

11 SUMMARY AND RECOMMENDATIONS

11.1 Introduction

This section provides a summary of the ESIA process and provides recommendations.

11.2 Stakeholder Engagement

Stakeholder engagement has been an integral part of the development of the EACOP. It is also an integral component of the environmental and social impact assessment (ESIA) process and the foundation for developing and maintaining the project's social licence to construct and operate. It has been undertaken in accordance with the requirements of Ugandan legislation, international requirements as set out in the Equator Principles III and the International Finance Corporation Performance Standards (IFC) (2012) and EACOP principles, protocols and policies for stakeholder engagement.

Stakeholder engagement has been inclusive of all stakeholder categories, including government, civil society, directly and indirectly affected people and communities, with a particular attention paid to the needs of women and those vulnerable to potential impacts. It also included engagement activities regarding human rights.

Stakeholder engagement has been tailored to fit the EACOP project, the ESIA process and the local context, including the nature of the stakeholders. A Stakeholder Engagement Plan (SEP) to support effective engagement throughout the ESIA process was developed. It provides direction for the ESIA engagement approach, stakeholder identification, specific engagement plans for the different ESIA phases and the key deliverables from engagement activities. It focuses on:

- a stakeholder identification and analysis process
- methods, materials and protocols for stakeholder engagement including information disclosure, consultation, and reporting to stakeholders
- the ESIA stakeholder engagement activities
- a data management system for all stakeholder data and minutes of meetings for analysis and follow up
- a project grievance procedure, which also serves as the ESIA grievance procedure.

Stakeholder engagement was conducted during the scoping phase, the baseline and impact assessment phase and pre-ESIA submission to fulfil the objectives. The objectives of stakeholder engagement included:

- obtaining an understanding of the number and types of stakeholders in the socioeconomic study area
- informing stakeholders about the ESIA baseline studies in the areas traversed by the project and associated infrastructure
- obtaining stakeholder input into the scope of the ESIA, including the development of valued environmental (and social) components (VECs), impact

identification, mitigation measures and potential sources of cumulative impact and impact mitigation

- listening to questions and concerns from stakeholders and ensure these are addressed in the ESIA
- conducting pre-submission meetings to consult a sample of potentially impacted local stakeholders, prior to the submission to NEMC to acquire their feedback on ESIA findings (impacts and mitigation measures), cumulative impact assessment and mitigation measures.

The engagement provided stakeholders with information about the project and the ESIA, including the engagement process and grievance management. It also provides a mechanism for ongoing stakeholder engagement.

11.2.1 Stakeholder Concerns

A summary of the stakeholder concerns raised and how the project intends to address them is provided below.

11.2.1.1 Socio-economic and Health

Most stakeholder concerns related to socio-economic and health matters.

Stakeholders raised concerns over land acquisition and compensation for loss of land, livelihoods and properties. The difficulty of finding and acquiring replacement land, the timing of compensation and compensation needs for land-owners and tenants were also raised. There were also concerns about forced resettlement, choice of host area and livelihood restoration, and clarifications were sought about the project right-of-way (RoW).

Stakeholders were informed that the project will manage land acquisition by developing a resettlement action plan (RAP) and a livelihood restoration plan (LRP) and that compensation will be provided in accordance with national law and international standards and before construction begins. It was explained that during construction a permanent 30-m RoW would be required, and a permanent 10-m RoW for operations.

Concerns were raised about project induced in-migration (PIIM), influx management and PIMM related impacts. Stakeholders were informed that an in-migration management plan will be developed and implemented with the objective of reducing the number of people that come to the project-affected communities (PACs) for either direct or indirect project opportunities.

Stakeholders were interested in employment opportunities and procurement opportunities for local people, particularly for women and youths. In response, stakeholders were informed that a transparent recruitment strategy would be developed and shared with communities; about the local content plan developed to maximise the purchase of goods and services from within Uganda; and about the procurement and supply chain management plan which reinforces the use of local workers and suppliers.

