The following sustainability aspects would benefit from further attention in the project documents and the ESIA studies still to be developed.

⁹ E.g., Why is it important to know the distribution by sex or age? More relevant would be information to define the type of public space needed or proposed.

Operation and maintenance

Availability of adequate budgets for the operation and maintenance (O&M) of the infrastructure, in particular for La Bocana, but also for the other projects, appears to be a critical issue, but is not addressed as such in the project documents. The functionality of the actual infrastructure at La Bocana has been lost. With proper maintenance, it might still have been functional. La Bocana appears to be in the 'rebuild' stage in the well-known 'build-neglect-rebuild' cycle. The sustainability of the services that the La Bocana infrastructure is meant to provide is therefore dependent on proper O&M arrangements.

The project reports do not present detailed requirements for O&M of the project infrastructure. It is good practice that CAPEX calculations for infrastructure are accompanied by OPEX projections.

The NCEA recommends detailing de OPEX requirements in phase 3 in terms of describing which could be adequate O&M arrangements, both financial and on governance, to enhance the sustainability of the project benefits. In order to determine whether functions of the proposed measures can be sustained towards the future, monitoring and subsequent acting is needed as part of overall project management.

Water quality and pollution

Improving water quality is one of the key objectives of the La Bocana project, while it is also a critical factor in the other projects. With frequent overflow events of the sewage collection and pumping infrastructure being reported, it would be useful to obtain more information about the policies and projects to improve water quality in the water system at the locations of the projects. Aguas de Cartagena and CARDIQUE¹⁰ are institutions that have a responsibility and could provide useful insight.

The La Bocana project is designed to result in considerable water quality improvements in the Ciénaga de la Virgen. The model results quantify this. In this context it would be helpful to assess water quality developments over time that are external to the project. This would include considerations of the historic development of pollution loads and sewage overflows, the projections for the future of such pollution loads, and considerations as to the effect of these on the project intervention and its projected benefits. As an example: if urban developments in the vicinity of the laguna are likely to increase the pollution load to the laguna, how would that offset the positive impacts of the La Bocana project? The pre-feasibility of the project could be influenced by this analysis.

The NCEA recommends paying key attention to the water quality and pollution issues in the project reports and the full ESIA's to be developed in phase 3.

Solid waste

All projects and sub-projects contain components, such as drainage and infiltration areas, green areas, and others, that will be negatively impacted by solid waste and the accumulation thereof. Solid waste in the water system is a threat to the hydraulic conductivity of the system as well as to ecosystems. From the community meeting reports it was concluded that previous initiatives to clean the Juan Angola system would result in good but short-term

¹⁰ During its visit the NCEA learnt that CARDIQUE is measuring water quality in and outside the project area and has relevant baseline data on water quality, although it needs to be checked in the full ESIA if the measuring locations are relevant for the projects.

benefits, with large quantities of solid waste being flushed into the system during the next rainy season. Clearly this is a potential threat for the benefits of the projects.

The NCEA recommends that the project reports and related ESIA scoping reports include a preliminary analysis of the current and expected future solid waste management practice and arrangements, and how this impacts the sustainability of the project interventions. This can then be further detailed in the full ESIA reports in phase 3.

Dredged materials

The La Bocana project includes considerable dredging in the laguna area. The other projects all have components of cleaning up and restoration of the hydraulic profiles of the waterways, that will require dredging too. The materials that are being dredged will have to be disposed of in a safe manner and at suitable locations. Only very limited considerations were found in the project reports with respect to the quality of the dredged materials and the disposal thereof.

Environmental and social impacts are not limited to the footprint area and the area where construction and operational impacts are felt. The disposal sites and transport routes of dredged materials are areas of influence of the project and are currently not mentioned in the reports.

The NCEA recommends that the ESIA scoping document and subsequent ESIA studies give full attention to the dredged materials and the disposal and/or reutilization¹¹ thereof. The NCEA recommends including all areas of influence, – preferably indicated on a map – in the ESIA scoping reports and consider these explicitly in the further impact assessments.

