APPENDIX A.TERMS OF REFERENCE FOR THE ESIA

IV. Appendices

APPENDIX A – TERMS OF REFERENCE

ELECTRICITY GENERATION COMPANY (MALAWI) LIMITED

Kapichira Dam Rehabilitation Project Phase 2

TERMS OF REFERENCE (TORs)
FOR
CONSULTING SERVICES TO CARRY OUT
AN ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

1 INTRODUCTION

The Government of Malawi (the Borrower) through its Ministry of Finance and Economic Affairs is implementing the Malawi Emergency Power Restoration Project (MEPRP), with the Electricity Generation Company (Malawi) Limited (EGENCO) as one of the Implementing Entities, as set out in the Financing Agreement and Project Agreement. The International Development Association, the World Bank acting as the administrator, has agreed to provide financing for the Project.

MEPRP has two components: (1) Kapichira Hydropower Dam Rehabilitation and Strengthening and (2) Transmission and Distribution Network Restoration. EGENCO is the implementing entity for the former, Kapichira Hydropower Dam Rehabilitation and Strengthening which includes two Phases. Phase 1: Energy restoration to be implemented through raising water levels back to operational levels and by developing a temporary coffer dam upstream of the damaged infrastructure; and Phase 2: Build-back better, based on a revised design that would integrate key technical and operational features that contributed to the failure, this phase includes rehabilitating damaged infrastructure. The terms of reference herein provide detailed requirements for preparing a full-scale Environmental and Social Impact Assessment (ESIA) for the Kapichira Hydropower Dam Rehabilitation and Strengthening **Phase 2: Build-Back- Better**.

1.1 Background

1.1.1 Kapichira Hydropower Plant (HPP)

Kapichira Hydropower Plant (HPP) is located in Chikwawa District, 70km to the south-west of Blantyre. It has an installed capacity of 129.6 MW, and is the largest contributor to the National Grid whereby it contributes 30% to

EGENCO's installed generation capacity accounting for 23% of Malawi's total installed capacity.

It is the most downstream HPP in the Shire River HPP cascade, and located within Majete Wildlife Reserve. Majete Wildlife Reserve is a National Protected Area, established in 1955, managed by African Parks which entered into a 25-year public–private partnership with the Malawi Department of National Parks and Wildlife (DNPW) in March 2003. Further sensitive sites - the Chikwawa floodplain immediately and Elephant Marshes Ramsar Site are located downstream.

Sediment management is a significant issue for Kapichira HPP. A significant volume of sediment has accumulated upstream of the dam since Kapichira was first commissioned in 2000. It is thought that sediment deposition has been greater than expected because reservoir levels have been managed at a higher level than originally planned, to allow for peaking generation. The scheme was originally designed as self-flushing, but this is not effective at the higher reservoir levels, and the scheme did not incorporate structures that could be used for sediment flushing. EGENCO was managing sediment accumulation by dredging and weekly flushing.

1.1.2 Tropical Storm Ana

The January 2022 floods caused by Tropical Storm Ana resulted in overtopping of a river training dike and failure of the fuse plug, and overtopping part of the dam wall on the right bank, as well as erosion of the main dam slopes and crest, and damage to steel structures on the spillway bridge of the station. This has rendered EGENCO unable to generate power since the Kapichira HPP is unavailable.

The flood caused by Tropical Storm Ana extensively damaged Kapichira HPP's dam and fuse plug, illustrated in Figure 1, resulting in the draining of the reservoir and rendering the hydropower station out of operation. Damage was also incurred at the intake and part of the canal for the Shire Valley Transformation Project (SVTP) financed by IDA (P158805) located at the western embankment of the Kapichira reservoir, just before the fuse plug.

Figure 1 illustrates the location of structures that were damaged by the floods caused by TS Ana.



Figure 1: Kapichira Dam – Damaged Infrastructure by Tropical Storm Ana

1.2 Project Description

The project objective is to rehabilitate, and build back better, Kapichira HPP and dam, damaged by Tropical Storm Ana. This will be achieved by enhancing resilient operation of the HPP through the rehabilitation and upgrade of the Kapichira dam and spillways.

EGENCO intends to rehabilitate the dam in two phases. Phase 1 will immediately restore some energy generation capacity by building a cofferdam to raise water

in the reservoir to operating levels, and is now underway as an emergency measure. Phase 1 will also initiate the removal of a large volume of sediment that has accumulated upstream of the dam. Phase 2 is a Build-Back-Better type of project and will upgrade design and resilience of the dam and spillways, and improve Kapichira HPP sediment management.

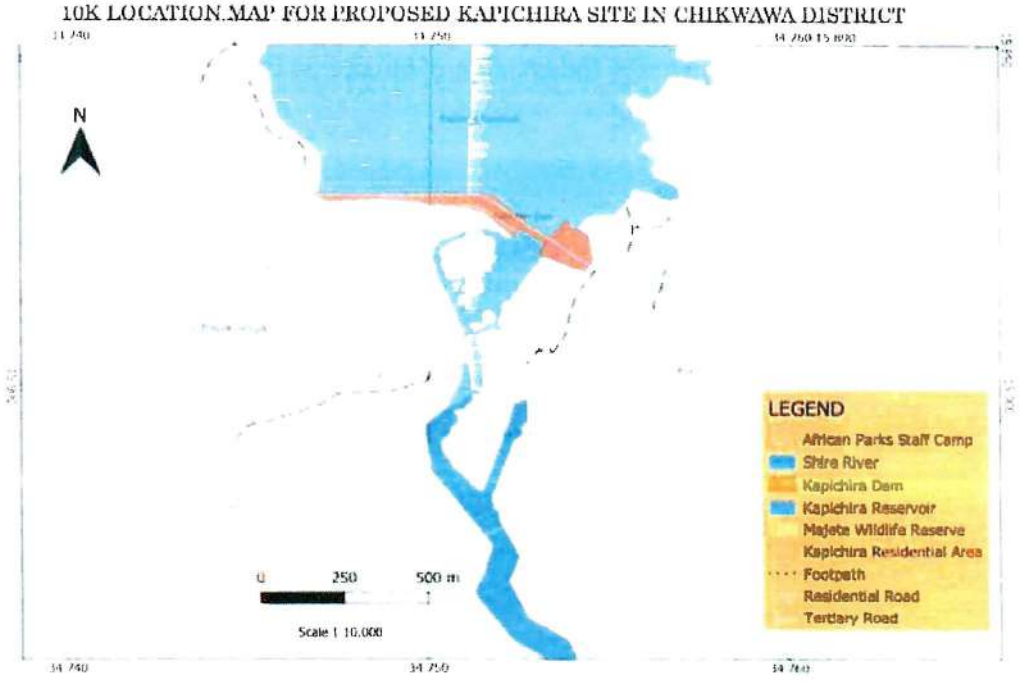


Figure 2: Lay-out map of Kapichira Power Station

Based on a revised design that would address key technical and operational features that contributed to the failure, the Phase 2 component will (i) rehabilitate damaged infrastructure (mainly the dam), (ii) upgrade the Kapichira scheme to enhance its resilience (especially the main and emergency spillways), and (iii) support companion actions on operation and maintenance (O&M) and sediment management.

Phase 2 will be structured around mobilization of an international consultancy firm as Owner's Engineer (OE) for EGENCO. The OE is expected to be recruited

by the end of December 2022, and a dam damage assessment report is expected no later than the end of March 2023. The OE will:

- Review damage and previous designs;
- Recommend detailed scope of rehabilitation and upgrade for key infrastructure such as the dam, fuse plug, and main spillway based on options analysis and Environmental and Social Impact Assessment of the options;
- Model hydraulic and sediment flows under different build back better scenarios, while integrating the new needs for SVTP irrigation intake;
- For the Spillway, propose an upgrade to ease operation and maintenance of the gates since they were identified as part of the root causes of the damage;
- Develop, adopt and implement the following Dam Safety Plans (DSP), (i) a plan for construction supervision and quality assurance (CSQAP); (ii) an instrumentation plan (IP); (iii) an operation and maintenance plan (O&MP); and (iv) an emergency preparedness plan (EPP); and
- Take stock of existing studies and modeling to support the design of sediment management strategy for the operation of the Kapichira HPP and irrigation scheme.

