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Review of the Environmental and Social Impact Assessment (ESIA) Report for the Tilenga Project

Findings of the NCEA working group

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Report by the NCEA

Title	Review of the Environmental and Social Impact Assessment (ESIA) Report for the Tilenga Project – Findings of the NCEA working group.
To	National Environment Management Authority (NEMA) of Uganda
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1. Introduction

1.1 Background

In 2006, commercial quantities of oil were confirmed to exist in Lake Albert basin in Uganda. The oil companies in Uganda (CNOOC, Total and Tullow) finished the exploration phase and are now heading towards development, which will consequently lead to the production of Ugandan oil resources. Once produced, the crude oil will be partly refined in Uganda to supply the local market and partly exported to the international market. The export to the international market will be through the East Africa Crude Oil export pipeline (EACOP).

The 'Tilenga Project' refers to the development of six oil fields within Contract Area CA1, License Area LA-2 (North) and Exploration Area EA-1A in the Albertine Graben, Western Uganda. The geographical context and location of the Project are shown in [Annex 5](#).

This is the first of a series of projects, that has submitted an Environmental and Social Impact Assessment (ESIA) report to the Ugandan National Environmental Management Authority (NEMA). Related ESIA's are expected to be finalized and submitted to NEMA any time soon too: (i) ESIA EACOP, including feeder pipeline from Tilenga to the Refinery, (ii) ESIA Kingfisher and (iii) ESIA for a pipeline from the Refinery to Kampala.

The Tilenga Project (1112 ha.) will include the following permanent facilities:

- 34 well pads across six oil fields;
- an Industrial Area, including a Central Processing Facility – CPF, operation camp to house workers/visitors, operations and drilling support base, water treatment and reinjection facility for oil recovery, a community/visitors centre, security camp and logistics support centre);
- 181 km pipelines to connect well pads to the Central Processing Facility;
- pipeline to connect the Central Processing Facility to a refinery near Hoima;
- an underground crossing of pipelines under the Victoria Nile;
- a Lake Water Abstraction System at Lake Albert;
- a Production and Injection Network of pipelines and cables;
- upgraded and new access roads;
- Victoria Nile Ferry Crossing Facility;
- Tangi Operation Support Base (north of Victoria Nile);
- Bugungu airstrip.

A number of facilities is required temporary:

- temporary facilities at the Tangi Construction Support Base;
- Buliisa and Bugungu Construction Camps;
- Masindi Vehicle Check Point;
- temporary facilities within the Industrial Area, including:
 - Cuttings ReInjection (CRI) facility (still to be determined, not desirable) ;
 - Construction Support Base to support the Project south of the Victoria Nile; and
 - Construction Camp to accommodate for works south of the Victoria Nile.

Two companies have been contracted to undertake the ESIA: AECOM and Eco & Partner Consult.

1.2 Request of the Ugandan NEMA and involvement of the NCEA

The Netherlands Commission for Environmental Assessment (NCEA) has a long standing relation with the NEMA. In relation to petroleum development, the following activities are relevant:

- Between 2010 and 2013, the NCEA and the Norwegian Oil for Development programme provided assistance on a Strategic Environmental Assessment (SEA) for oil and gas development in the Albertine Graben.
- In March 2017, the NCEA facilitated a workshop to build the capacity of environmental pillar institutes in Uganda involved in the review of ESIA reports to be expected for petroleum field development in the Albertine Graben.
- In September 2017, the NCEA received a NEMA delegation with the aim to jointly review the Scoping Report and ToR for the ESIA to be undertaken for the EACOP Project. For the joint review, an NCEA working group of experts was composed, contributing to a five-day working session in The Netherlands with the NEMA delegation, and focused on quality assurance. The findings of the joint review were presented in a report (available at NCEAs website).

It is within this cooperation framework that the NEMA has now requested NCEA support in the quality assurance and review of the ESIA for the Tilenga project¹ (see [Annex 1](#) for request). The review took place in a one-week workshop setting in Hoima (including a one-day field visit), where (apart from NEMA) representatives of various lead agencies participated, as well as 2 representatives from the Norwegian Environmental Agency (NEA) (see [Annex 3](#) and [4](#) with resp. programme and participants).

The purpose of the workshop was to interact better with all review teams involved (NEMA/lead agencies/NCEA/NEA) and appreciate the issues of concern. At the same time, it is also part of capacity development on the Ugandan side. The NCEA visit consisted of 4 working days and took place from 1 to 5 July 2018.

1.3 Expert working group

This report is prepared by a working group of experts of the NCEA. The group comprises expertise in the following disciplines: natural resource management, oil and gas development, environmental geohydrology, social sciences and ESIA and SEA application. The composition of the working group and the background of the individual experts is presented in [Annex 2](#). The composition of the expert group is similar to the EACOP review in 2017.

Note that the working group does not express an opinion on the feasibility or acceptability of the project itself, but comments on the quality and completeness of the ESIA report, in line with Ugandan and international regulations. The working group members also used their own practical experience in relation to reviewing ESIA's for comparable projects. In the case of shortcomings, the consequences for decision making are assessed and recommendations are given for supplementary information needed to address these shortcomings.

¹ The ESIA documents (May 2018) consist of a summary of about 120 pages and 5 separate Volumes of about 2500 pages in total. There is also a Volume 6, appendices, consisting of another 2500 pages.

1.4 Approach taken prior to site visit

Prior to NCEA's visit to Uganda, preparatory work was done by the NEMA, NCEA and NEA teams:

Preparations by NEMA team

NEMA had their internal review to determine lead agencies (including representatives from the District Local Governments) that had to be involved in the review. The ESIA report was thereafter sent to these lead agencies and NEMA conducted an initial review preceding the joint workshop. NEMA put considerable effort in pushing the ESIA consultants to timely submit the ESIA report (targets have been shifted time and again) to enable sufficient time for review by all involved. The NEMA team will be responsible for putting together the final review findings, based on all inputs.

Preparations by NCEA team

The NCEA team members received the following guidance:

- prepare a few pages or presentation with comments, bottlenecks and gaps observed;
- in case of any shortcomings, consider whether these are vital to the decision-making process (= approval by NEMA);
- conclude your observations/comments with 3–5 key issues based on your expert judgement and give your overall judgement on the ESIA.

These initial findings were discussed in a working group meeting on June 28 in The Netherlands, prior to the visit to Uganda. A 2 p. summary of these discussions is available, but will not be presented here. It merely served as a focus for the site visit.

Preparations by NEA team

Prior to the visit to Uganda, there has not been any interaction with the Norwegian experts regarding the review approach and contents, other than coordinating logistics.

1.5 Approach taken during site visit

During the visit to Uganda, the first day consisted of a field visit to see key project components and areas of intervention. [Annex 6](#) presents a selection of photos of this visit. During the joint review workshop, the first part was dedicated to an introductory presentation by Total on the ESIA, followed by a Q&A session. Subsequently, review findings of the Ugandan and international participants were presented (see also [Annex 4](#)). NEMA has taken copies of all these presentations and contributions. Some lead agencies presented very extensive comments, others only received the ESIA documents very late and did therefore have limited time available for review. However, all made a considerable effort to present their findings and concerns.

After having heard all presentations (almost 20 all together), the NCEA was asked to further guide the joint review process. For this purpose, the aim of the quality review was stipulated:

- Verifying whether the ESIA report contains adequate, accurate and sufficient information (on environmental and socio-economic impacts and on options/alternatives/mitigation measures to deal with these) to guarantee that all essential information is provided in the ESIA for sound and well-balanced decision making and through a transparent and inclusive process.

- In the case of shortcomings, the consequences for decision making are assessed and recommendations are given for supplementary information needed to address these shortcomings.