Hillside infiltration (Juan Angola subproject 5)

The infiltration of rainwater on the hillside, as projected in subproject 5 of the Juan Angola priority project requires information about the subsoil, which is currently lacking. With a depth to bedrock that is possibly very limited, the subsurface runoff from the infiltration areas might cause resurfacing of the flow in downstream areas, with potentially unexpected or undesirable impacts. This need not be a problem as long as it is incorporated in the design or dealt with in the ESMP.

The NCEA recommends to further study this issue in the full ESIA report.

Governance arrangements

Governance arrangements to sustain the objectives of the projects have not yet been described. This implies mentioning the directly responsible and involved institutions in the implementation stage of the projects, as well as in the operation stage of the projects. The description of governance arrangements should also encompass the institutions that are responsible for critical issues that bear upon the success and sustainability of the projects. As an example, the institutions responsible for water quality in the water systems, and those responsible for solid waste management, should be included.

¹¹ For the 'reutilización y reciclaje de sedimentos', it is proposed to still do a prefeasibility study. This therefore needs to be part of the ToR for the full ESIA.

The soft skills that project stakeholders possess for reaching agreements and governance must also be integrated into the analysis.

The long-term sustainability of the projects requires the coordinated work of various actors (institutional, private sector, and community). If the skills for partnership and agreement-making do not exist, it will be very difficult to structure proposals that truly lead to good governance of the projects in the long-term.

The NCEA recommends paying due attention to the governance aspects of the projects to enhance the long-term sustainability of the projects. The ESIA studies should further elaborate this topic.

3.6.2 Alternatives/scenarios

The sections in the reports on alternatives or scenarios are poorly elaborated. For instance, for the La Bocana project, these are currently described as 1) do nothing 2) restoration of existing infrastructure 3) restoration of existing infrastructure plus dredging. This way of presenting alternatives needs to be accompanied by an assessment of the extent to which each of these alternatives will lead to achievement of the project objectives.

For example, for the Juan Angola projects, alternatives could be developed as follows: either prioritize flood prevention measures in all areas or apply integrated packages of interventions in a smaller selected area. Presentation of alternative development pathways is also helpful. For example, what other than ecotourism options are available for social development? It is necessary to assess whether the communities' option for developing ecotourism projects is truly viable. If not, it requires jointly seeking other alternatives¹².

The NCEA recommends, following IFC PS 1¹³, to substantiate the selection of alternatives more clearly– in terms of criteria used– in the ESIA scoping reports and to include this issue in the ToR for the full ESIA. In case explicit attention for environmental and social impacts of each alternative would lead to (inclusion of) other alternatives, this should be further assessed in the ESIA.

3.7 Socioeconomic conditions and impacts

Social characterization is relevant based on the project's impacts, both from the environmental component (flood prevention) and the social component (livelihood projects, such as ecotourism).

An integral part of project development is the social component, which aims to generate a positive impact on the communities' quality of life. Community proposals have focused on the development of ecotourism projects, so a more in-depth assessment of the communities' needs and capabilities is required to make these types of projects viable. Ecotourism is presented as the only alternative from the communities; however, variables related to tourism

¹² Stakeholder engagement does not mean taking proposals proposed by the communities as the only option, but rather working together with the communities to identify the potential and capabilities of the community and the environment in which they are located to develop viable and economically, environmentally and socially sustainable projects.

¹³ IFC PS 1 requires that project proponents identify and assess environmental and social impacts, and then anticipate, avoid, minimize or compensate impacts to improve their social and environmental performance. This is done by adopting more sustainable project alternatives, by integrating necessary measures into the project design, and by developing and implementing appropriate environmental and social action plans.

in Cartagena must be integrated into the social characterization and data analysis, especially variables that are relevant to the development of touristic projects as compared to those proposed by the communities.