The OE will conduct initial environmental and social scoping, data collection and analysis before preparation of the detailed ESIA (this study), and continue to work with the ESIA Consultants iteratively in order to come up with an iterative design with sustainable outputs.

On the basis of these comprehensive assessments and studies, EGENCO will procure a contractor to implement the proposed build-back-better project, and EGENCO (and other key stakeholders) will be trained to supervise the implementation of the complex rehabilitation works including the sediment management implementation plan. This phase will also integrate the upgrading of dam safety equipment and it will aim to restore good dam safety monitoring

and practice. For the latter, in order to prevent such events from happening again, it is proposed under this component of the project to review O&M practices in place at Kapichira and EGENCO Corporate levels, in order to design and implement an adequate O&M strategy that, technically and institutionally, secures (i) maintenance of dam safety equipment (including the spillway gates) and (ii) regular sediment removal. Such an exercise will be informed by the latest handbook published by the World Bank on O&M strategies for hydropower.

1.3 Key Issues for This ESIA

Key issues for the ESIA to consider include:

- Construction works and ancillary facilities will be partly within an area constrained by the existing dam, the downstream river, and Majete Wildlife Reserve, therefore the ESIA Consultants will need to work closely with the OE to understand construction stage layout and access options (e.g., quarry and spoil locations) and ensure that environmental, health, safety and social aspects are fully integrated into decision-making.
- Kapichira HPP lies partly in the reserve and wholly within its buffer zone[1] which African Parks actively manages and has fenced. The ESIA Consultants will be required to: consult with reserve managers; determine the legally-designated protected area boundary and buffer zone; *inter alia* assess impacts on the protected area/buffer and its biodiversity and tourism values; determine the legal restrictions/permissions pertaining to the protected area and buffer including processes for authorization of activities, and whether legal amendments are necessary for Kapichira HPP rehabilitation and

[1] The initial boundary of the Reserve was the right-bank of the Shire River. In the Concession Agreement with African Parks, the Government agreed "to negotiate in good faith on the realignment of the boundaries of the Reserve taking cognizance of existing population pressures and community land rights with the objective of improving the ecological integrity and visitor potential of the Reserve. In this respect it is important to incorporate the east bank of the Shire River opposite the Reserve that runs for approximately 15 kilometers and an adequate buffer zone of about one kilometer wide along this east bank."

operation; identify avoidance, minimization, mitigation, and/or offset measures; propose MOUs with African Parks for Phase 2 works (setting out the scope of works acceptable or unacceptable within the protected area, geographic exclusion areas, mitigation measures, offset and compensation) and for future operations, with the aim of avoiding repeated delays in Kapichira HPP rehabilitation or restrictions on operations.

- The environmental and social risks and impacts of sediment management, including impacts on the Elephant Marches Ramsar site downstream. Physical removal of the accumulated sediment has begun under Phase 1, and the development of measures for the sustainable management of sediment is a key part of Phase 2. According to the MEPRP Environment and Social Commitment Plan, a Basin-wide sediment assessment, a comprehensive HPP-cascade Sedimentation Strategy, and a Basin Cumulative Impact Assessment will be prepared under Mpatamanga and should be considered within these works. The Kapichira Dam Rehabilitation Project will focus on the critical aspects of sediment management and cumulative impacts pertaining to Kapichira's operations.
- The main road to access Kapichira HPP is the T416 road from Chikwawa Boma. This road includes several river crossings, of particular relevance is the Chilala River bridge and the Mwalija village river crossing. Both of these crossings were also significantly damaged during the TS Ana floods. EGENCO has undertaken temporary works to re-instate these crossings, however they will need to be permanently upgraded to ensure integrity in future floods and ensure large/heavy construction vehicles have continued access during the construction phase of the project and ongoing operational activities.
- Environmental flow requirements at Kapichira Dam and Kapichira Falls. There are existing requirements that should be reviewed and verified.
- Phase 1 of the project includes the construction of a CSD coffer dam (cement-soil dam). The ESIA will need to consider the risks and impacts of

decommissioning this coffer dam and related activities e.g. disposal of coffer dam materials.

- Environmental licensing, taking account of (i) the existing environmental license for Kapichira HPP and its conditions, and the existing environmental policies and procedures of EGENCO, both of which will need to be adapted following the proposals set out in this ESIA, and (ii) licensing requirements for the rehabilitation works and / or re-licensing of Kapichira HPP especially project works located within the protected area.
- A number of additional consultancies and studies will be developed separately in order to ensure that the rehabilitation works meet their intended purpose of being resilient to upcoming storms. These studies include Dam Safety Reports, Emergency Preparedness Plan, Kapichira Dam Operation and Maintenance Plan, and Sediment Assessment and Sediment Management Plan. The archaeological heritage assessment including paleontological assessment initial findings study has been conducted by Department of Museum and Monuments. The findings and recommendations from this study and the Cultural Heritage Management Plan.

2 APPLICABLE STANDARDS AND GUIDELINES

The ESIA shall be prepared in compliance the World Bank Environment and Social Framework (ESF), the MEPRP Environmental and Social Commitment Plan (ESCP), applicable World Bank Group EHS Guidelines and other relevant Good International Industry Practice (GIIP), EGENCO environmental and social policies, and also with the environmental laws and regulations of the Government of Malawi. Any gaps identified between the country's legal instruments and standards and those of the World Bank will be addressed within the scope of the assignment to ensure compliance with both national legislation and the World Bank's ESF and compliance with whichever is the most stringent.

All of the following Environmental and Social Standards of the World Bank ESF are applicable, and ESS-1 and ESS-10 are particularly relevant to the required process of the ESIA and ESMP preparation:

- ESS-1 Assessment and Management of Environmental and Social Risks and Impacts
- ESS-2 Labour and Working Conditions
- ESS-3 Resource Efficiency and Pollution Prevention and Management
- ESS-4 Community Health and Safety
- ESS-5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement
- ESS-6 Biodiversity Conservation and Sustainable Management of Living Natural Resources
- ESS-8 Cultural Heritage
- ESS-10 Stakeholder Engagement and Information Disclosure.

ESS-7 (Indigenous Peoples/SSA Historically Underserved Traditional Local Communities) is not expected to be applicable, but the ESIA Consultant is required to confirm this and document the reasoning for this conclusion.

The Consultant should refer to GIIP and associated guidelines including but not limited to:

- Hydropower Sustainability Council (2018). Hydropower Sustainability Guidelines on Good International Industry Practice. https://www.hydrosustainability.org/hydropower-sustainability-guidelines.
- IFC (2018). Good Practice Note: Environmental, Health, and Safety Approaches for Hydropower Projects.
- International Hydropower Association (2021a). How-to Guide: Hydropower Environmental and Social Assessment and Management. IHA. www.hydrosustainability.org.

3 OBJECTIVES OF ESIA CONSULTANCY SERVICES

The objectives of the ESIA Consultancy Services are to:

- Assess the environmental, health, safety and social risks and impacts[2] of Phase 2 of the Kapichira Rehabilitation Project in the project's area of influence (including auxiliary activities) and throughout the project life cycle, including all relevant direct, indirect, and cumulative environmental and social risks and impacts, including those specifically identified in ESSs 1–10;
- Consider the environmental and social risks and impacts of alternative siting and methodology options, including an auxiliary spillway near the right bank or fuse plug with stilling basin, SVTP intake position, and quarry locations; and contribute environmental and social considerations on siting and design decisions to the Owner's Engineer;
- Identify environmental and social management measures, applying the mitigation hierarchy, including project siting, planning, design and implementation measures, and identify opportunities to enhance the positive impacts of the project;
- Conduct stakeholder engagement as an integral part of the assessment and planning of management measures, in accordance with ESS-10; and
- Conduct the ESIA process and deliver ESIA documents in a manner to enable EGENCO to obtain an environmental license for Phase 2 of the Kapichira Rehabilitation Project and ongoing operations of Kapichira HPP.