Given the context that NEMA has a very tight schedule, and the fact that the project is under high political pressure, there is limited time available to come to review conclusions. The large number of observations of the various lead agencies and international experts have resulted in an almost complete overview of the (main) points which are presented incorrect or incomplete in the ESIA report. The challenge that lies ahead is how to prioritize and how to distinguish between 'must have's' and 'nice to have's. Therefore there is a need to agree on what information is essential for decision making: are omissions vital to the project? If they are not, then it may be unnecessary to request further information. Therefore, the NCEA emphasized that it is usually helpful to distinguish between two review conclusions:

- The ESIA report has serious shortcomings and supplementary information is needed before the environmental license can be granted. The review report should clearly state what additional information is expected.
- The ESIA report has (minor) shortcomings, but these are not of significant importance in this stage of decision-making. Decision-making can proceed as planned, or shortcomings can be solved in the project implementation stage.

As a first step, the group was asked to identify 3 key issues individually, based on all presentations and discussions so far, focusing on the most urgent shortcomings in the ESIA (priority issues that are crucial before a decision can be taken/approval can be given and/or a certificate issued). These 3 priority issues had to be written down on a small piece of paper. In a second step, the NCEA team grouped these key issues into main themes (those that are mentioned most frequently). The resulting 6 main themes were then discussed in a third step in groups of 4-7 people. The groups were then instructed to give:

- a justification why the group thought a certain issue was not dealt with good enough in the ESIA;
- recommendations as to what needs to be done next by Total/ESIA consultants and what supplementary information is required specifically, clearly communicating the arguments for asking additional information.

The NCEA and NEA teams had done a similar exercise in a 2 hours debate already, trying to identify the key repairs for the Tilenga ESIA before approval. Results were compared at the end of the group work.

2. Main review findings

Before and during the visit to Uganda, the NCEA working group provided comments and advice in the format of power-point presentations, written contributions and by participating in/facilitation of talks and discussions. A comprehensive report on these discussions is provided in [Annex 7](#), documenting the joint review process and results of the group work. However, for the purpose of having a separate record of the NCEA working group findings, these are presented below.

The NCEA is of the opinion that the ESIA report in general is a good piece of work that provides a comprehensive overview of potential impacts, exhaustive lists of species, eco-systems and expected impacts. It contains a wealth of high quality information, particularly Volume 6 is (huge but) very good.

At the same time, the bulkiness of the report makes it inaccessible and difficult to oversee the whole picture and to get a sense of the essential issues. The summary is not helpful for decision making as it does not pinpoint clearly what the main issues are, how these will be mitigated and what will happen with the residual impacts. There are quite some important residual impacts, but it remains unclear whether these are acceptable or how these will be managed. Another impediment for decision making is that some choices in project design have not yet been taken/were not clear such as the HDD crossing under the Victoria Nile, well pad design and waste management (these can result in considerable differences in impacts).

There is a whole list of mitigation plans that will be delivered later. Also the Environmental and Social Management Plan (ESMP) is not yet elaborated: it is only outlined what it should contain. Therefore, it does not give a sense of the commitment at the side of the proponent.

In the opinion of the NCEA working group, a number of serious shortcomings remains. Therefore, NEMA is advised to ask for supplementary information (either in the form of an update of the full ESIA report, or in the form of a separate Volume with supplementary information as an addendum to the ESIA report) on these shortcomings before the environmental certificate is awarded. Repairs should be effective, realistic, convincing and concrete. The shortcomings are mentioned below in Chapter 3 in random order.

3. Key priority issues

3.1 Non-technical summary (NTS)

The NTS is well readable/structured, and shows nice and clear graphics. However, it is very process-descriptive, and contains little 'real' content. There is no summary (tables) of (residual) impacts, no summary (tables) of mitigation measures in the NTS, and there are many 'loose ends'. E.g. regarding residual impacts the NTS states that 'further mitigation will be required', but it remains unclear how this will be done. The NTS is also not clear on how conclusions are drawn stating that most impacts can be brought back to 'low to moderate adverse' after mitigation. The NTS contains many statements like: 'if mitigation measures are successful, pressures on key ecosystem..... less significant' p. 101 and 'with appropriate control mechanisms in place.... much reduced' p. 102, which shows that these measures are not yet conclusive, specific and SMART enough.

NTS-chapter 7 reports that the ESMP is still to be developed, contains partly 'text book' information only and refers to plans still to be made (Box 6: 37 plans all together). The conclusion is half a page only and not well justified. The NTS conclusion for instance states that: *'Overall, the Project needs to be viewed as a whole and be determined on the vast array of benefits that it will bring to the country, which will far outweigh any short term localized negative impacts'*. The ESIA report nor NTS provides information on the basis of which this conclusion can be justified.

- The NCEA recommends to improve the NTS in order to make it fit for purpose, that is informing decision makers and providing other stakeholders a good insight on the main issues of the ESIA report. This implies a good description of what the main issues or impacts to be dealt with are, preferably in the form of summary impact/mitigation tables. The NTS should clearly state how residual impacts will be dealt with. An appealing outline of the ESMP should be part of the NTS. Any conclusions drawn in the NTS should be transparent and understandable. The NTS should also clearly present the risks and impacts associated with this project and which management choices are still to be made (e.g. undecided themes like Nile crossing Horizontal Directional Drilling, bridges, water intake, treatment systems of drilling muds, etc.)

3.2 Environmental and social management plan (ESMP)

Chapter 23 of the ESIA report on the ESMP is incomplete and unfinished. A long list of plans is presented, most of which still have to be formulated. It is too much a list of intentions, which are not measurable. Reference is made to Annex T, Mitigation Checklist which contains a long list of mitigation measures, extracted from the various chapters on e.g. wildlife, vegetation and aquatic life. As such, the proposed mitigation measures are good. However, a long list of measures is not yet a plan. What is missing is an umbrella vision – in general and for the various sub-plans – in which specific measures fit. In Chapter 23, a good description is given on what has to be done in order to prepare the various plans. Ugandan colleagues confirmed that this description is according to Ugandan law. It is also in accordance with international practices.

- A thorough description of the plans, including financial aspects ought to be part of the ESMP before it can be approved. Therefore the NCEA recommends that the ESMP be further elaborated according to the procedure described in Chapter 23.
- Considering the political (and thus time) pressure, not all sub-plans for the ESMP will be ready in time. It might be helpful to indicate which of the long list of plans (or their contents) are priority and should be delivered before decision making.

3.3 Water resource management (quality/quantity)

Regarding water levels, the ESIA report comes with different numbers on the volumes that will be retrieved from Lake Albert and reinjected into the reservoir (e.g. page 28 and page 50). Therefore it is difficult to predict the impact on surface water levels.

In addition, the proposed extraction of water from Lake Albert will result in conflict between the developer and the surrounding communities. Stretching 1.5 km of water pipe in the lake will inevitably restrict fishing around the installation. In the long run, there will be a standoff. The surrounding communities also survive on water related businesses as evidenced during the field visit.

Cumulative impacts on water levels and quality are not clear. This was brought forward as an essential issue in the ToR for scoping, but is not well addressed in the ESIA report. What is the baseline and what will be the cumulative impacts of various developments around the Lake and in the project area (agriculture, water for irrigation and domestic use, gas and oil, industry, evaporation, etc.) in particular given the sensitivity of local streams and wetlands?

Regarding groundwater, local information suggests that the area is already water-stressed. This implies that groundwater use versus recharge cannot be considered at the regional scale but should be considered at the local scale. Moreover, any groundwater use cannot be considered as a stand-alone activity (as done in the ESIA report, Chapter 9 Hydrogeology), but the interference of several groundwater abstractions must be considered as well.

The 1 meter decrease in ground water level is considered to be insignificant in the ESIA report. How fair/reliable is the assumption that boreholes can withstand a drawdown of 1 m? In addition, this is only from the perspective for existing boreholes and human use. It does

not become clear what will be effects on for instance swamps/wetlands, wildlife drinking places and on ground water levels and flows?