Community health and safety concerns were raised, with questions asked about the potential health impacts of the project, including the spread of communicable diseases, road safety, and potential impacts on water quality and of dust generation

water quality. In response, information was provided about the health impact assessment and the traffic impact assessment included in the ESIA, the community health, safety and security plan containing the appropriate mitigation, and the pollution prevention plan including dust suppression measures. Stakeholders were also advised that water quality will be monitored regularly and alternative community water sources will be provided where access to water sources would be restricted by construction. It was noted that the project construction workforce would be accommodated in camps with health and recreational facilities to avoid impacts on local health and other public infrastructure, that camps would be closed and that interactions with local communities would be discouraged.

11.2.1.2 Physical Environment

Stakeholders raised concerns that the heat from the pipeline would affect the soil productivity and the potential effects on community water sources. The stakeholder engagement team explained that the pipe would be insulated and that the heat from the pipe would not affect soils or crop productivity, and informed stakeholders of the pollution prevention plan which includes measures to minimise impacts on water sources.

Concerns were raised about potential project impacts on air quality and climate change. The stakeholder engagement team explained that the project engineering team will ensure compliance with applicable emission standards.

11.2.1.3 Biodiversity

Stakeholders raised concerns about the impact of the project on Lake Albert fisheries and impacts on biodiversity in the project area, including impacts on sensitive ecosystems, the interconnectivity of habitats for migratory and endemic species and loss of biomass. Stakeholders were informed that the selection of the pipeline route included consideration to avoid environmental and social sensitivities and that the pipeline will be constructed along existing infrastructure corridors where feasible. They were also informed of the biodiversity management plans and the project aims for no net loss for biodiversity.

11.2.1.4 Project and ESIA-Related Matters (Including Stakeholder Engagement)

Questions were asked about the ESIA, a definition of the AOI and the grievance mechanism. Stakeholders also requested information about pipeline routing and project design. The stakeholder engagement team informed stakeholders about the ESIA process and stakeholders were advised on the various levels of handling grievances within the grievance procedure. Feedback was also provided on project design such as pipeline routing, including emphasis of the fact that the route would only be finalised once all studies were completed, oil spill contingency and emergency response planning, and security planning.

11.2.2 Grievance Procedure

EACOP has established a non-judicial grievance procedure to respond to stakeholders' concerns and to facilitate resolution of stakeholders' grievances. The grievance procedure is compliant with the United Nations Guiding Principles on

Business and Human Rights effectiveness criteria for project level grievance mechanisms.

The grievance procedure describes the process available to stakeholders for lodging a grievance during pre-construction, construction and project operations, and is accessible to all stakeholders at no cost and without retribution. Judicial and administrative options can also be pursued by stakeholders.

The project's grievance procedure has been presented to stakeholders during each consultation phase and is managed by EACOP staff (CLO and grievance administrator).

11.2.3 Ongoing Stakeholder Engagement

Post submission stakeholder engagement on the disclosure of the ESIA report will be undertaken after the ESIA report has been submitted to the regulators. The engagement will focus on key stakeholders identified in the scoping and baseline phases. The government EIS disclosure will be conducted in concordance with the National Environmental Act (1998).

Following the ESIA disclosure phase, the project stakeholder engagement team will continue to engage with stakeholders at national, regional and local level throughout the project lifecycle to further discuss the results of the ESIA and how stakeholder concerns have been considered in the ESIA. The engagement strategy will also include targeted engagement with identified vulnerable stakeholders or their representatives.

Engagement activities will be adjusted to reflect evolving project activities, stakeholder preferences and concerns over the life of the project. The project will also seek to build partnerships with NGOs, CSOs and communities to support the development and implementation of practical impact management strategies.

During the construction phase of the EACOP project, local community offices will be established at locations along the route to provide stakeholders direct access to community relation coordinators (CRCs), community liaison officers (CLOs) and grievance officers.

The grievance procedure will continue to provide opportunities for stakeholders and PACs to express grievances about project activities.

A stakeholder engagement monitoring and evaluation programme will be developed to ensure efficient and effective stakeholder engagement, in parallel with community awareness programmes.

11.3 Impacts – Normal Operations

A primary project objective is to design, construct and operate and decommission a pipeline and its AGIs with minimal risk, injury or harm to personnel, host communities and their ecosystem services.