The Consultant shall carry out a full-scale Environmental and Social Impact Assessment (ESIA) and prepare the associated Environmental and Social Management Plan (ESMP) that will set out appropriate environmental and social preventive, mitigation and interventions to ensure the sustainability of the project. The Consultant shall further develop Environmental and Social Monitoring Plans

[2] Reference to 'Environmental and social' or just 'environmental' throughout these Terms of Reference should be taken to include all of environmental, health, safety, and social aspects.

to ensure that proposed mitigation measures are being implemented and achieving required outcomes.

ESIA for Phase 1 has been addressed by SVTP-1. The Consultant shall be expected to review and take into consideration the ESMP for the Cofferdam designed and constructed by the SVTP under Phase 1 of the Kapichira Dam Rehabilitation Project, and to consider ongoing impacts from all Phase 1 activities.

The ESIA should consult the Government of Malawi, World Bank, EGENCO, African Parks, SVTP, interested and affected parties and other key stakeholders on the potential environmental and social impacts and risks associated with Phase 2 of the Kapichira Dam Rehabilitation Project.

4 TASKS TO BE UNDERTAKEN

4.1 Scoping Stage

The purposes of the scoping stage are to:

- Develop a clear and agreed understanding of the project activities and associated drivers of impacts, so that the ESIA team can identify impacts on the basis of this understanding;
- Define the area of influence of the project, which will be the geographical scope of the impact assessment;
- Identify the legal requirements in all environmental and social areas that the project will be required to comply with, and the international standards and guidelines and corporate policy requirements that the project must meet;
- Obtain stakeholders' views and concerns on the proposed project, so that the impact assessment will take these views into account;
- Assemble baseline data using secondary information, i.e. information that is available without further primary data collection; and

- Identify which potential impacts require further baseline data collection or specialist analysis to determine impacts (i.e. are 'scoped in') and which do not (are 'scoped out').

The scoping stage should then result in the definition of the scope (i.e. terms of reference) for the subsequent primary data collection, analysis, and consultation to be conducted for the full impact assessment. The scoping report should include initial versions of sections of the ESIA report – the project description, legal and administrative, stakeholder engagement, and secondary baseline information – as well as the scoping of potential impacts.

The initial task is to define and document the project's area of influence in terms of both direct and indirect, and cumulative impacts considering that it is located along a section of Shire River course, adjacent to and within Majete Wildlife Reserve, the Chikwawa floodplain and surrounding communities. Elephant Marsh Ramsar wetlands are located downstream.

This stage includes review of the existing documentation that is relevant to the ESIA, and to identify where there are gaps, deficiencies or contradictory issues and/or issues to be updated. Where available the Consultant should draw on a range of existing studies.

The scoping stage shall be concluded with a Scoping Report that will also be incorporated in the detailed ESIA study. The scoping stage will pay particular attention to the activities listed in Section 1.3 above.

4.1.1 Description of the Proposed Project

Based on the preliminary design study for the dam, the description of the project shall include the Project Development Objective, description of the project activities including design option concepts, layouts, rehabilitation details for the

dam, scheduling of site mobilization, construction and operation activities. To the extent known and relevant the description should also include the location of all ancillary sites[3] including worker camps, borrow pits and quarries, batching plants and siloes, etc. The Consultant will need to describe the implementation and supervision arrangements for the Project including responsibilities during planning, construction and operation for the activities under the Project and for the implementation of measures proposed in the ESIA/ ESMP.

The purpose of the project description in the scoping report and ESIA report is both to:

- Enable all stakeholders who have interests in the project to obtain a clear and comprehensive understanding of the project; and
- Identify the features, activities, labor requirements, timing of activities, resource use (volumes and type of materials, supply chain, etc. and effluent/waste volumes of the project with sufficient precision that, with the receptors identified in the baseline, impacts on those receptors can be predicted.

The Consultant should also prepare an initial alternative analysis at this stage, addressing power generation options, to be developed into the full analysis of alternatives later (see Section 4.3.5).

As the OE makes changes to the technical project details, as a result of the above-mentioned studies during the ESIA process, the project description will need to be updated accordingly, including with design-related mitigation measures. Sediment management measures will be highly relevant to the assessment of environmental and social risks and impacts. In addition, in compliance with ESCP ESS-6, the Consultant should work with the OE to verify

[3] Note: locations of these are to avoid protected areas, or critical habitat areas as well as physical resettlement.

environmental flow requirements at/from Kapichira dam for incorporation into the updated Operation and Maintenance Plan for the rehabilitated dam.

4.1.2 Legislative and Regulatory Considerations

The Consultant shall identify and document national and local legislation, regulations, guidelines, EGENCO policies, and World Bank's Environmental and Social Framework (ESF) and the Environmental and Social Commitment Plan that are relevant to the Kapichira Dam Rehabilitation Project and hence need to be complied with. This shall include identification of the types of approvals and license requirements to be fulfilled prior to execution of the works and/or operations of the facility, and the identification of any potential gaps between local regulations and World Bank ESF and any corrective actions as needed. Additionally, the WBG Environmental, Health, and Safety (EHS) Guidelines and other GIIP shall be reviewed as relevant.

4.2 Baseline Preparation

The Consultant shall detail the methodology that they have used to carry out a status quo (baseline) assessment of the project's area of influence prior to project activities.

The baseline of the ESIA should:

- Present the context that will be affected by the project, and therefore define the receptors that will receive potential impacts; and
- Identify the conditions that future monitoring results can be compared against in order to check and improve the effectiveness of management measures.

The Consultant shall provide a brief description of typical features of the geographical area in terms of current population, social and economic activities, particularly issues related to livelihoods as well as social and public recreational

assets, geography, and environment. Then, from site visits, field surveys and available technical documents (e.g. feasibility studies, preliminary designs, environmental and social studies and approvals, monitoring reports, permits, etc.) the Consultant shall provide a detailed description of the relevant components and baseline conditions of the project, using maps (at appropriate scale) where necessary.

The consultant shall provide a baseline description of the project social, physical, and ecological environment, and identify all people and areas that are potentially affected by the project, collect population data, document topography, current land use status and physical land conditions, and identify sensitive areas, e.g. wetlands, protected areas, schools etc.

The consultant shall collect baseline information for, and provide a detailed description of all parts of the project area of influence. The sampling effort to gather data for the baseline must cover the full extent of the defined area of influence, including auxiliary activities. It is expected that the area of influence includes:

1. The direct project footprint based on the proposed project site locations, including all any auxiliary facilities and infrastructure, that will be affected during the implementation of the project, to be identified during the feasibility and detailed design analysis/findings;
2. A zone around this, that will be potentially affected by the proposed construction works and operational activities, for example due to effects on air quality, noise, lighting, traffic, or other effects such as worker behavior, including key receptors such as settlements;
3. Areas affected along the access corridor, i.e., existing and new routes and infrastructure that are necessary for implementation and the operation, where impacts may occur due to the movement of project traffic;
4. The affected river and riparian environment, which will extend from as far upstream as the reservoir tail, and as far downstream as Elephant Marshes;

5. Associated fac ilities on which the project depends[4];
6. Locations where cumulative impacts of the project activities may potentially be expected, and their environmental and socio-economic consequences.

The Consultant shall describe and present baseline information of the existing environment in the following areas:

4.2.1 Physical environment:

- Description of the existing hydrology, hydrogeology, topography, and geomorphology, and the proposed areas which will be affected by any impact during construction and operational phases.

- Determination of the geology and seismicity of the area (including considerations on earthquake and landslide risks) through a geological description of borings and geophysical testing in order to determine the hydraulic characteristics of the groundwater.

- Determination of meteorological data (precipitation and net infiltration, temperature variations and prevailing wind data).

- Climate change, including its influence on hydrology and extreme events.

- Determination of water quality and flooding risk (drawing on the Owner's Engineer's analysis, see Section 4.4.4.4), erosion and sedimentation (drawing on the work of the sediment consultant, appointed to prepare a Sediment Assessment and Sediment Management Plan's), and impacts to such during construction and operational phases. The consultant is required

[4] Associated facilities means facilities or activities that are not funded as part of the project and are: (a) directly and significantly related to the project; (b) carried out or planned to be carried out, contemporaneously with the project; and (c) necessary for the project to be viable and would not have been constructed, expanded or conducted if the project did not exist.

to ascertain the sampling and analysis being undertaken by the sediment consultant, and if necessary undertake baseline water and sediment quality analysis and samples it deems necessary for the ESIA, for example wetlands in and downstream the project area to obtain a baseline for monitoring of contamination and sediment load during construction and operation phases of the project.