- The NCEA recommends that the ESIA report provide supplementary information on the quantity of the required water intake from Lake Albert, as the figures provided now are confusing. This is needed to determine the significance of the potential impact on water surface levels.
- In addition, the ESIA report should further elaborate on the impacts of the water intake on the surrounding communities.
- The ESIA report should better address the cumulative impacts of different water usages.
- The vulnerability of the groundwater aquifer is different from a regional or local-scale perspective, and interference of several groundwater abstractions must be further assessed, both for human use and ecosystems. This makes monitoring of groundwater levels also an important activity under the ESMP.

3.4 Wildlife, biodiversity, nature conservation (increased pressure)

New roads and more workers will probably lead to more poaching (bush meat, etc.), more extraction of timber, medicinal plants, fishing, disturbance of wildlife, etc. The influx of people also has social consequences, but this will be dealt with in paragraph 3.7. The oil exploitation activities will also attract other people, in order to provide services and in general to profit from increased economic activities (indirect influx). The whole influx management strategy as presented in the ESIA report, does not seem convincing as to its effects on wildlife, vegetation and aquatic biodiversity. In chapter 13.8.2.1 measures to reduce human pressure are mentioned. There is a list of issues that will be 'considered', 'subject to feasibility'. This is not a good guarantee and consequently insufficiently addressed in the ESIA report.

(Over)exploitation of the fish in Albert Lake and the river is likely to increase. How can this be avoided?

Regarding animal migration routes and places frequently visited by animals, P. 62 of the NTS mentions 'important animal corridors and biodiversity hotspot areas for tourism', but no concrete information is given. P. 1395 of Volume 6 (annexes) presents a list of encountered animals on the 10 JBR well-pads, which are the well-pads located in the savannah area of MFNP (the area north of the Victoria Nile, which is rich in wildlife). However, these lists, although interesting, do not tell the whole story since information is missing about animal migration corridors and places where animals frequently visit. It is neither clear if the well-pad sites that are rich in animal wildlife, ever have been considered to be relocated (study of alternatives has been done, but to a limited extent). In addition, the ESIA does not provide insight in how the animals will react to the changes in the landscape and what the potential impacts of this will be on other (non-project) areas in the park.

"The mitigation concepts are designed to be implemented at the landscape level and will help the Project in achieving the objectives of No Net Loss/Net Gain." (last paragraph of 6.3.3.3 on p 69 of the non-technical summary). The Tilenga project is a very challenging one, both from an environmental and a social point of view. Effective measures to guarantee an overall 'no

net loss/net gain' outcome of the project have not been defined nor presented yet in the ESIA report or other plans. Given the experience with this type of projects around the world, it is quite likely that, despite all the good intentions, overall negative effects are inevitable (next to positive ones).

- To deal with the increased pressure on wildlife, fisheries, biodiversity and nature conservation, the NCEA recommends to face this problem through including in the ESIA report a zoning approach (see [Annex 8](#) for concrete ideas on this approach).
- The NCEA recommends to include in the ESIA report a map showing where animal migration routes and frequently visited places are located in relation to the oil exploitation activities (well pads, roads, pipelines etc.). This is needed to assess the impact and define good mitigation measures. A map of the whole park may also be helpful to understand impacts at that level. UWA already indicated that near Tangi camp an important elephant corridor is located and they asked for some redesign of the camp. This seems a good measure, but it only deals with one case. Therefore the NCEA recommends to have a more systematic approach in place leading to an overall vision.
- The locations of the roads was a returning point in many discussions during the workshop, therefore the NCEA recommends that the ESIA report clarifies how the mitigation hierarchy (avoid damage) is applied and how different alternatives are considered to justify siting/locating certain activities like well pads and roads.
- The ESMP should make clear how the No Net Loss/Net Gain principle is going to be realized concretely. In addition, the NCEA recommends to develop as part of the ESIA report an expectation management strategy for the stakeholders, in order to avoid unnecessary disappointment and frustration.

3.5 Tourism in relation to noise and (visual) disturbance

The information in the ESIA report is rather deficient as to tourism: it fails to clearly indicate how important tourism in MFNP currently is, and what its potentials are (e.g. Entebbe airport signboards make propaganda especially for MFNP). That is not beyond reason. MFNP, located in and around the study area, is one of the most popular tourist attractions outside of Kampala: 30 to 40% of leisure tourists in Uganda visit MFNP. MFNP is the most visited national park. The Management Plan for MFNP aims at increasing its annual tourism revenue to UGX 12 billion by 2022 (compared to UGX 5.4 billion = 1.4 million USD in 2011). Of this revenue 20% is transferred to local communities. But this is only a small proportion of the benefits generated. The tourism sector is bigger than just the direct revenues for the park.

The national tourism sector contributed in 2014 with some 2,762 million USD to the national economy and is expected to double by 2025 (direct contribution). If the indirect contribution is added, the total contribution was 6,395 million USD in 2014 and is expected to grow to 13,093 in 2025, which then will be 10.2 % of the total economy. Such figures, taken from the baseline report (volume 6, p. 2447– 2460), are considerable, also in comparison with the potential economic benefit of oil exploitation in MFNP. MFNP is clearly an important point for the tourism sector. However, this is not reflected in the ESIA report.

Tourism is going to be affected in several ways by the Project, for example by:

- Increased use of airfields and airplanes. No information is given on fly routes and possible ways to decrease impact as to noise, visibility from the increase of plane movements. All this may have an impact on tourism, both on people visiting the park and in lodges. The feeling of being in 'unspoiled nature' can be impacted.
- Increased traffic during the construction phase. It is not clear if there are lodges and frequently used tourism roads which are going to be affected by increased noise and disturbance of visibility. During the field visit, Tilenga Project staff explained plans to close certain tourism routes during the drilling phase of the wells. But no information was presented on the lodges and is neither available in the ESIA report.
- The construction of a new landing site for a ferry near the existing one. Nearby the existing ferry landing a lodge is located. The EISA report does not make clear how significant the impact of increased oil exploitation activities will be on this lodge and other lodges in the MFNP. Are there hotels or visitor sites within the national park where at night noise of the project is going to be heard or light is going to be seen?

- The NCEA recommends that UWA be consulted in order to map important tourism routes and lodges and provide this information in the ESIA report. This should be combined with mitigation and compensation measures. Because of increased traffic and noise, some lodges may be located on the wrong place for the next five years.
- On the financial site, the NCEA recommends to have a closer look at the Artelia report in Volume IV (page 1829 and further) and particularly at the study of the commercial value of tourism in MFNP (chapter 3, p 2447 and further). If the report is correct and if understood the right way, overall gross revenue of wildlife tourism in Uganda is 6.4 billion USD (table 1, page 2452) and 33% of all visitors are related to MFNP (figure 7 page 2450). That may indicate that MFNP could be valued at approx. 2 billion USD/year, with the expectation/ambition to double tourism by 2025. Compared to the expected gross revenue of the oil production of Tilenga, this seems in the same order of magnitude: peak production at 200.000 barrels/day, average over lifetime 100.000 barrels per day x USD 50/barrel over 365 days = 1.8 billion USD/year). Given that only part of the oil is produced in MFNP and the investment costs for tourism are lower than for oil production, the economic value of tourism in the MFNP may outweigh the value of the oil production in the Park. All this should be checked in the ESIA report and, if proven correct, extra emphasis should be put on the need to really achieve a No Net Loss or Net Gain situation in MFNP.

3.6 Well pads, spills and pollution

Some statements need clarification regarding well pad design:

NTS P 27: "During operations, with the exception of the JBR-04 well pad (which will be used as a pilot for polymer use to increase production), the well pads will be unmanned except for maintenance activities and should an accidental event occur." What will be done in case of leakage during the operational phase and after the well is decommissioned?

NTS P 32: "The well pad size was minimized through refinement and optimization of design, clustering equipment etc. Well design was also modified to a slim design with the benefits of reducing the volume of materials required and waste generated, thereby also reducing transportation requirements." The minimum size does not guarantee minimal impact. What happens in case of leakage or fire?