Potential impacts on biodiversity, the physical environment, socio-economic and health, and cultural heritage during the construction, operation and decommissioning phases are considered in the ESIA. These include:

- biodiversity:
 - permanent loss of habitat from operational RoW
 - PIIM to areas around the main camp and pipe yard (MCPY) causing increased pressure on natural resources
 - stress or mortality to flora and fauna
 - Loss of chimpanzee habitats and disturbance to chimpanzees
 - reduced primary productivity in watercourses
 - temporary or permanent loss of breeding and foraging habitat
 - modified habitats due to non-native species establishment
 - loss of ecological function and integrity of protected sites
- physical environment:
 - loss of soil structure, drainage, fertility and seed bank
 - soil contamination
 - contamination of surface and groundwater
 - deterioration of water quality
 - decreased water level due to abstraction for project use
 - reduced air quality from combustion of fuel in construction equipment and vehicles
 - disturbance or nuisance from noise from construction on the RoW and traffic movement
- socio-economic and health:
 - dissatisfaction arising from unmet expectations over the scale and duration of project local employment opportunities
 - competition over employment opportunities
 - inflation and effects on supply owing to project procurement
 - increased transportation costs and travel time with economic consequences
 - permanent loss of land used for crop farming and grazing
 - permanent loss of natural resources
 - temporary loss of access to fishing grounds (rivers, Lake Albert, dams and ponds)
 - permanent loss of private land due to project land acquisition
 - land and property speculation by landowners and third parties
 - increased risk of vector-related diseases amongst the local workforce
 - traffic congestion leading to delays
 - increased pressure on regional waste management facilities due to project activities
 - an increase in the burden of disease along the project's transport corridors caused by drivers spreading communicable diseases
 - nutrition of PACs compromised by reduced food security
 - community health and safety incidents associated with accidents during construction
 - change in local community dynamics due to employment opportunities
 - damage, disturbance or disruption of access to cultural heritage.

The potential impact of the project on climate change has also been assessed.

Management plans and mitigation measures are actions or systems that have been or will be used to enhance the benefits provided by the project or avoid, remove, reduce or compensate for negative impacts. Mitigation of potential impacts has been an integral part of the EACOP project design and ESIA process that will continue through detailed design, construction, operation and decommissioning.

The design and construction of pipelines has evolved over many years and a substantial body of good design, construction and operational practices that contribute to impact mitigation exist. Standard good practices are being implemented by the project, including:

- minimisation of the overall footprint
- burying the entire pipeline along the route to reduce permanent habitat fragmentation, interference by third parties and security concerns
- measures to reduce sediment release during watercourse crossings
- measures to reduce sediment runoff to watercourses, such as silt fences
- reinstatement of the RoW and construction facilities after completion of construction
- waste reduction and waste segregation
- soil management measures to enhance natural revegetation after reinstatement including topsoil segregation and erosion control
- maximising local employment
- development and implementation of a resettlement policy framework
- implementation of an archaeological watching brief during topsoil stripping and trench excavation to ensure damage to unknown archaeological sites is reduced.

The ESIA process has included identifying potential significant impacts and technically and financially feasible and cost-effective means of mitigating location specific impacts.

Where a potential impact has been identified, a hierarchy of options for mitigation has been considered including:

- avoiding at source – remove the source of the impact
- abating at source – reduce the source of the impact
- attenuating – reduce the impact between the source and the VEC
- abating at VEC – reduce the impact at the VEC
- remedying – correct the impact after it has occurred
- compensating or offsetting – replace in kind or with a different resource of equal or better value.

The EACOP project will develop and implement a biodiversity action plan incorporating enhancement and conservation measures to meet this requirement.

The assessment of impacts and the application of mitigation measures is an iterative process, which continues until an impact is deemed as not significant as reasonably practicable. Residual impacts are those that remain after the completion of this process.

Section 11.3.2 presents the significant residual impacts remaining after mitigation, and the procedure for decommissioning. Beneficial pipeline impacts are discussed

in Section 11.3.1. All potential ecosystem services related impacts are addressed in VEC impact assessments (Section 8).

Pre-mitigation impacts and their significance as well as post mitigation significance are provided in Appendices E2 and E3.