It is important to have a description of the families' income and their providers: in the case of Juan Angola, there is talk of possible temporary loss of income.

The city's possibilities for resettling families (where in the city) and providing new income are not yet described in the reports or ESIA scoping studies. This also implies considering neighborhoods or sectors of the city specifically as the areas of influence of the WaL projects due to potential economic or physical resettlement.

The project documents also lack information on workforce of labor required for project construction and/or operation activities. And how, if any, migrant workers of workcamps may impact host communities. Colombian regulations should be considered.

The NCEA recommends paying, in line with IFC PS 1 and 4¹⁴, more attention to the importance and feasibility of community activities to enhance the sustainability of the project. The further development into full feasibility studies of the projects should continue to be accompanied by adequate community involvement, e.g. related to the alternative options for fishermen or community members (e.g. restaurant, eco-tourism, cleaning activities). This should be included in the ESIA scoping report and also in the ToR for the ESIA to be further studied.

The NCEA also recommends to, in line with IFC PS 2¹⁵, provide clarity on the source of (local) labour required in the ESIA scoping reports and include this subsequently in the ToR for the ESIA.

3.8 Identification of impacts

The ESIA scoping reports contain tables with expected impacts. These have been described in terms of process ('increase in'...., 'change in'...), but have not yet been quantified and/or localized. It is also difficult sometimes to understand the correlations between the activities and impacts.

In terms of cumulative impacts, the project documents indicate that 'VECs are those components that can be affected by the combination of impacts by multiple projects, human activities or natural events in the same area or region in the course of time'. It is not yet clear what methodology will be used to identify and assess cumulative impacts and how VECs could be impacted.

The VEC approach may be suitable for identifying the cumulative impacts on, for instance, the water quality of the Ciénaga and Juan Angola water bodies. The direct impacts of the WaL projects can be offset against water quality impacts of external influences, including projects or other effects. The tables in the ESIA sections of the La Bocana and Juan Angola projects have not been sufficiently developed to serve as a basis for the assessment of the cumulative

¹⁴ IFC PS 4 on Community Health, Safety and Security requires that the ESIA scoping report identify measures to minimize impacts on the health and safety of the local community as a result of the project. Particularly safety and health risks and nuisance from construction for different users of the area.

¹⁵ IFC PS 2 on Labour and Working Conditions requires an approximation of the workforce that will be mobilized in project implementation, and identification and management of any issues regarding the treatment, health and safety of workers. In the ESIA scoping report it is important to flag these issues, and also to consider whether there are any PS2 issues affecting workers that may occur in relation to the supply of construction material or management of project waste.

impacts. In addition, the VEC approach may be not suitable to encompass cumulative impacts in the social domain.

The NCEA recommends including a proper assessment of impacts and of cumulative impacts for the relevant VECs in the full ESIA studies. Also clarify how cumulative social impacts will be dealt with.

3.9 Stakeholder engagement

As part of the development of the projects, many stakeholder engagement events have been held. These are to a larger or lesser extent documented in (annexes) to the ESIA scoping documents. E.g, for the La Bocana project, the table of p. 75 provides an insightful overview of stakeholders' observations and concerns. It, however, remains unclear whether, and to what extent concerns raised have been addressed in the ESIA scoping report in terms of explaining if and how these were considered in the project designs.

The NCEA recommends including, in addition to the summary of the findings of the stakeholder consultations, the more elaborate minutes (if available, such as lists of people that actually have been consulted, including where and when consultations were held) as currently there is no evidence of this in some of the ESIA scoping reports. Following IFC PS 1 requirements, stakeholders also need to be engaged during project implementation, providing them with relevant information, and access to a suitable grievance mechanism could be added in an Annex to the ESIA's. The ToR for the ESIA will need to include the development of a solid Stakeholder Engagement Plan, including information about previous engagement activities and an indication of future planned engagement.