An existing oil exploration well–pad was part of the site visit on 2 July 2018. The ground floor was permeable, also some sealing material had already deteriorated. It is in the case of this project probably not that likely that the oil that is going to leak (as the viscosity of the oil is high) but rather the water, that becomes produced together with the oil. This still could lead to serious contamination of the environment (leakage to the soil and maybe groundwater) and spills not necessarily have a short impact period.

Regarding polymer injection, the ESIA report is not clear on the main arguments for selecting a well in the MFNP for this test compared to wells outside the MFNP. In addition, there is no information in the ESIA report on the potential follow–up when the test is technically successful, and the associated environmental and social impacts (note that one truck per week per well is indicated at p. 4–93).

- The risks during the Commissioning & Operations and the Decommissioning stages are generally underrated as compared to those for the Construction & Pre–commissioning stage. Here, it must be realized that the time length for the first is much longer than for the last expressed per well pad or well. The ESIA report should therefore provide more information on the likeliness and impact of these risks (leakage, fire etc.).
- The ESIA report should provide the information that assures that environmentally hazardous operations at well pads be performed within fully contained areas. This implies a.o. that impermeable floors should be further assessed in the ESIA report at these areas. Here, the principle of Best Available Technique may fit better than the concept of Good International Industry Practice as oil will be produced within a National Park and close to communities.
- The well design is not clearly presented in the ESIA report, in particular with respect to amount of casings and cement filling. It should be assured that the risks for groundwater pollution are minimal and well integrity loss is kept to a minimum. Sufficient well barriers should be present to minimize these risks.
- The environmental risks of produced water are underestimated. Produced water is polluted with mineral oil and possibly other chemicals. As such it is a threat for the environment and should be carefully assessed in the ESIA report.
- The ESIA report should provide further information on the justification for polymer injection as chemicals may have adverse environmental and social effects.

3.7 Land acquisition, resettlement, compensation issues

While the developer stated that they are willing and ready to compensate the Project Affected People (PAPs), there are indications that this process is not going well. As evidenced during the field visit, no one was paid yet. While the developer did not give a satisfactory reason for this, the truth is that some PAPs have rejected the compensation rates and through their Area Member of Parliament, sought legal redress. This will only worsen the situation should government ignore the claims of these PAPs.

Only a first Resettlement Action Plan (RAP) is part of the ESIA report (industrial area and access road, approved Jan. 2018). Other RAPs are in the make or are planned for 2019. During discussions it was mentioned that 3 RAPs have already been formulated and submitted to the Ministry of Lands – who are mandated authority on resettlements. In general

the Ministry of lands emphasized the need to coordinate better with their Ministry/local departments on land issues and resettlement.

Some key stakeholders like the Parliamentary Committee on Natural Resources, the Parliamentary Forum on Oil and Gas, the Bunyoro Parliamentary Caucus and Acholi Parliamentary Caucus have not been consulted. No baseline surveys were conducted in Purungo (village levels) in Nwoya, because they will not be directly affected by project infrastructure (pg16–25). However, the project affects people in many ways (speculation, anxiety, expectations, case scenarios, etc.).

Regarding methodological issues/ethics on P. 16–37: The presence of the client during some surveys may have affected some of the respondents' answers. Why were they present in some surveys and not others? What are the implications on the overall findings?

Fishing rights on the lake might as well be a major concern because of the demand that will be created by the presence of the project. A well-coordinated approach between the two governments of Uganda and DRC should be put in place to avoid any potential conflict.

The Tilenga project involves a massive investment for a long period of time (25 years +). The number of workers (3000–5000) is probably an underestimation for the magnitude of the project. Therefore, the livelihoods of the people in the project area, currently dependent on agriculture (crops and animals), will be seriously affected. This is, on the one hand, due to the so-called honey pot effect (influx of people), which may lead to unemployment/economic displacement of the local people. On the other hand, it can lead to increased urbanization and related need for coordination in the provision of social services (roads, schools, water supply, etc.).

The ESIA report contains a lot of references to instruments/legislation without concrete proposals. Just to mention one example under National Laws: The Domestic Violence Act (2010) states: “The Project Proponents shall identify measures to address domestic violence as an indirect outcome of project activities in local communities (P 16–13)”.

- Resettlement is a big issue for this project. Regarding displacement/compensation the NCEA recommends to rethink about cash payments to avoid future problems. The project should aim to improve the lives of the PAPs as compared to the situation where they were in before. This is also required according to IFC Performance Standards, which the developer states to apply.
- The stakeholder engagement plan should be further elaborated, in particular including the groups mentioned.
- In the ESIA report, a proper influx management plan should be elaborated, paying attention to direct and indirect impacts of the influx and the management thereof. This may include higher ambitions for improving e.g. sanitation and to support locals in this.
- Concerning proposed measures in relation to legislation, the ESIA report should be more specific regarding questions of what, how and when in terms of their relevance to the project.

3.8 Decommissioning

The ESIA report states: “Potential impacts arising from the Decommissioning Phase of the Project have not been assessed in detail and have been considered at a high-level in the main ESIA Report as the planned Project lifetime is more than 25 years. Plans for decommissioning are not detailed at this stage. In addition, within this time period there may be changes to statutory decommissioning requirements, as well as advances in technology and knowledge so at this stage the full extent of the decommissioning requirements are not known.”

This decommissioning policy is rather vague and depends most of all on the future. The time period reserved for decommissioning is also rather short. In addition, it is unclear whether the project will stop at the end or will extend. The project will establish some infrastructure like housing and water. After project finalization, questions around ownership might lead to conflict.

The NCEA recommends to at least establish some principles (describing the desired situation after project closure) before the project starts and include this in the ESIA report, paying attention to e.g.:

- Closure of roads and Rights of Way of the pipelines after Project termination (to be determined in cooperation with the management of the National Park).
- Any abandoned structure should not be dangerous or poisonous in any way for men and animals.
- Remove at the end of the project as much as possible all structures and tracks so that the ‘unspoilt’ visibility is restored in the MFNP.
- Guarantee that oil wells do not leak after abandonment and with reasonable certainty will not leak for the foreseeable future. There are experiences in other countries where abandoned oil wells still contaminate streams.
- Apart from replanting abandoned sites, it is also necessary to do maintenance during the first years after decommissioning. Replanting should be done with indigenous species and seeds from the area in order to avoid 'genetic contamination'.
- Establishment of a fund to cover costs of decommissioning.
- After the project the possibilities for poaching may be bigger than before (extra population growth because of the project). So a higher level of vigilance (wildlife guards) probably will remain necessary after the end of the Project, too.

3.9 Earthquakes

The issue of natural earthquakes is briefly addressed at p. 20–23 (Chapter 20: Unplanned Events). One can conclude from this that a natural earthquake is a Low Risk/High Impact event. What if underground pipelines break because of an earthquake or another cause? What could this mean for the crossing of the pipelines under the Nile?

- The NCEA recommends to address the above mentioned issues in the Emergency Response Plan, which is currently not yet prepared. Related open questions should also be addressed like which wells lie close to or at a fault, and why will only wells that cross major faults will be equipped with Down Hole Safety Valves (p. 20–25)? The aspect of communication in the case of unexpected events should also receive attention in this Emergency Response Plan.

3.10 Waste management and waste water treatment and discharge

According to the ESIA report, it is not yet clear what will be done with the drilling cuttings (re-injection/in a disposal well/in annular space?). It is more generally unclear how hazardous waste will be handled. There is no contingency plan for production water. How will the project deal with increased waste due to influx of workers?

In Chapter 13, terrestrial vegetation on Page 82 it is stated: “Sewage produced from the camps and other Project Areas will be treated at the WWTPs located at the camps in compliance with regulatory requirements (refer to Chapter 10: Surface Water). Wastewater from the well pads will be collected and transferred by tanker to the nearest WWTPs”. It does not become clear what will happen with the water after treatment. Will it be discharged into Lake Albert or the Nile or simply discharged so that it will enter the aquifer? What is the nutrient composition of the treated water and could it pollute the aquifer or Lake Albert (which is water with a high pH)?