11.3.1 Beneficial Impacts

A number of potential project impacts, predominantly relating to socio-economic VECs will be beneficial, including:

- contribution to the national economy from investment
- generation of national and local employment opportunities
- provision of training and skill development opportunities
- opportunities for national and local businesses through project procurement
- improvement in the health and safety of employees from disease awareness and reduction programmes
- increased knowledge and recording of tangible and intangible cultural heritage.

Where possible, enhancement measures will be implemented to increase the benefits to local people, and the local and national economy.

11.3.2 Significant Residual Project Impacts

The impact assessment process included applying proposed mitigation to the potential project impacts identified for each VEC. Table 11.3-1 summarises the number of generic and location specific impacts assessed and the mitigation measures for each VEC group. The significance of impacts was then re-assessed.

Based on the mitigation measures planned, including for aspects of biodiversity, for which further enhancement and conservation measures will be developed and implemented through the production of a site specific Biodiversity Action Plan and support for ongoing forest conservation initiatives, no significant residual impacts are predicted.

Table 11.3-1 Impacts Assessed and Mitigation Measures

	Generic Impacts	Generic Impact Mitigation Measures	Location-Specific Impacts	Location-Specific Impact Mitigation Measures
Biodiversity	33	49	33	28
Physical Environment	25	33	101	36
Social	59	51	158	42

11.3.3 Transboundary Impacts

No significant residual transboundary impacts were identified.

11.3.4 Cumulative Impacts

The Hoima Municipality is likely to experience a general economic boost due to the beneficial cumulative impacts from employment, training and purchasing associated with the EACOP project and its associated facilities (Tilenga and Kingfisher projects), and other third-party developments.

The upgrade of the EACOP project access road and the third-party road upgrades is also a long-term beneficial cumulative impact, which will enhance access to the national road network and to health care and reduce travel times including response times in emergency situations.

After mitigation measures have been implemented, a potential cumulative impact remains significant:

- The EACOP project, associated facilities and other third-party developments will change the characteristic rural quality of the landscape and visual receptors around PS1, although the contribution from the EACOP project and associated facilities is small.

The EACOP project and associated facilities will participate in regional cumulative environmental management initiatives being developed in collaboration with operators of current projects, developers of proposed projects, and led by the government. It is envisaged that initiative management priorities would be defined for implementation by industry participants. An example is the joint forest conservation initiative mentioned below.

Enhancement and conservation measures that will be developed and implemented through the production of a site specific Biodiversity Action Plan and support for ongoing joint forest conservation initiatives will not only reduce the project impact on chimpanzee habitat but will also reduce the potential cumulative impacts from associated facilities and third party projects.

11.3.5 Associated Facilities

Tilenga Project, Kingfisher Oil Project and concrete batch plants, borrow-pits and waste management facilities (where they meet the IFC definition of associated facilities) have been identified as associated facilities (AFs). The locations of concrete batch plants, borrow-pits and any waste disposal sites required have yet to be defined and so will be subject to the management of change process.

The beneficial impacts of the Tilenga Project and Kingfisher Oil Project are similar to the EACOP project, e.g., increased economic growth, increased employment opportunities and improved health planning.

The Tilenga Project and Kingfisher Oil Project have significant residual impacts on biodiversity and social VECS, particularly impacts relating to PIIM, as well as impacts on surface water, the acoustic environment and landscape character. While the Tilenga feeder pipeline is part of the Tilenga project, the residual impacts are presented separately as a separate ESIA has been produced for the feeder pipeline, however there are no significant residual impacts from the Tilenga feeder pipeline.

11.4 Impacts – Abnormal Operations and Unplanned Events

Unplanned events considered in the ESIA include:

- traffic accidents
- fires
- damage to third-party assets
- release of diesel from fuel storage tanks at the MCPY and construction sites
- release of hydrotest water during commissioning
- oil spills
- sabotage
- geophysical hazards.

The pipeline engineering design criteria were adopted with an aim to reduce the probability and consequences of unplanned events that could lead to impacts on social or environmental receptors. At each stage of the design process, a series of health, safety and environmental (HSE) studies have been, and will continue to be, undertaken.