3.10 ToR for the full ESIA

The ESIA scoping documents list in various sections gaps in information. But no reference has been made as to what this means for the ToR for the ESIA. One would expect that these gaps would be part of the ToR for the full ESIA's as important issues to address. Overall, the ToRs are still very general and seem to be to a large extent similar for all 5 projects. They do not reflect the outcome of the ESIA scoping and are as such not tailor-made and location specific for the 5 projects as part of WaL.

The NCEA recommends that the ToR clearly reflect the issues requiring further study in the full ESIA as identified in the ESIA scoping report. Pay specific attention to the recommendations made above in Par. 3.1 to 3.9 of this NCEA advisory report.

Annex 1: Program of NCEA site visit

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| Sunday March 9 | Arrival of NCEA team to Cartagena | People met/present |
| Monday March 10 All day | Site visit to Caño Juan Angola and Cerro de la Popa (WaL priority project). 16.00 NCEA team meeting | Meetings with Prof. Luis Fernando Sanchez: Fundación Planeta Azul Caribe and Mr. Alvaro Mendez, president of Junta de Acción Comunal Barrio Crespo |
| Tuesday March 11 10.00–12.00 | Site visit to Bahía de Cartagena (WaL non priority project) and community workshop, to present results of prefeasibility studies, community center Policarpa, Puerta de Hierro | Robert (RVO) Mónica (EKN) Team Raíces (Eduardo, Michiel, Camilo, Adriana...) Community representatives, around 20 |
| Tuesday March 11 14.30–17.00 | Community workshop to present results of prefeasibility studies on Caño Juan Angola (Wal priority project, both WaL teams) in Funsarep 17.30 NCEA team meeting | Robert, Mónica, Team Raíces (see above) and Team Conagua (Jeroen, Manuela, Julián...) Community representatives, around 40 |
| Wednesday March 12 09.30 10.00–11.00 | Site visit to La Bocana, Wal Priority project, team Conagua Community workshop at EPA office to present results of prefeasibility studies was postponed to next week, because of lack of electricity (no possibility to present and too warm) 11.30–12.30 NCEA team reading/writing | Robert, team member Conagua Community representatives, mainly fishermen (around 40), EPA representative, tourist office representative. |
| Wednesday March 12 13.00–14.30 | Lunch NCEA team with Marc Hauwert, deputy head EKN 17.00–19.00 NCEA team meeting | |
| Thursday March 13 15.30–17.15 | NCEA team preparing powerpoint presentation and report writing Meeting with CARDIQUE | CARDIQUE team 6 persons Luis Eduardo (coordinador fauna silvestre) Maria Alejandra (directora subdirección Gestion Ambiental) Álvaro Brieva (grupo agua y saneamiento básico) Benjamin (grupo emisiones atmosféricas y residuos peligrosos) |

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|--------------------------------|---|--|
| | 18.30 NCEA team meeting | Kevin (grupo flora y fauna silvestre) Gustavo Calderón (coordinador grupo aguas y saneamiento) |
| Friday March 14 09.30–10.00 | NCEA presentation of preliminary main findings during meeting of Advisory Board, Holiday Inn Crespo | 2 Representatives of DNP (Alejandra, Marta), 1 representative of MADS (Julian Sanchez, DAMCRA, 4 representatives of the Alcaldía (e.g. Francisco), EKN (Marc and Mónica). Raices (Eduardo), Conagua (Julian), Robert (RVO) |
| 10.30–11.45 | NCEA meeting with Conagua y Raíces teams at TuWork | Online: I&W Barbara Swart, Invest International (Corrado and Basel), Irene de Goede (RVO) |
| Friday March 14 12.00–14.00 | Lunch meeting with representatives of Direccion Nacional de Planeación and Ministerio de Ambiente y Desarrollo Sostenible | |
| 15.30–17.00 | NCEA team meeting and report writing | |
| Saturday March 15 | NCEA team final draft | |
| 12.30– | Lunch with Robert and Monica | |
| Evening | Departure NCEA team | |