- The NCEA recommends to address the above issues in a waste management plan as part of the ESIA report.

4. Minor detailed observations

HSE standards for Total and sub-contractors

HSE Management System (Volume V, p 204/252) “ Contractors will develop their own HSE Management systems as described in section 23.3.1.3 as well as a Labor Management Plans.” It is not clear if this will result in the same level of HSE as for Total itself. All activities should be conducted according to the same standards. Ultimately the main contractor should be held responsible for enforcing these standards.

Roads: one way system

On page 32/120 of the NTS a one-way road system Masindi–Buliisa–Biso–Hoima–Masindi is proposed. Why one way traffic flow? How to enforce this rule? The distances between the cities are considerable, so it will cost a lot of time extra travelling from Buliisa via Biso and Hoima instead of going back directly (170 km instead of 80 km). The reason for this measure is not given and it seems unrealistic that this measures can be enforced.

Capacity/means controlling Agencies

Many mitigation measures are proposed, including good monitoring and adaptive management. It remains unclear who will monitor this on behalf of the Ugandan Government and the National Park? In the ESIA report it is stated that the project is going to support biodiversity conservation and the management of the MFNP. However no concrete financial figures are mentioned, which is unsatisfactory. An annual financial contribution of the Project could be considered for the maintenance of the MFNP.

Climate change issues

GHG emissions seem to be underestimated and are not taken seriously. This should require further attention as Uganda ratified the Paris Agreements (p 107).

Transboundary impacts and concerns by DRC and possibly other countries

Leakages that possibly run through the Nile river into Albert Lake might have impacts on DRC, South Sudan, Sudan and Egypt (1928 Agreement on Nile water).

How will the government/project deal with security issues on the lake Albert (the ongoing kidnappings and killings, DRC is a volatile country)?

Annex 1: Request for advice

From: enidt@nemaug.org
To: Ineke Steinhauer
Cc: Patience Nsereko; "Turyahikayo Enid"
Subject: Re: oil and gas ESIA"s
Date: vrijdag 23 februari 2018 11:21:49

Dear Ineke

Hope this finds you well.

We just had an update meeting on the Tielnga project and they did inform us that the expected time for submission of the ESIA for Tilenga Project is end of March 2018. Similarly, engagements with the IOCs for other projects including Kingfisher and the pipeline have indicated that submission of the ESIA's is likely to be between March and April 2018. These have been moving targets as we had earlier anticipated that the ESIA's would be submitted by December, 2017 but we hope this time round, the current targets will be achieved.

We indeed appreciate your willingness to offer technical support in the review of the ESIA's and we look forward to this support.

We shall keep you updated on the progress.
Regards Enid

Annex 2: Composition of the NCEA working group

Name
Ms Ineke Steinhauer Technical Secretary
Ms Leyla Ozay Technical Secretary
Mr Arend Jan van Bodegom Natural Resources Management
Mr Jacobus Petrus (Bopp) van Dessel Oil and Gas Development
Mr Jasper Griffioen Environmental Hydrogeology
Mr Tom Ogwang Social Sciences

Annex 3: Programme of site visit

Joint review workshop for the Tilenga ESIA in Hoima, 1–5 July 2018		
Sunday 1 July	Arrival of Ugandan participants in Massindi district and arrival of Dutch and Norwegian delegations to Kampala	
Monday 2 July		
07.00	Departure for Tangi camp Total	Ugandan participants
05.30	Departure of Dutch and Norwegian delegation to project area	
10.30	Continuation of field excursion	All
17.00 – 20.00	Travel back to Hoima	All
Tuesday 3 July		
09.00 – 09.30	Self-introduction of participants Objectives of the workshop	All Isaac (NEMA)
09.30 – 09.45	Welcome remarks	Tom Okurut (ED NEMA)
09.45 – 10.00	Introduction by international teams	NCEA and NEA
10.00 – 10.30	Tea/coffee	
10.30 – 11.30	Overview of the Tilenga project	Total E&P team (6 members)
11.30 – 12.00	Q&A session on Total Presentation	
12.00 – 12.30	Review strategy of the Tilenga ESIA	Enid (NEMA)
12.30 – 14.00	Presentation of preliminary comments	UWA findings (Justine)
14.00 – 14.45	Lunch	
14.45 – 15.30	Continuation presentation UWA	Justine
15.30 – 17.30	Presentations NCEA team members	Bopp, Arend-Jan, Jasper, Tom
Wednesday 4 July		
09.00 – 10.00	Presentation NEA findings	Reidar, Gro
10.00 – 10.30	Team review findings of Petroleum Authority Uganda (PAU) and Ministry of Energy	Jane
10.30 – 11.00	Findings of Directorate of Water Resources Management, Ministry of Water and Environment	Unknown
11.00 – 11.30	Findings Ministry of Lands, Housing and Urban Development	Jacqueline
11.30 – 11.45	Findings of Directorate of Environmental Affairs, Ministry of Water and Environment	Gilbert
11.45 – 12.00	Findings of Directorate of Fisheries, Ministry of Agriculture	Unknown
12.00 – 12.15	Findings of Fisheries Research Institute	Unknown
12.15 – 12.30	Findings Ministry of Gender, Labour and Social Welfare	Unknown
12.30 – 12.45	Findings National Forestry Authority	Unknown
12.45 – 13.00	Findings Massindi district local government	Unknown
13.00 – 13.15	Findings Nwoya district local government	Unknown

Wednesday 4 July		
13.15 – 13.30	Findings Buliisa district local government	Unknown
13.30 – 13.45	Findings NEMA team	Doreen
13.45 – 14.30	Lunch	
14.30 – 15.00	Introduction to individual and group assignment	NCEA (Ineke)
15.00 – 15.30	Results of individual assignment	
15.30 – 17.00	Group work	Facilitated by NCEA (Bopp)
Thursday 5 July		
09.00 – 15.00	Continuation of group work, presentation of findings and discussions	All
15.30	NCEA and NEA teams leave for Kampala	NCEA and NEA
Friday 6 July		
09.00 – 17.00	Refinement, finalization, way forward, closing remarks and departure	All lead agencies

Annex 4: Participants list

 National Environment Management Authority (NEMA) JOINT ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT REVIEW AND CAPACITY BUILDING WORKSHOP FOR THE TILENGA ESIA PROJECT. 1 st - 7 th JULY, 2018 AT MOKA ECO RESORT HOTEL ATTENDANCE Date: 07 July 2018						
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8	[Name]	CEO	M	Enlilo	[Email]	[Signature]
9	Francis Oyang	ELA	M	NEMA	[Email]	[Signature]

ATTENDANCE Date: 07 July 2018						
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Annex 5: Map of the area



Annex 6: Photo selection



Annex 7: Workshop proceedings

ESIA Review Workshop Uganda

1. Introduction to the workshop

The GoU has taken the political decision to exploit the nations gas and oil reserves in the Albertine Graben basin. After a period of exploration, several projects entered the development phase and are at the stage of submitting ESIA's to acquire production licences. One of these projects is the Tilenga Project submitted by Total and Tullow and which comprises the production of 34 well-pads and 400 drilling wells across the western end of Murchinson Falls National Park and to its south. This is a conservation area including a Ramsar site.

NEMA recently received the ESIA for the Tilenga project and requested support from the NCEA in reviewing the report². Therefore, the NCEA participated between 2–5 July 2018 in the review workshop organised by NEMA for various Government institutions and agencies. The purpose of the workshop was to collect the different views on the report. Another purpose was to reach consensus on the feedback that NEMA will provide to the proponent on the ESIA. This is quite a challenge considering the complexity of the project and the ESIA report which exceeds 5000 pages. NCEA's role in the workshop was to support in selecting and prioritizing the most essential issues.