- Comprehensive surveys on air quality and noise shall also be conducted.

4.2.2 Biodiversity and Ecosystem Services:

- Survey all terrestrial and aquatic flora and fauna throughout the project area of influence, identifying:
  - Aquatic: aquatic habitats, eco-status, macrophytes, macro-invertebrates, and fish species;
  - Terrestrial: terrestrial habitats, flora including riparian flora, birds, mammals including bats, amphibia, reptiles, and which of these are riparian fauna;
  - The natural or modified status of habitats;
  - IUCN Red List status and Malawi's nationally-listed status of all identified species; and
  - Migratory, endemic, and invasive species, and economic uses (commercial or subsistence).

- Updated maps shall aid the assessment of potential impacts on critical habitats for the birds (resident species and migrant species).

- Collect information on and map legally-protected and internationally-recognized areas of high biodiversity value, including national parks and protected areas (including buffer zones), internationally-recognized Key

Biodiversity Areas / Important Bird Areas etc., and sensitive habitats including wetlands, parks or reserves in areas likely to be affected by works.

- Conduct Critical Habitat analysis according to the requirements of ESS-6.

- Collect any information on ecosystem services that are beneficial to communities derived from natural environment around the project area, including agro-ecosystems, forest ecosystems, grassland ecosystems and aquatic ecosystems.

4.2.3 Social environment:

- Nature of surrounding environment (including homes, farms, agriculture, forest areas, formal and community protected areas, Majete Wildlife Reserve and buffer zone, industry, schools, markets, or trading centers, small business enterprises and other establishments, infrastructure, movement routes (e.g., walking pathways or vehicular routes etc.) and proximity of these to the project site;

- Describe regional context including administration and traditional authorities, population, ethnicity, the economy, and infrastructure and services;

- Describe communities in the project area of influence, including:

  - Settlements and their demographic characteristics (population, ethnicity, age profile, gender, etc.) and location, with maps;

  - Literacy and education, occupations, income and livelihoods with a focus on those activities that may be impacted by the project including fishing, charcoal burning etc;

- Identify access and mobility, and public infrastructure and services (schools, health facilities etc.) that are likely to be sensitive to the proposed dam rehabilitation works, including noise, light, dust, visual, and "sense of place" impacts;

- Describe the existing health and safety concerns facing communities including HIV and sexually-transmitted diseases, water-borne and vector-borne diseases, flood risk, traffic-related injuries and fatalities, security, social conflict etc.; and

- Land tenure and land use arrangements in the area of influence including for economic activities, natural resource use and settlements etc.

- Describe cultural heritage assets such as cultural, religious, historical or archaeological sites, including sacred sites, graveyards and burial places that might be affected during construction or operations, as per ESCP and ESS-8, and identify tourism and recreation, and landscape and visual amenity in the area.

The baseline should include consideration of girls and women in decision-making and factors that affect them such as ability to work, sexual reproductive health and financial independence as these may make them vulnerable to gender-based violence (GBV), sexual exploitation and abuse (SEA), and sexual harassment.

The baseline should also highlight vulnerable groups and households, so that the ESIA can identify differentiated measures to avoid adverse impacts falling disproportionately
on the disadvantaged or vulnerable.

The consultant shall assess and determine the potential project impacts, recommend mitigation measures for every potential negative impact following the mitigation hierarchy according to ESF requirements, and assess the potential residual impact following the implementation of the recommended mitigation measures.

The following sections are not intended to be fully comprehensive, and the Consultant's identification of impacts should be based on its own professional analysis and stakeholder consultation.

4.3.1 Potential Impacts of Pre-construction

The consultant shall assess the potential of any environmental and social impacts that occur in the planning and design phase of the project, prior to the appointment of the construction contractor. For example, these may include impacts of ongoing surveys and assessments, small works, site preparation, or the establishment of access routes. EGENCO or its sub-contractors would be responsible for the management of pre-construction stage impacts.

4.3.2 Potential Impacts of Project Construction

The consultant shall assess the potential construction methods and assess all potential environmental and social impacts, for physical, biological and social receptors, that are construction-related. For example, including, but not limited to:

1. Potential issues related to traffic management in and around the project area;
2. Integrity of workplaces for safety of all workers, including workers' rights and working conditions;
3. Temporary drainage of wetlands, and river crossings to allow access;
4. Impacts on the environment due to auxiliary works for example due to extraction of raw materials (quarrying);

5. Temporary changes to flow regimes of watercourses due to construction of cofferdams;
6. Possible impacts on flow volumes in watercourses due to water extraction for building activities (impact on hydrology of the water sources);
7. Potential from hazardous material (including use of explosives);
8. Resource efficiency and pollution prevention not limited to but including waste management issues, including hazardous waste, and proper waste disposal practices according to ESF requirements;
9. Impacts from erosion from the site and stockpiles of earth and spoils etc., and sediment management;
10. Potential disturbance related to visual impact, air quality, light, and noise issues;
11. Any impacts on biodiversity and wildlife including poaching, bush meat, traffic hazard, human-wildlife interaction at project-related sites;
12. Impacts on cultural heritage;
13. Impacts associated with land acquisition or restrictions on land use, including involuntary resettlement, economic displacement, loss of incomes etc including as a result of ancillary facilities;
14. Impact of the project on vulnerable groups including women and girls, and persons with special needs;
15. Potential impacts of the presence of project workers including social change, economic benefits, access to goods and services, and social conflict, Sexual Exploitation and Abuse (SEA), Sexual Harassment (SH) and Violence Against Children (VAC) etc;
16. Labor and working conditions including forced labor and child labor (including in the supply chain), increased risk of school dropout, working hours, pay, non-discrimination, fair treatment etc;
17. Security risks;
18. Transmission of diseases including HIV/AIDS, STDs and other communicable diseases; and

19. Decommissioning of construction sites, workers camp, coffer dam, batching plants, etc.

4.3.3 Potential Impacts of the Project Operational Phase

The consultant shall assess the potential environmental and social impacts of the ongoing operations of the project. This part of the assignment shall concentrate on operational processes and include, for example:

1. Health and safety of the operations staff for EGENCO, including SEA/SH risks to/from workers.
2. Impact of sediment management on the reservoir, river, and downstream water flow and quality. This will include the assessment of the environmental flow according to the proposed operation schedule and impact on the downstream environment and water use, potentially requiring an amended environmental flow requirement.
3. Impacts related to any alterations in the flow regime.
4. Chemicals and oils used in the plant operation, their storage and management, and any potential impacts on the environment during operation and when disposed.
5. Impact of general waste disposal and propose management procedures.
6. Impact of operations-related traffic.
7. Potential impacts on economic income, livelihoods, land uses, and community / social aspects.
8. Impact on sensitive areas and biodiversity in the project area.
9. Impacts of the flushing of sediments on Chikwawa District floodplain, Elephant Marsh Ramsar wetland and displacement of persons under future floods.
10. Mechanisms for safe handling and storage of hazardous materials.
11. Risk of explosion or accidental discharge.

4.3.4 Potential Impacts of Project Decommissioning

1. Occupational health and safety issues during clearing sites.
2. Environmental impacts of waste generated in the decommissioning.
3. Impact of materials to be used in project decommissioning.
4. Gender based violence, sexual exploitation, sexual harassment issues.
5. Potential impacts on economic income, livelihoods, land uses, and community / social aspects.

4.3.5 Analysis of Alternatives to the Proposed Project

The Consultant shall describe the main alternatives that were examined in the course of conducting preliminary design, and assessment of the proposed rehabilitation. This will include the "no action" alternative of the dam rehabilitation not being done, as well as alternative power generation projects, alternative options for siting, alternative construction technologies, selection of material site and waste disposal sites, etc. Alternatives should consider alternative methodologies or techniques for the various activities in order to reduce potential impacts.