The project has completed a technological risk assessment (TRA) during front end engineering design (FEED) in accordance with the Tilenga feeder pipeline HSE risk assessment methodology. The TRA has been undertaken to inform:

- the design process
- the ESIA process, and the development of mitigation measures.

Additional risk assessment will be undertaken during detailed engineering and construction planning.

An emergency response plan will be prepared which clearly identifies possible emergency scenarios, sets out actions to be taken in the event of an emergency, and defines resources that will be made available to respond to an emergency event. It will comprise of several management plans and procedures, such as an oil spill contingency plan, spill management and response plan, and a community health, safety and security plan.

Work has been undertaken that supports the establishment of a preliminary rating of the risks and related significance, based on existing engineering knowledge and project design and professional judgement.

The pipeline will have risks reduced through:

- design and construction mitigation
- health, safety, security, society and environment (H3SE) systems and procedures
- emergency response planning.

The project has considered design and construction opportunities to reduce risk during construction and operation throughout the design process and will have in place an HSE management system with which contractors will be required to comply during construction.

11.5 Decommissioning

The project components (i.e. pipeline, PS) will be decommissioned based on Ugandan regulations and standards and international standards and protocols.

A decommissioning plan, which includes a social management component that addresses the impact of decommissioning (loss of jobs, economic activity), will be prepared and the scope will be developed in consultation with stakeholders at that time. The decommissioning plan for the construction facilities will ensure that all the project components that were required for constructing the pipeline, but that will no longer be required during the operational phase, are removed and land is returned to the Government. The decommissioning plan will include specific consideration of unplanned events which may occur during decommissioning consistent with EACOP project requirements.

11.6 Environmental and Social Management Plans

In accordance with the Environmental Impact Assessment Guidelines for the Energy Sector in Uganda, 2004 and the Environmental and Social Impact Assessment Guidelines for the Energy Sector in Uganda, 2014, an environmental and social management plan (ESMP) has been developed.

The project ESMP is consistent with the EACOP code of conduct and H3SE policy, and charters.

The ESMP presents monitoring parameters and proposed performance indicators and targets that will steer environment and social performance toward continuous improvement. A comprehensive reporting system will also be developed.

A suite of management plans will be prepared to support implementation of the ESMP. Minimum content of these management plans are the mitigation commitments developed throughout the ESIA.

A separate suite of management plans will be drafted for:

- construction
- operations.

The following is a list of the management plans that will be developed prior to the commencement of construction and operation activities. Tables of content for the management plans are included in Appendix E5.

- biodiversity management plan
- pollution prevention plan
- waste management plan
- natural resource management plan
- soil management plan
- cultural heritage management plan
- reinstatement plan
- stakeholder engagement plan
- resettlement action plan

- labour management plan
- project induced in-migration management plan
- procurement and supply chain management plan
- infrastructure and utilities management plan
- community health, safety and security plan
- occupational health, safety and security plan
- transport and road safety management plan
- emergency preparedness and response plan
- monitoring and reporting plan
- decommissioning plan.

Changes to the project may occur subsequent to preparation and submission of this ESIA. A management of change procedure will be implemented, that includes:

- environmental and social appraisal of the change, including the identification of new or revised mitigation measures
- health and safety evaluation
- consultation with engineering and H3SE disciplines
- consultation with NEMA on the need for amendments to the ESIA permit
- management of change approval process.

After management of change approval, changes to the ESMP and supporting management plans will be implemented.

11.7 Recommendations

This ESIA has been prepared by an experienced team with extensive pipeline engineering, environmental and social impact assessment knowledge, including Ugandan partners with expertise in ESIA development in the Ugandan oil and gas sector. The team has quantitatively and qualitatively identified and assessed potential interactions between the project and VECs in the project AOI. The recommended measures, consolidated in the ESMP, which are either incorporated into project design, or actioned during project implementation, are intended to mitigate the impacts and their significance.

The EACOP project, with due consideration to the management of associated environmental and social impacts, will:

- contribute to economy
- provide business opportunities for different sectors of the economy and enhance capacities of local companies
- provide employment, knowledge transfer and skills development opportunities during construction and operation.

As these are benefits in the public interest, it is requested that NEMA approve this environmental impact statement.