2. Introduction to the Tilenga Project and the ESIA

The workshop started with a presentation by Total on the Project and the ESIA report. The Tilenga project envisages to include:

- 34 well pads and 400 drilling wells (total 307 ha). Each well pad will have between 4–24 wells;
- a Central Processing Facility;
- 181 km pipelines to connect well-pads to Central Processing Facility;
- pipeline to connect the Central Processing Facility to a refinery near Hoima;
- power generation for pumping and heating;
- water intake and distribution from Albert Lake;
- water treatment and re-injection facility for oil recovery;
- new access roads and upgrading existing roads.

Some project components are still under discussion, such as:

- location of HDD to cross under the river Albert Nile (at Ramsar site);
- establishing a new ferry crossing on the Albert Nile (at Ramsar site);
- well pad design;
- waste treatment of Synthetic Oil Based as well as Water Based cuttings.

² Earlier on the NCEA was also engaged in the SEA study for gas and oil in the Albertine Graben and the review of the EACOP (pipeline from a refinery in Hoima to ** in Tanzania). Both EACOP and Tilenga projects, are part of broader gas and oil development in the AG basin.

The production in this area is challenging for various reasons:

- it takes place in a conservation area with a Ramsar site and MFNP with high eco-system and biodiversity values;
- the oil is waxy which necessitates the integration of heating in the design;
- there are low pressures in the reservoir³, demanding injection of water (produced water added by another source) to enhance the oil production;
- the socio-economic mix in the community which consists of fishers, nomadic groups and farmers;
- the presence of tectonic activity within the Albertine Graben.

The ambition level for production is 190.000 barrels a day. This is the peak in years 3–5, after that it declines rapidly. Average over 25 years: 100.000 bpd. At the same time Total has set the ambition to leave the park (and if possible the surrounding landscape) in a better ecological condition ('nett gain') after the planned 25/30 years of production. The project developers have taken the mitigation hierarchy into account (avoid, mitigate, compensate). In their designs, Total considered various alternatives and tried to avoid sensitive areas (like for animal breeding) and to minimise the harm to wildlife and optimized the use of existing roads instead of new ones. The ESIA has revealed that several residual impacts will remain also after mitigation, so nett gain has not been demonstrated yet. For instance on the ecology and biodiversity. Total will address these impacts through increased control of access to the area, monitoring by ecologists, increase connectivity, improve quality of animal habitats and other measures to be elaborated in a Biodiversity Action Plan.

3. Comments from different institutions and agencies

Various agencies were present during the workshop such as Ugandan Wildlife Agency (UWA), Petroleum Agency Uganda (PAU), representatives from line ministries for land, water, fisheries, forestry and local government. All groups shared the outcomes of their own review exercise and a synthesis of these points is included in Annex 1. These also include points that were raised by the NCEA working group and during discussions.

4. Review strategy for ESIA

As Annex 1 reflects, the list of questions and concerns raised by the group were extensive. It would not be effective to overwhelm the proponent with all these questions. But how can we prioritize and reach consensus? Ineke therefore stressed several key points that should be kept in mind when reviewing a document. The role of an ESIA is to support decision making and the information presented in a report should be *adequate, accurate and sufficient* to make a sound and balanced decision. An ESIA report needs to outline the various environmental and socio-economic impacts of an intervention and the mitigation measures. In case of shortcomings, one should ask which shortcomings are essential for decision making ('must haves') and which are details that can be dealt with

³ Not sure whether this is a challenge. It makes it also easy/safer. And re-injection is also required in reservoirs with (initially) higher pressures. Technically, this is not a big challenge, however it would financially be more favourable to do the injection via a few wells at the CPF. And no injection at the individual sites would lead to lower pressures within the reservoir avoiding the tendency of the oil/water mixture to migrate away towards e.g. upwards groundwater aquifer, i.e., no injection is environmentally more safe.

after ESIA approval ('nice to haves'). If shortcomings are essential, the proponent can be requested to submit additional information before the ESIA is approved. This way of reviewing is particularly important when an agency faces time constraints.

To bring back the extensive list of comments, the next steps were taken:

- the group was asked to point out 3 most essential issues upon which more information/ clarification is needed before decision making;
- all inputs were categorized into several themes;
- the 6 themes that were mostly mentioned were discussed in groups of 4–7 people;
- the groups were asked to give justification why they thought a certain issue is not dealt with and their recommendation on what needs to be done.

4.1 Water (7x mentioned)

Presentation

- Ensure land river banks remain stable during pipeline development across the Nile.
- Take record of water level monitoring.
- Borehole reuse and reactivate to minimize costs.
- Concerning water abstraction system should be put at the edge of bay to minimize interference of ongoing social economic activities.
- Proponent should look into provision of community water sources in collaboration with relevant government entities.
- Proponent should assess the use of motorized boreholes operating solar pumping system, especially for boreholes in the park.
- Monitoring of physical and chemical elements of water in the wetlands regularly.
- Population influx water quality issues.
- Clarity on water demand figures and justification of demand against supply water flows into the lake.
- Engagement strategies in terms of communication (including transboundary).

Discussion

After discussions, two key elements came forward. The project area is already a water stressed area in some parts. An important question is *whether the water available will be sufficient at municipality scale to meet future demands considering the expected influx of people on top of the autonomous demographic developments.* Shortages might be source of conflict while there is the alternative of getting water from Lake Albert. Total has submitted the department of water their water demand. But the hydrology study is still ongoing. NEMA must ask the question *can we approve this study before knowing the details of the hydrology study?*

A second key issue is the interactions between water and land uses. Therefore, the proponent *should engage with the Physical planning department* to manage the trade-offs between land and water use, also in relation to influx.

4.2 ESMP (20x mentioned)

Presentation

- We appreciate the efforts that the report recognizes the need for the ESMP – Ch. 23.
- Attempted to document a framework for development of the ESMP at a later date.
- Unfortunate Attempt to circumvent development of an ESMP by making Cross-references across several tables, Appendices and other chapters.
- Several Plans are supposed to be developed to complement ESMP objectives (Table 23-4; Vol 5 200/252).
- Ideally an ESMP outlines clearly the project activity, environmental and social aspects, the impacts, mitigation measures, the project phase, key indicators and requirements for monitoring, roles and responsibilities and estimated cost.
- Residual Impacts should be given consideration when developing the ESMP.
- Should be prepared in consultation with relevant entities especially MDAs with regulatory obligations.
- Proper budgetary and financing mechanisms should be given in the ESMP.
- Mechanisms for Monitoring the performance of the ESMP.

Discussion

There is wide consensus on two things. One is that *without a proper ESMP this study cannot be approved*. Approval of the project without the ESMP would leave the start and implementation of this project to take place in a big void. Thus, the proponent *shall be requested to submit the ESMP 'immediately'*. There is also consensus that more budget is needed by agencies to play their role in the ESMP for instance to monitor water quality or wildlife. But the opinions about who should pay for this vary among participants. Therefore, they agree that the proponent should *include a budget and financing mechanism in the ESMP*, which does not mean they will have to pay for the extra cost. PAU and other institutions will later continue discussion on administration and financing mechanisms.

4.3 Stakeholder Engagement (5x mentioned) and Influx Management (5x mentioned)

Presentation

- Stakeholder Engagement Plan not well in place and needs to be developed. This should include:
 - overview of PAPs and vulnerable groups;
 - sensitization of PAP;
 - asset evaluation;
 - market evaluation during RAPs.
- Other stakeholders to capture such as Parliamentary caucus on Oil and Gas, Acholi Parliamentary caucus, Bunyoro Parliamentary causu, etc.
- Engage surrounding countries (DRC, Sudan, South Sudan and Egypt) based on regional or bilateral agreements.
- Engage international bodies such as Global Witness.
- Influx management plan needs to be submitted to manage in-migration of people (in addition to workers).
- Influx management should not only include TEPU staff but a wide range of stakeholders.
- Proponent should work with different ministries for infrastructure for water, education health.