A key early task in the ESIA will be for the Consultant to engage with the OE to contribute environmental and social considerations on siting and design decisions. Specific questions are the environmental and social risks and impacts of an auxiliary spillway near the right bank versus a fuse plug with stilling basin, the SVTP intake position, and quarry locations.

The consultant shall compare the alternatives in terms of:

1) Their ability to meet defined Project objectives; and
2) Potential environmental and social impacts, including land and energy requirements, impacts on Majete Wildlife Reserve including during operation, impacts on hydrology and sediment, their environmental flow

requirements, and capacity and ability of entities to implement mitigation and operate sustainability.

The description shall indicate which impacts are irreversible or unavoidable and which ones may be mitigated. To the extent possible, costs and benefits of each alternative shall be quantified, incorporating the estimated costs of any associated mitigating measures.

4.3.6 Legacy Issues

The Consultant should assess legacy issues, i.e. ongoing environmental and social impacts that have not been resolved that have resulted from previous phases of work, and that may present environmental or social risk for Kapichira HPP. There may be legacy issues remaining from the original development of Kapichira HPP, the dam / fuse plug failure, or the Phase 1 emergency works.

4.3.7 Cumulative Impacts

The Consultant should assess cumulative impacts[5] of the Project, and the management measures necessary for their management, to meet World Bank ESF requirements on cumulative impacts assessment. The ESIA focus should be on identifying the magnitude and significance of the Project's contribution to cumulative impacts and risks, and appropriate mitigation measures for management of the specific contributions by the Project to the expected cumulative impacts.

The Consultants must consider proposed measures for the re-setting of Kapichira HPP operations identified in the Rapid CIA of the Mpatamanga Hydropower

[5] The incremental impact of the project when added to impacts from other relevant past, present and reasonably foreseeable developments as well as unplanned but predictable activities enabled by the project that may occur later or at a different location. Cumulative impacts can result from individually minor but collectively significant activities taking place over a period of time. Cumulative impacts will be determined as early as possible, ideally as part of project scoping.

Project. In addition, the Consultants may be able to draw on the CIA to be conducted for Mpatamanga Hydropower Project and findings and recommendations of the SVTP 1 The Consultant can refer to the IFC Good Practice Handbook on CIA.

4.4 Environmental and Social Management Plan (ESMP)

Using the Mitigation Hierarchy, the Consultant shall recommend feasible and cost-effective mitigation measures to avoid or prevent, minimize, rectify, reduce, mitigate, compensate or offset negative impacts, as well as enhance positive impacts. The Consultant shall propose these mitigation measures and associated costs for each of the identified impacts for the project through its construction as well as the operation phases. These measures will be set out in the ESMP, making it clear who is responsible for implementation (including supervision and reporting), based on engagement with these stakeholders. The ultimate aim is to foster on the ground implementation of effective measures during project execution and operations, and ensure that the environment is better off than before the implementation of the project.

The ESMP will identify clearly at what stage (design, construction, operation, decommissioning) each measure is to be implemented and who will be responsible for ensuring that each measure is implemented. The ESMP should include draft bills of quantities for mitigation and monitoring, for inclusion in tender documents for all works.

The draft and final ESMP report will be revised in consideration of the comments of the relevant authorities in Malawi and the World Bank.

ESMPs for embankment rehabilitation and desilting that have been developed under Phase 1 shall be considered and upgraded to suit the final Phase 2 design and structures, if relevant.

The content of the ESMP should include the following in reference to the World Bank's requirements:

- a mitigation plan that identifies and summarizes all expected potential environmental and social impacts; describes each mitigation measure with technical details (e.g., designs, equipment description, related operating procedures) including the type of impact to which it relates and the condition under which it is required; and provides linkages with any other mitigation and monitoring plans (e.g. SEA/SH Action Plan, involuntary resettlement/land acquisition framework or action plan, biodiversity management plan, traffic management plan, waste and hazardous substances management plan, if any) required for the Project;

- a monitoring plan including objectives, indicators, and a specific description of monitoring measures (affiliated with the mitigation measures proposed in the mitigation plan) with the parameters to be measured, methods to be used, sampling locations, frequency of measurements, specific description of institutional arrangements, and reporting procedures monitoring; and

- budget estimate, sources of funds, staffing requirements, and an implementation schedule for mitigation, including institutional strengthening / capacity building requirements and other support necessary to implement the mitigating and monitoring measures set out in the ESMP.

4.4.1 Design Measures

Avoidance, minimization and some mitigation measures may be design measures that are integrated into the engineering designs of the project. This requires the close cooperation of the ESIA consultants and the OE so that the measures are incorporated into the tender specification.

For example, these may include:

- Considerations on dam safety – monitoring siltation, instrumentation (sedimentation flows, wind velocity, erosion of dam), operating levels, flooding estimates, structural assessments of the dam, independent assessment every 5 years;
- Possibilities of using clean technology, efficient use of resources and pollution management in the entire process or any project processes as per ESS-3 requirement;
- Unit operations designed to maximize yields and recyclability, and minimize the generation of waste streams;
- Consideration for the materials available in the area, besides the traditional ones.

4.4.2 Contractor-ESMP

The ESMP shall be prepared in such a manner that environmental and social requirements (mitigation measures and monitoring, technical specifications) related to the construction phase are incorporated in the bidding/contract documents.

The environmental and social management plan (ESMP) shall be prepared in a level of detail specific enough for incorporation into a tender package for potential construction works, and should be reviewed against standard contract specifications and requirements to ensure that the ESMP does not weaken such standard contract provisions.

The ESMP must set out requirements for the contractor to prepare a Contractor--ESMP (C-ESMP) that sets out the detailed actions that the contractor will take to construct design measures and implement mitigation measures to safeguard environmental and social features. The tender package will require the

mitigation measures in the ESMP that have been identified as the responsibility of the contractor to be adequately priced and become part of the successful bidder's works contract.

4.4.3 Operation Stage Plans

The Consultant should distinguish plans separately for the operation stage, and should take into account EGENCO's existing environmental and social, health and safety management systems at Kapichira HPP and propose how such systems should be developed further. Although Kapichira HPP is not a new hydropower facility, under the Build-Back-Better principle of the Kapichira Dam Rehabilitation Project, the Consultant should consider and propose operation stage plans that move Kapichira towards GIIP. For example, these plans may include an Environmental Flows Management Plan, Reservoir Management Plan, a Benefit-sharing Mechanism, Collaborative MOU with Majete Wildlife Reserve, etc. Some plans may begin during pre-construction or construction and continue through construction and operations (e.g. Stakeholder Engagement Plan).

4.4.4 Minimum Sub-plans to be Included in the ESMP

The sub-plans included in the ESMP shall include but not be limited to the following. The Consultant is expected to distinguish plans that are part of the Construction Stage ESMP from those for EGENCO's implementation through construction and/or operation and decommissioning.

4.4.4.1 Labour Management Plan

EGENCO has prepared a Labor Management Plan in November 2022, in line with national law and ESS-2. The Consultant shall refer to this and propose any necessary amendments to it. Among other things the plan shall include,

provisions on working conditions, management of workers' relationships, occupational health and safety (including procedures for safe working environments, personal protective equipment, and emergency preparedness and response). The consultant shall also develop a code of conduct with an integration of prevention and response to GBV, SEA and SH issues and measures to address forced labor, gender awareness, and child labor as well as grievance arrangements for Project workers, and applicable requirements for contractors, subcontractors, and supervising firms.

The ESMP shall ensure that all gender gaps that are directly and indirectly associated with the project are addressed in compliance with the World Bank Gender Strategy (2016-23) including offering a minimum of 20% direct employment of women and also indirect employment in areas where women disproportionately benefit.

On indirect employment, special attention will be placed on women's economic empowerment activities that reduce GBV risks, and raise gender awareness. The Consultant will therefore also have to prepare a sub-plan on how women's economic empowerment activities will be carried out, monitored and reported.

4.4.4.2 SEA/ SH Action Plan

The Consultant shall develop a SEA/SH Action Plan as a stand-alone plan, as an annex to the ESMP, to manage the risks of SEA and SH both within the labor force and in communities. In compliance with the ESCP, the action plan will be developed prior to engagement of contractors and will include awareness-raising and capacity-building including topics inter alia, gender equity, SEA, and SH. The plan should be prepared in line with World Bank Guidance on GBV in infrastructure Projects.