Discussion

Conclusion is that *the proponent should come up with a Stakeholder Engagement Plan and Influx Management Plan.* However, there is need to make more specific demands: what do you exactly want the proponent to do with the influx, how do you want them to manage this? For instance on the way they will manage their workers (will they be allowed to go outside of the camp or should they stay in the camp? If this is made more specific, the proponent can take this into account in the design of their camps. *Therefore, the proponent should be asked to come up with a clear worker management plan* to answer what measures the proponent shall put in place, also to prepare communities for the change. In terms of transboundary relations, this is a Government task and should not be demanded from the proponent.

Another key message is that *for influx management, entities responsible for physical planning need to be engaged to plan for the newcomers* and issues like housing, services, waste management etc.

4.4 Wildlife and Nature Conservation (13x) & Eco-Systems and Landscape (3x mentioned)

Presentation

- Inadequate information on the distribution of sensitive ecological systems.
- Alternatives to wildlife corridors are largely ignored.
- There is a disconnect between the ESIA and studies so far undertaken.
- The project proponent should support Lead Agencies to undertake specific monitoring activities in the ESMP in line with their mandate
- Analysis of impacts of noise on wildlife is inadequate.
- Mitigation measures against human-wildlife conflicts not presented, yet there is a likelihood of this.
- A positive impact of habituation is ill-conceived. Habituation is likely to result into poaching.
- Catchment planning needs to be done, and should focus on all elements of the landscape, including water
- Offsets to address habitat loss is not mentioned; moreover, it is not clear how much space will be converted and hence require offsetting.
- Restoration plan(s) should be part of the ESIA.
- There is no commitment to establish tourism track in the ESIA.
- Analysis of fire fuel needs Vs population pressure within the Area of Interest needs to be explored.
- Impacts associated with improved infrastructures e.g. wood harvest, poaching, and over-fishing.
- Explore other effective ways of minimizing animal ingress around the well pads.
- The ESIA should provide practical mitigation measures.

Discussion

Question here is again: what are the key issues to communicate to the proponent. What do these points mean for the decision making? Before concluding that the study is appropriate, the *ESIA needs to include parameters and mitigation measures to show that net gain will be achieved*. These can be based on existing guidelines in the country where they exist or by using the best available technology (for instance for noise). *Measures should also include the decommissioning phase (Restoration Plan)* for which several principles can be laid out such as cleaning all materials and barriers in the park. Another point of discussion here is, again, who is responsible to pay for financing the achievement of net gain?

4.5 Land Acquisition and Compensation (4x mentioned)

Presentation

- Disharmony in value of land tenure system i.e. customary ownership and freehold.
- Lack of clear system for grievance handling mechanism on land issues and how they intend to operationalize the existing mechanisms.
- Nature of land conflict should be clearly spelt out not just mention land conflict.
- The role of community land Association in managing land within the project area should be clearly stated.
- Clear information on number of people owning land under different tenure systems like communal, free hold and communal land associations in the project area.
- Reference should be made on the current land use and physical development plan for the sensitive areas that is Nwoya and Buliisa town council physical development plan.
- Land acquisition/ take per RAP should be clearly stated. How much land is needed for each RAP.
- The negotiation approaches and issues raised from the compensation engagements are not stated in the document.
- Stakeholder engagement should be comprehensive with all the development stakeholders like ARSDP, NGOs, ZOA.

Discussion

Representative from PAU clarifies that issues around land acquisition and compensation are the mandate of the Ministry of Lands. The project has already formulated 3 RAPs for different areas and submitted these to the Ministry of Lands. It is their law that steers these processes and their Chief Land Valuer that determines compensation rates. Moreover, the proponent applies IFC standards. NEMA cannot enforce anything about these issues through the ESIA. It is therefore suggested that the whole team will first take the time to read existing RAPs and understand relevant chapters before concluding what they think is still lacking. Then, if necessary, a broad message about relevant principles and concerns can be communicated to the proponent.

4.6 Waste Management (16x mentioned)

Presentation

- Waste handling facilities should be using national laws and standards – our capacity for international standards is not yet in place.
- Cuttings reinjection is not acceptable and proponent should reconsider this. There is need to revise all sections on cutting and fluid waste management and to include an environmental assessment of the proposed conventional methods to manage drilling waste.
- The waste management hierarchy should be followed.
- Waste management plan should be developed and provided in ESIA.
- Comprehensive Management Plan framework should be developed to guide on management of chemicals.
- There is no relevance of having laws in this sector.
- There is need for primary data for the baseline study.

Discussion

What is it exactly you want and demand from the proponent; that these plans be submitted before approval? It is desired that the entire chapter on waste will be rewritten with the current knowledge on the design (i.e., in particular with respect to the drilling cuttings). Eventually the proponent will deliver site-specific plans but these do not need to be included in the ESIA, yet they do need to include the broader framework for these site-specific plans. Next question is: what is expected to be outlined in this framework? What is the minimum you want to see in the ESIA? For instance: that proven technology will be used to treat waste from drilling cuttings and that these will be transported immediately and not stay in the park. But this also means that thousands of heavy trucks will be crossing through the park. This requires an assessment and mitigations of impacts that this might cause.

5. Comparison between prioritized key issues of the Norwegian and Dutch Team and Group Review

Everybody agrees on:	Additional points by group review	Additional points by international team
Include ESMP	Stakeholder engagement and management	Clarity on choices project execution (HDD, water intake etc.)
Indirect Influx	Preparing and supporting local communities to deal with the upcoming changes	Capacity means of controlling agencies
Land acquisition, RAP, compensation	Ensuring that local communities also benefit	Spill/pollution well pads / flow lines
No-nett loss measures MFPN/wildlife (protection reserves)	Public hearing should also be done in Nwoya (an affected area)	Comparing economic trade-offs and gains from tourism and gas and oil
Cumulative water intake Lake Albert and ground water		What if reinjection of water into the reservoir does not turn out to work?
Water resources quality and quantity management		Why have polymer injection pilot in the national park?

ANNEX A: SYNTHESIS REVIEW RESULTS BY ALL PARTICIPANTS

GENERAL

- NTS is not fit for purpose; it is too bulky, vague on mitigation measures.
- ESMP is not included, merely intentions which are not measurable.
- The report presents inconsistent numbers with regards to water abstraction, oil properties. In addition, these numbers differ significantly from field studies conducted earlier.
- The study is conducted through using IFC as framework while Ugandan national laws should take precedence.
- Considering the project location, higher ambition can be expected from the proponent. Design is done based on Good International Industry Practice while best available technique would be more appropriate.

INCOMPLETE DESIGN AND ALTERNATIVES

- Several roads (C3 at Nile crossing and N3) were not approved in early consultations. These are interfering with crossing of animals, cutting through agricultural land.
- Some decisions still need to be taken:
 - well pad design and their surroundings;
 - HDD crossing under river Nile- 2 locations presented as options;
 - drilling rigs and type of mud to be used;
 - flaring;
 - water abstraction from Albert Lake;
 - location of boreholes for water for workers.
- Cuttings reinjections was ruled out by NEMA during consultations due to fragile geology in the project area. Still this has been included as an option without justification and considering alternatives.
- Several risks not clearly mitigated such as:
 - gas leakages (fracking) and burns;
 - earthquakes.
- Question is whether more use of HDD (horizontal drilling) in oil winning has been considered as an alternative - which could limit projects footprint in the park.
- Is there a plan B in case water reinjection into the reservoirs turns out not to be possible?

TRADE OFFS WITH ALTERNATIVE DEVELOPMENT

- The ESIA is not transparent on trade-offs between oil development with other potential uses of natural resources and eco-system services (fisheries, tourism, biodiversity, climate regulation, water regulation etc.).
- Net gain concept is not credible when the outlined mitigation measures are considered.