The plan must also include how SEA and SH complaints will be received, registered and resolved including referral mechanisms of survivors to relevant GBV service providers. The plan must stipulate how they will ensure the resolution is survivor-centered and that the confidentiality of the survivor is preserved as well as reporting requirements.

4.4.4.3 Waste Management Plans (ESCP ESS-3)

In compliance with the ESF, ESCP, WBG EHS Guidelines and GIIP, the Consultant must develop waste management plans for the construction, and operation stages of the project to manage hazardous and non-hazardous wastes, consistent with ESS-3. The plans must include but not be limited to handling, storage, transportation, and disposal of such materials at a registered waste disposal facility. Handling of chemicals and other potentially harmful materials as part of project operations should be described in the Hazardous Substances Management Plan, however disposal of such waste should also be included in the waste management plan, to become part of the works manual.

4.4.4.4 Disaster Risk Assessment and Emergency Preparedness Plan for Project Implementation (DRA-EPP)

The Owner's Engineer will be contracted to prepare a flood assessment (including impacts of climate change on design flood) and a framework Emergency Preparedness Plan (EPP) according to Appendix 4 of the Good Practice Note on Dam Safety issued by the World Bank (March 2021).

Using the flood assessment, the Consultant must conduct a Disaster Risk Assessment for Phase 2 implementation, and include an Emergency Preparedness and Response Plan for the construction stage as a sub-plan of the ESMP. The risk assessment must include flooding risk on project

implementation and consideration of climate change effects on flooding scenarios. This EPRP would be subsequently fully developed by the successful construction contractor.

4.4.4.5 Resource Efficiency and Pollution Prevention Management Plan

The consultant must develop a resource efficiency and pollution prevention and management plan in order to promote sustainable use of resources, including energy, water and raw materials. The Plan must include means by which the project will minimize adverse impacts on human health and the environment as well as how the project will avoid and or minimize pollution. These measures must be prepared in accordance with ESS-3 which recognizes that the Project under Phase 2 would generate pollution to air, water, visual amenity, noise, and land and consume finite resources that may threaten people, ecosystem services and environment at local or regional levels. As such it calls for efficient and effective resource use, pollution prevention and greenhouse gas emission avoidance and mitigation and practices, measures that are achievable.

4.4.4.6 Sediment Management

I. Emergency Sediment Management Plan

A separate consultant has been appointed to develop the sediment management plan. However, this ESMP will specify include the measures necessary to manage the E&S impacts of continuing sediment management and removal (e.g. removing accumulated sediment from the reservoir, and the temporary storage, transport, and/or disposal of the sediment).

II. Sediment Assessment and Kapichira O&M Plan

A Sediment Assessment and p eparation of O&M Plan will be carried out as separate contracts. The ESIA Consultant is required to apply the findings of the Sediment Assessment in assessing impacts of sediment management and proposing mitigation measures, including verified Environmental Flow Requirements (ESS-6, section 6.2), and contribute proposals for the updated Operation and Maintenance Plan and Operating Rules for the sustainable operation of Kapichira HPP (and SVTP) and sustainability of Elephant Marsh Ramsar wetland and Chikwawa Flood plain.

4.4.4.7 Hazardous Substances Management Plan (ESCP ESS-3)

In compliance with the ESF, ESCP, WBG EHS Guidelines and GIIP, the consultant must develop, adopt and implement a Hazardous Substances Management Plan (HSMP) to safely handle, manage, store, and transport hazardous substances including explosives, in accordance with the ESF requirements and approved by the World Bank. Disposal of hazardous waste will consider the Basel Convention on the control of transboundary movements of hazardous wastes and their disposal (BC-14/12).

4.4.4.8 Traffic and Road Safety Management Plan (ESCP ESS-4)

In compliance with the ESF, ESCP, WBG EHS Guidelines and GIIP, the consultant must develop a traffic and road safety management plan for the safe movement and interaction of construction vehicles along transport routes considering pedestrians, bicycles, motorbikes and other traffic. The management plan must include mitigation measures for traffic and road safety to be implemented across all contractors and service providers on the project, including inter alia consideration of the road worthiness of vehicles, competence of vehicle operators, signage, speed regulation, etc. The management plan must also take into consideration location of sensitive locations e.g., schools, and safety of the communities around construction

machinery and vehicles, as well as mitigation measures for speed, noise and dust/emission disturbance by construction traffic.

4.4.4.9 Community Health and Safety Plan

The consultant must assess specific risks and impacts to the community and adjacent land users, arising from Project activities. From this assessment the consultant must develop a community health and safety management plan to mitigate and manage the risks and impacts including, inter alia noise disturbance, visual impact, sediment loads, behavior of Project workers, risks of labor influx, response to emergency situations, etc. The plan should also consider mitigation and management of impacts of community and adjacent land users on to the project sites, e.g. safety and security, poaching, safety awareness of construction sites, etc. The plan to be developed must be prepared in compliance with the ESSs, the WBG Environmental, Health and Safety Guidelines (EHSGs), and other relevant Good International Industry Practice (GIIP).

4.4.4.10 Workplace Occupational Health and Safety Management Plan

In compliance with the ESF, ESCP, WBG EHS Guidelines and GIIP, the consultant must develop a workplace occupational health and safety management plan to determine and mitigate Kapichira Rehabilitation Project (construction) and Kapichira HPP operations OHS risks. The plan must include inter alia, emergency preparedness and response measures, working in mud, scaffolding, working at heights and explosives management.

4.4.4.11 Dam Safety (ESS-4 Annex A, para. 2.)

The OE will develop Dam Safety Plans (DSP) for the Kapichira dam in compliance with the ESF, ESCP, WBG, EHS guidelines and GIIP. The plans will include (i) a plan for construction supervision and quality assurance (CSQAP); (ii) an instrumentation plan (IP); (iii) an operation and maintenance plan (O&MP); and (iv) an emergency preparedness plan (EPP). The plans will inter alia take into consideration monitoring siltation, instrumentation (sedimentation flows, wind velocity, erosion of dam), operating levels, flooding estimates, structural assessments of the dam and need for independent assessment every 5 years. The ESIA Consultant is required to summarise and refer to these plans in the ESMP.

4.4.4.12 Land acquisition, restrictions on land use and involuntary resettlement

I. Resettlement Policy Framework (RPF)

During the project there may be need to acquire land that may result in the physical or economic displacement of people and or restrictions on land use. EGENCO is developing an RPF in November 2022. The Consultant is required to refer to the existing RPF and develop it further as necessary. The RPF will clarify the resettlement principles, to be prepared during the project implementation. The policy framework must include inter alia a project description and identification of the components for which land and resettlement may be required, principles, policies and objectives that will govern resettlement preparation and implementation, impacts of displacement (economic and physical), eligibility criteria, draft entitlements matrix, legal framework, methods of valuation, organizational arrangements, grievance redress mechanism, consultation procedure and monitoring procedures etc., consistent with ESS-5. The RPF should indicate roles and responsibilities for resettlement planning and implementation including for any land acquisition to be undertaken by the contractor for ancillary facilities. The RPF should include

the requirements presented in ESS-5, Annex 1 Section B of the World Bank ESF.

II. Resettlement Action Plans (RAPs)

During the ESIA, it may be determined that a RAP needs to be developed. At this stage this is undetermined. Therefore, the Scope of Works of the Consultant didn't include any resettlement plan (Resettlement Action Plan or Livelihood Restoration Plan).

However, during the Scoping Phase, the Consultant will check and inform the Client if a resettlement (physical or economical) should occur due to the project, in order to mandate additional investigations (census, inventory of assets...) for the purpose of resettlement plans.

Should a RAP be required the Client will decide how to mandate the Consultant (or another consultant) to develop a RAP or Livelihood Restoration Plan (LRP), consistent with the Project RPF and ESS5. The RAP must comprise of but not be limited to a description of the project, activities causing the displacement and their potential impacts on the displaced persons and other adversely affected groups, socio-economic baseline data, details of engagement, appropriate and feasible mitigation measures or entitlements, and the legal and institutional arrangements required for effective implementation of resettlement measures. Resettlement Plans must also include the grievance redress mechanism to be applied in the project so as to address resettlement related complaints.

4.4.4.13 Biodiversity conservation and sustainable management of living natural resources: Biodiversity Management Plan (BMP)

The consultant must carry out an assessment of biodiversity and living natural resources risks of the project and develop a Biodiversity Management Plan (BMP) in accordance with the ESCP and ESS-6. The BMP, without limitation,

must take into consideration the adjacent biodiverse and critically sensitive area of Majete Wildlife Reserve and its buffer zone, the aquatic biota of the Shire River, impacts to the downstream Elephant Marsh Ramsar wetland, and any other protected areas within the influence of the project. The BMP must also set out, without limitation, applicable mitigation measures to prevent impacts and risks to the biodiversity and protected areas from construction and operation activities (following the mitigation hierarchy approach under the ESF) and increased influx of persons into the area, including prevention of wildlife crimes, bush meat poaching, wood harvesting and cleaning and disinfecting activities of contractor equipment to prevent spread of vector diseases and invasive species.

4.4.4.14 Environmental Flows Management Plan (EFMP)

The Consultant should verify the existing environmental flow requirements applicable to Kapichira HPP, and confirm these requirements or propose amendments. The environmental flow requirements should be identified in an EFMP, also including sufficient measures for the monitoring or flows and of the achievement of environmental flows objectives.

4.4.4.15 Cultural Heritage Management Plan

On the basis of an archeological assessment of the exposed fuse-plug area and immediately downstream, and any other project sites, ancillary works and associated facilities, the Consultant must develop a Cultural Heritage Management Plan (CHMP), in accordance with ESS-8. The plan must include but not be limited to the direct, indirect and cumulative project specific risks and impacts on cultural heritage and its mitigation measures in accordance to the mitigation hierarchy.

4.4.4.16 Chance Finds Procedure

In compliance with ESS-8 and national law the consultant must include a chance finds procedure, compliant with Department of Museums and Monuments requirements. The procedure must include inter alia how chance finds associated with the project will be identified, monitored, reported and managed including specific training on chance finds procedures for field workers, and in Toolbox talks.

4.4.4.17 Environmental and Social Monitoring Plan (refer section 5.4)

The Consultant shall prepare a Monitoring Plan that includes budget estimate, staffing requirements, monitoring objectives, indicators, and sources. The Monitoring Plan will identify clearly at what stage (design, construction, operation) each monitoring measure is to be implemented and who will be responsible for ensuring that each measure is implemented.

4.4.4.18 Stakeholder Engagement Plan

Drawing on EGENCO's Stakeholder Engagement Plan and the ESIA SEP (see Section 5.5.1 below), the Consultant should set out proposed stakeholder engagement for Project implementation and operation. The Consultant shall clearly describe objectives and methodology for engaging stakeholders through the project lifetime. As per ESS-10 the consultant shall also detail the process of (i) stakeholder identification and analysis; (ii) planning how the engagement with stakeholders will take place; (iii) disclosure of information; (iv) consultation with stakeholders; (v) addressing and responding to grievances; and (vi) reporting to stakeholders. The plan must also include but not limited to a regular engagement platform with African Parks (Majete Wildlife Reserve), EGENCO PIU, SVTP PIU and nearby communities.

4.4.4.19 Grievance Redress Mechanism

The Consultant should review EGENCO's grievance redress mechanism (GRM), and reflect this in the ESMP, proposing any necessary amendments. In compliance with ESS-10 and project SEP, EGENCO and its PIU must put in place a grievance redress mechanism (GRM) plan to receive and facilitate resolution of concerns and grievances in relation to the Project, promptly and effectively, in a transparent manner that is culturally appropriate and readily accessible to all Project-affected parties, at no cost and without retribution, including concerns and grievances filed anonymously, in a manner consistent with ESS-10. The mechanism, process, or procedure must not prevent access to judicial or administrative remedies.

As per ESS-2 the project is also mandated to respond to grievances of project workers, and as such the Consultant must also consider a GRM for project worker's grievances to be handled.

The GRM must be equipped to receive, register, and facilitate the resolution of among others resettlement complaints, workers' rights complaints and GBV/SEA/SH complaints, including through the referral of survivors to relevant gender-based violence service providers, all in a safe, confidential, and survivor-centered manner.

4.4.4.20 Capacity Support

The consultant is required to develop a capacity building plan for the transfer of technical how and knowledge to the PIU and project staff. The plan must include but not be limited to training for PIU staff, and Project workers on, *inter alia*:

- World Bank ESF requirements (as already been provided by WB; EGENCO PIU to extend this to project staff)

- WBG EHS Guidelines
- SEA/SH, Gender awareness, and GRM (to be provided by the PIU by their Social Safeguard Specialist to all staff, contractors, and sub-contractors, with regular refreshers)
- Disaster Risk, Dam Safety, and Emergency Response Procedures (to be provided by Dam Safety experts)
- Hazardous material management
- Waste Management
- Biodiversity management
- Chance finds procedures for field workers (to be provided by the Department of Museums are part of the Cultural Heritage Management Plan)
- Specialized training on working on/adjacent fast flowing water
- Occupational Health and Safety training in various working environments including *inter alia*, working in mud, scaffolding, and working at heights, explosives management, etc.

4.5 Stakeholder Engagement and Information Disclosure

Stakeholder engagement is a fundamental part of ESIA, as it is central to identifying the values of the public and affected communities and their views on how the project may affect those values. Stakeholder engagement in this ESIA process should include, at minimum:

- Stakeholder identification and analysis during the scoping stage, distinguishing stakeholders that are directly and indirectly affected by the project, and identifying those whose interests or responsibilities determine them as stakeholders;
- Using stakeholder analysis and identification to strategically plan and prioritize engagement (i) through the ESIA, and (ii) beyond the ESIA stage, recognising the specific needs for consultation with particular groups (for example, to

ensure the process is inclusive of women, or that the necessary process for engagement with Indigenous Peoples is followed);

- Identification of the legal or regulatory requirements for stakeholder engagement, which may specify the exact timing of engagement meetings and whether the developer or regulator leads them, for example;
    - Public hearings or public consultation meetings during the scoping stage, using clearly understandable summary descriptions of the project and the areas and communities likely to be affected, and ensuring that the findings of scoping are documented and publicly disclosed;
    - Specialist consultations or surveys, for example with directly-affected households or livelihood groups;
    - Public hearings or public consultation meetings to present the impacts identified and proposed management measures, with accompanying understandable presentation materials including a non-technical summary;
    - Documentation of the findings of stakeholder engagement, and how they have been incorporated into the impact assessment and ESMPs;
    - Publication of the full ESIA report; and
    - The establishment of a grievance mechanism at an early stage, through which members of the public may raise concerns with the ESIA process.

The Scoping Report during the ESIA process should set out how engagement is to be conducted through the remaining ESIA process. However, the ESIA should result in a Stakeholder Engagement Plan (SEP) for the ongoing development and operation of the project. The SEP will be one of the ESMP sub-plans.

4.5.1 Stakeholder Engagement Plan

Drawing on EGENCO's Stakeholder Engagement Plan, the Consultant should set out proposed stakeholder engagement for ESIA preparation in an ESIA SEP. The Consultant shall clearly describe objectives and methodology for engaging stakeholders through the ESIA. As per ESS-10 the consultant shall also detail the process of (i) stakeholder identification and analysis; (ii) planning how the engagement with stakeholders will take place; (iii) disclosure of information; (iv) consultation with stakeholders; (v) addressing and responding to grievances; and (vi) reporting to stakeholders. The plan must also include but not limited to a regular engagement platform with African Parks (Majete Wildlife Reserve), EGENCO PIU, SVTP PIU and nearby communities.

4.5.2 Inter-agency Coordination and Public Consultation

The Consultant shall assist the PIU in coordinating the ESIA with relevant agencies, consult with groups likely to be affected by the proposed project, and consult with local NGOs on the environmental and social aspects of the proposed project. The ESIA consultant shall work closely with the OE who will give approved data on the proposed project and in turn address environmental and social concerns that emerge through the ESIA process.