WILDLIFE AND NATURE CONSERVATION (AND TOURISM)

- Spill management around well pads is unclear.
- Technical design should avoid compromising wildlife safety, interfering with passing areas of animals and invasive species and should ensure wildlife corridors are connected.
- Polymer injection pilot should take place outside of the park.
- Impacts at landscape level are visually presented.

INFLUX MANAGEMENT

- Acknowledged as significant impact but not mitigated.
- Influx management plan is not in place. This plan needs to be delivered with:
 - plans for different zones;
 - plans for workers and indirect influx;
 - how to control workforce (avoid damage to the park, avoid conflicts and violence);
 - monitor worker–community interactions and establish mechanisms to solve problems;
 - ways to deal with demand for water, hygiene and sanitation, waste management, provision of social services;
 - how to collaborate with government institutions;
 - finance and budget for this.

WASTE AND POLLUTION

- Hazardous waste: not sure if certified institutions are existing in Uganda.
- Emergency pits of 50m³ are too small.
- Impacts.
- Need to treat waste before you store.
- No containment of waste in the park– these should be always immediately transported elsewhere.
- Hazardous materials and ensure that minimum quantities are stored at respective sites at any time.
- Project may have chemical discharge waste on surface waters but impacts not assessed.
- Waste; no national standards for waste monitoring for different types of waste.
- Transportation of waste must be given a time limit.

WATER

- Cumulative impacts on water (ground and surface) not entirely clear:
 - demand from workers and for project;
 - alternative developments (hydro dams, other industries).
- Changes in ground water levels (1m decrease) is considered as a small impact – but area like Buliisa already water stressed. What will this mean for drinking for domestic use? And for swamps and so on?
- Have transboundary agreements related to water taken sufficiently into account?

STAKEHOLDER ENGAGEMENT & COMMUNITY EMPOWERMENT

- No clear stakeholder analysis and stakeholder engagement plan in place.
- Grievance mechanisms not well explained.
- Some key institutions not well engaged (URC, CAA, fisheries, and DEO) and neither are some key national / international NGO's.
- The need to build stakeholder capacity to co–monitor the project not addressed.
- No clear strategy to deal with impacts such as unemployment, conflicts, social issues like domestic violence, increase in demand for social services.

RAP and LAND ISSUES

- Not well explained why permanent land acquisition is opted for the well pads and roads:
 - permanent land take should imply compensation to UWA .
- Right of Way (RoW) for flows and roads is rejected by UWA – that should be only outside the park
- RAP needs to be updated – focus should be on restoring livelihood rather than financial compensation. How are you going to address changes in land tenure system?
- Land administration department should be more involved in resettlement issues

ESMP

- This is an essential part of the ESIA and is not included. Too many plans are now too vague and only intentional.
- Residual impacts and mitigation measures that are given are not SMART.
- There is no link to earlier initiatives such as the Monitoring Plan that has been formulated in 2013 for Albertine Graben.
- No intentions for engagement and capacity building among local stakeholders (government and people) for participatory monitoring.
- There is need to closely monitor reinjections because these can go wrong and cause huge damage.

DECOMMISSIONING AND RESTORATION

- Need to set principles, goals and results:
 - everything should be placed out of the park;
 - restoration plan.
- Need to reserve budget (financial plan).

Other issues

- Impacts on health; malaria for instance, safe water poverty.
- Co2 climate change.
- Fencing around well pads is acceptable, but not for roads (UAW).
- Depth of flowlines 0.8 rather shallow – erosion might expose pipes to animals we propose 1,2 meters.
- Venting pipes should be installed in a vertical position to avoid burning of vegetation.
- Management associated to gas (to energy) options not well outlined (also alternatives).
- Which pads might be affected by earthquake, is there reserve gas.
- Waste water– treat and use to repress dust in the park...don't use waste water. All waste outside the park.
- Intention is not to place any wells at the Ramsar site – however two well pads JBR 10 and 4 – seem to be in/ close to the Ramsar site. Need to confirm.

ANNEX B: TILENGA ESIA REVIEW STRATEGY NEMA

8 June 2018	ESIA report was received and sent to the NCEA / NEA
11 June 2018	NEMA screening of the ESIA report
12 June 2018	ESIA report was sent to lead agencies
14 June 2018	Quick and Dirty review by NEMA
2 – 5 July 2018	ESIA review workshop with all agencies
20 July 2018	Detailed review and findings by NEMA
27 July 2018	Preliminary feedback to the proponent
23 – 27 July 2018	Public engagement strategy disclosure
30 July – 3 August 2018	Dissemination of report in printed media, radio and TV
6 – 10 August 2018	Talk shows in affected areas
13 – 17 August 2018	Public hearings in Buliisa, Kampala and Hoima
27 – 31 August 2018	Compilation of all comments and their consideration
10 – 14 September 2018	Final review of report and considerations with NEA/NCEA
26 September 2018	Final decision

Annex 8: Suggested zoning approach

The NCEA proposes to face the problem of increased pressure on wildlife, biodiversity and nature conservation using a zoning approach.

Firstly there is the zone south of the Nile where the Central processing facility will be established. This zone has limited value for nature conservation or biodiversity. It is the zone where most population growth is expected, because of the work force, needed to establish the project, will be living there. But also because the zone will be attractive for other people to come in. Part of them will remain (for various reasons, e.g. in this part the permanent industrial areas will be built and remain in function, the workers need other services, etc.).

Another zone where increase of population is expected is the northern part of the project area: the Tangi camp site is an already existing camp – used during oil exploration. This camp is going to be extended. A road is going to be constructed from the Tangi campsite to the northernmost well–pad, JBR–09. The Right of Way (north–south directed) between the well pads in the north will be used for transport.

Therefore, pressure on biodiversity caused by the project interventions most of all comes from those two zones and affect several zones of MFNP in different ways:

- The northern savannah zone (north of the Victoria Nile and east of the Albert Nile) is extremely rich in wildlife. The new Tangi – JBR–09 road and the use of the Right of Way between the well pads will result in easier access to this savannah zone. Probably poaching is the main threat, but disturbance in general may be an issue. And there is also a loss of surface (will this be compensated?). More vigilance is necessary in this area and other measures have to be formulated in consultation with UWA.
- The RAMSAR site, which is the Victoria Nile Delta area, is the second zone. This zone is threatened most of all from the southern populated zone where the industrial area will be established. The increase in population could easily lead to uncontrolled entrance of people, leading to disturbance of birds and other wildlife, and maybe also poaching and fishing. Also here more vigilance is needed including boats and equipment necessary to guard water and marshlands. Also monitoring of water quality is an issue here since here (or just upstream of the RAMSAR site) the crossing of pipelines under the Nile is projected.
- The third zone includes the areas east of the populated zone and south of the Nile which are the forests within Murchison Falls Game Park. Here increased illegal logging, illegal hunting, fuelwood collection, collection of medicinal plants, disturbance in general and poaching are probably the main threats. Amongst others, increased vigilance and a well implemented road access policy are necessary.
- The fourth zone is the area south of the populated area, Bugungu wildlife reserve. Probably poaching and disturbance of wildlife are the main issues. More vigilance is necessary.
- The fifth zone is Lake Albert east of the populated area. Because of the increased population there will be more pressure on the fish stocks. Fisheries is already unsustainable and because of influx of workers and because of indirect influx demand for fish will increase. Caught fish will be offered on the roads (compare road Kampala to the south where fish is offered near the places where the road is nearby the lake Victoria). There are several endemic fish species in Lake Albert. Sustainable fisheries

management should be promoted, together with a fish monitoring system. Maybe this could be coordinated with other (outside) initiatives to promote sustainable fisheries in Lake Albert.

For each zone more measures have to be designed and specific monitoring issues have to be formulated. Good coordination, most of all with UWA, is needed.

“The mitigation concepts are designed to be implemented at the landscape level and will help the Project in achieving the objectives of No Net Loss/Net Gain.” (last paragraph of 6.3.3.3 on p 69 of the non-technical summary). The ESMP should make clear how this principle is going to be realized concretely in each of the fore-mentioned zones.