5 DELIVERABLES

5.1 Inception Report

The Inception Report shall document any discussions and instructions provided to the Consultant by the client and World Bank at the outset of the services (for example in a kick-off meeting), confirm methodologies, confirm the actual schedule/workplan, document the key contacts at EGENCO to liaise with the Consultants, and any changes in personnel since the tender stage etc.

The Inception Report should include the Stakeholder Engagement Plan for the ESIA described in Section 4.5.1.

5.2 Scoping Report

The Scoping Report shall include:

- A clear and agreed understanding of the project activities and associated drivers of impacts, so that the ESIA team can identify impacts on the basis of this understanding;
- An initial alternative analysis, addressing power generation options;
- Definition of areas of influence of the project and its ancillary facilities, if necessary distinguishing areas of influence by physical, biological or social receptors;
- Legal requirements in all environmental and social areas that the project will be required to comply with, and the international standards and guidelines and corporate policy requirements that the project must meet;
- A description of the stakeholder consultation conducted during scoping and a synopsis of stakeholders' views and concerns on the proposed project;
- Initial versions of baseline data, based on secondary information, i.e. information that is available without further primary data collection; and
- Identification of which potential impacts require further baseline data collection or specialist analysis to determine impacts, i.e. a definition of the scope (i.e. terms of reference) for the subsequent primary data collection, analysis, and consultation to be conducted for the full impact assessment.

The scoping report should include initial versions of sections of the ESIA report – the project description, legal and administrative, and secondary baseline information – as well as the scoping of potential impacts.

5.3 ESIA Report

The ESIA report shall be concise and relevant to significant environmental and social issues. The main text shall focus on findings, conclusions and recommendations, supported by summaries of data collected and citations of any references used in interpreting those data.

The main report of the ESIA shall have the following outline:

- Executive summary: a Non-technical summary, describing the outcomes of the ESIA as relevant to decision-makers and managers.
- Introduction
- Policy, legal and administrative framework (including limit values) that will apply to the project, and its implications for the project
- Methodology of assessment including fieldwork investigations and verification.
- Baseline description (physical, biological and socioeconomic)
- Project description including the project's areas of influence
- Environmental risks and impacts
- Social risks and impacts, including impacts on vulnerable groups, labour influx, social conflict, gender, GBV, SEA/SH, VAC/TIP/Workers rights and recruitment risks or impacts
- Ranking of impact and mitigation hierarchy
- Analysis of alternatives
- Public consultation, stakeholder engagement and disclosure
- Environmental and Social Management Plan (ESMP) including details and costs of mitigation measures and associated annexes
- Environmental and Social Monitoring Plan setting out the parameters to be monitored and the corresponding actions to be taken.
- Supervision and reporting requirements: detail roles and responsibilities for supervising, implementing, monitoring and reporting the different actions of the ESMP.

- Appendices: Technical details: Details of technical installations, prediction methods, and appendices of the baseline information, such as water quality and quantity monitoring points and data, air emission monitoring points and data, locations of sensitive natural habitats that are close to the works or that may be impacted by the works
- Environmental and Social Management Plans (as above and/or as identified through the ESIA process)
- Report of public engagement and participation. Example of invitations in newspapers, local radio stations, other materials used to inform people. Minutes of meetings with the public and Non-Governmental Organizations (NGOs). Including details of how the comments raised have influenced (or other) the design development/implementation of the project.

Further details are provided in ESS-1 **Annex 1, Section D "Indicative outline of ESIA".**

The Consultant shall submit to the Client the following for each deliverable report:

- Deliverable D1 - Inception Report;
- Deliverable D2 - Scoping Report;
- Deliverable D3 - Draft Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP) including a Draft Baseline Report;
- Deliverable D4 - Final draft of ESIA that includes an ESMP, supporting plans, an Environmental and Social Monitoring Plan and a public consultation report as one document;
- Deliverable D5 - Final ESIA, ESMP incorporating World Bank comments within 2 weeks of receiving the comments.

All the above reports are required to be delivered as 2 hard copies, and soft copies in MS Word and PDF. In addition, the draft and final ESIAs are to be

delivered as 8 x Soft Copies of the reports (on flash disks) also containing copies of all word, excel, GIS metadata and shape files, AutoCAD, images, or other similar files used in compiling the report.

6 REVIEW OF ESIA DELIVERABLES

All of the ESIA deliverables will be subject to review and approval by EGENCO, MEPA, and the World Bank. Adequate time and resources should be allowed for this review and approval process.

7 OUTPUTS AND TIMETABLE FOR THE CONSULTANCY

It is anticipated that the Consultant would complete the work over a duration of **six** months, noting the consultancy will only be completed once the World Bank has reviewed and approved the final ESIA documents. The expected outputs of this assignment are as suggested in the following schedule:

S/N	Output	Timeframe
D-1	Inception Report	2 Weeks after the Commencement of Services
D-2	Scoping report which will include inputs from first public consultation, and detailed work program	8 Weeks after the Commencement of Services
D-3	Draft ESIA, Environmental and Social Management Plan and Environmental and Social Monitoring Plan, including the Draft Baseline Report	22 weeks after the Commencement of Services

D-4	Final Draft Environmental and Social Impact Assessment (ESIA) report that includes an Environmental and Social Management Plan (ESMP / including a capacity building of project team and site workers), supporting plans, an Environmental and Social Monitoring Plan and Public consultation report as one document.	26 weeks after the Commencement of Services
D-5	Final ESIA and ESMP incorporating Bank and Client comments	2 weeks after receiving EGENCO and World Bank comments.

* Assuming data of sufficient completeness and quality, taking seasonality into account, can be gathered in this interval or is available from existing sources.

8 TEAM COMPOSITION

The Consultant team shall include professionals covering all skills and relevant experience detailed below in order to carry out the described tasks. The selected team shall have knowledge of the current national environmental legislation and procedures, the World Bank EHS Guidelines, as well as the World Bank ESF and ESIA requirements, including experience on organizing public consultations. The team will include the following key experts:

i. **Project Leader**: Postgraduate Degree in Environmental Management, Ecology, or Environmental Engineering, with extensive experience in environmental and social impact management aspects related to river

basin management, hydropower implementation and rehabilitation of dams; minimum 15 years of relevant working experience, including minimum five assignments with tasks as a project leader of similar projects;

ii. **Environmental Specialist:** MSc Environmental Engineering/Science or Biological Science with expertise in environmental management; minimum 10 years of relevant working experience, with at least ten assignments that included similar tasks in Southern and East Africa region;

iii. **Hydrologist**: MSc Civil Engineer in the field of Water Resources Engineering, minimum 10 years of relevant working experience in the fields of hydrology, hydraulics, experience in fluvial geomorphology an advantage, with at least ten assignments that included similar tasks;

iv. **Social Specialist,** MSc Social science of Social development with expertise in social, gender and economic impact assessment, resettlement and social science research methods with; minimum 10 years of relevant working experience, with at least ten assignments that included similar tasks in sub-saharan Africa. Experience of working on hydropower projects would be an advantage.

v. **Ecologist:** MSc Ecology, Botany or relevant environmental science with expertise in determining environmental flow requirements, minimum 10 years of relevant working experience, with at least ten assignments that included similar tasks.

vi. **Occupational Health and Safety Specialist.** MSc Occupational Health and safety, with expertise in OHS in large civil engineering projects, and a minimum 10 years of relevant working experience, with at least ten assignments that included similar tasks.

The Consultant should include in their proposal any other specialist they deem necessary to undertake the assignment (such as aquatic ecologist, GIS specialist, Cultural Heritage, GBV/SEA/SH specialist, etc.).

9 Client's Support to the Consultant

Assistance

The Client will use its best efforts to assist the Consultant with obtaining visas as necessary to enable the Consultant to perform the Services.

Documents

The Client will make available and submit all required and relevant documents on the Kapichira Dam Rehabilitation Project, additionally to the exhaustive list of documents already listed in the terms of reference.

Public consultations

A representative of the client will participate to the public consultations.

ESIA process

The administrative costs relative to the process of ESIA and the obtaining of the environmental license for Phase 2 of the Kapichira Rehabilitation Project, will be borne by the client.