

## **TERMS OF REFERENCES**

### **ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)**

#### **KAIHA 2 HYDROPOWER PLANT AND TRANSMISSION AND DISTRIBUTION GRID**

## **1. INTRODUCTION**

The Rural and Renewable Energy Agency (RREA) is proposing to develop a hydropower project on the Kaiha River in northern Liberia. The project is referred to as Kaiha 2 and is intended to provide affordable electricity supply to rural and urban communities in Lofa County.

## **2. THE PROJECT WITHIN THE REGULATORY FRAMEWORK FOR ENVIRONMENTAL IMPACT ASSESSMENT**

The Environmental Protection and Management Law of Liberia (EPML, 2003), Annex 1 (Section 6) of the EPML lists those projects / activities requiring an environmental impact assessment. 'Hydro-electric power - electric power' is included amongst this list. Hence, the project requires environmental impact assessment.

RREA has complied with the EPML (2003) requirements for environmental impact assessment, having completed the following to date:

- submitted to EPA a 'Project Brief'
- published a 'Notice of Intent'
- submitted to EPA a 'Scoping Report'.

These Terms of Reference for the ESIA were prepared in light of the EPML (2003), the requirements of the Terms of Reference as outlined in the EPA 'Environmental Impact Assessment Procedural Guidelines' (and especially the issues contained in Annex C of the Guidelines), international standards for ESIA and the issues raised in the scoping consultations by the government and the communities of Liberia.

### **2.1 STAKEHOLDER ENGAGEMENT**

An important part of the environmental impact assessment process is the stakeholder engagement (public consultation and participation) process to be carried out by RREA-the project proponent.

The policy and legislative requirements of the Government of Liberia, international conventions and standards collectively determine the requirements for stakeholder engagement that apply to the project. Throughout all phases of the project, RREA would develop and implement stakeholder engagement activities to meet these requirements.

Scoping-level consultation activities commenced in Lofa County with several meetings held in (name areas, villages and districts where meetings were held in lofa) between (state dates).

## **3. OBJECTIVES**

The main objective of the ESIA is to identify potential impacts of the project (physical, biological and socio-economic), justify optimal choices that would minimise or avoid potential negative impacts, and design an appropriate environmental and social management plan (ESMP) to mitigate and monitor impacts that cannot be avoided.

The specific objectives of the ESIA are the following:

- Describe the proposed project by providing a synthetic description of the project relevant components and presenting plans, maps, figures and tables.
- Identify and describe the policy, legal and administrative (institutional) framework relevant to the project.
- Define and justify the project study area for the assessment of environmental and social impacts (direct and indirect impact zone).
- Describe and analyse the physical, biological and human (social) environment in the study area before project implementation.
- Present and analyse alternatives to the proposed project, including the “without project” option.
- Identify and assess potential beneficial and adverse environmental and social, direct and indirect, short and long-term, temporary and permanent impacts, on the basis of a rigorous method.
- Define appropriate mitigation/enhancement measures to prevent, minimise, mitigate, or compensate for adverse impacts or to enhance the project environmental and social benefits, including responsibilities for mitigation/enhancement management and monitoring, and associated costs.
- Carry out consultations with primary and secondary stakeholders in order to obtain and consider their views on the project.

#### **4. TASKS AND ACTIVITIES OF ESIA**

RREA will prepare a full ESIA for the project. The ESIA will be prepared in conformity with the requirements of the Environmental Protection and Management Law of Liberia (Section 8), dated November 26, 2002 and the Environmental Impact Assessment Procedural Guidelines issued by the Environmental Protection Agency of Liberia as well as applicable guidelines of the World Bank.

##### **4.1 Proposed Contents of the ESIA**

The ESIA will contain the following sections:

- Executive Summary
- Introduction or overview of the project
- Policy, legal and administrative framework
- Detailed project description
- Definition of study area / impact zone
- Baseline Conditions
- Analysis of alternatives
- Assessment of impacts
- Environmental and Social Management Plan (ESMP)
- Stakeholder consultations

##### Executive Summary

The executive summary will present the most important findings of the report in a concise and non-technical manner that is particularly suited for decision-makers in order to facilitate the comprehension of the study and corresponding decision-making.

The executive summary, which will be included in the main document and also presented as a separate document, will include the following:

- project description providing a description of the project and how environmental impacts will be managed to acceptable levels
- information about the ESIA consultant
- findings including significant environmental impacts, mitigation measures, and monitoring program
- description of the stakeholder engagement undertaken during the environmental studies.

#### Introduction-overview of the project

This section will provide:

- objective and scope of the environmental impact assessment
- project rationale describing the design principles of the project and the ESIA methods used to identify, predict and evaluate impacts
- a description of the proponent and its relationship to other groups.
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#### Policy, legal and administrative framework

This section of the ESIA will describe the environmental and social policy, administrative and legal bases within which the project may be implemented, including sectoral requirements and an explanation of the ESIA process involving baseline studies, impact assessment and mitigation and management plans. Regulations and standards applicable to the project will be referenced.

#### Detailed Project Description

The section will provide a synthetic description of the project components and activities based on information from the technical feasibility study. The description shall be accompanied by maps and drawings showing the location of all project-related infrastructure and the general site layout. The types of construction materials and waste, including hazardous chemicals, should also be described.

#### Definition of study area / impact zone

This section will describe the direct and indirect impact zones for the proposed project, thereby defining the study area to be covered in the detailed thematic studies. In addition to the spatial boundaries, the Consultant shall determine the temporal boundaries of the project, i.e. the project life and the duration of impact.

#### Baseline description

This section will provide a description of the baseline conditions in the direct and indirect impact zones, including the physical, biological and human environment. The methods and approach used to collect the baseline information shall be described in a methods statement.

The topics covered will include, but not be limited to, the following:

#### *Physical environment*

- Topography and landscape
- Geology and soils
- Climate and air quality
- Hydrology and water quality

#### *Biological environment*

- Proximity to protected areas
- Vegetation (plant species and vegetation types)
- Terrestrial fauna (mammals, birds, reptiles and amphibians)
- Aquatic ecology, with particular focus on migratory (potamodromous) fish species

The biodiversity baseline will include a species inventory and identify critical habitats as well as endemic and endangered species. Reference shall be made to the IUCN Red List, CITES, Important Bird Areas (IBA), or any other relevant documents.

#### *Human environment*

- Administrative boundaries
- Population and demographics
- Economic activities, employment and livelihoods
- Land use and settlements
- Land tenure and ownership
- Infrastructure and social services, including public health
- Safety and security
- Culture and cultural heritage, including physical cultural resources
- Tourism and recreation

#### Analysis of alternatives

This section will review project alternatives including alternative sites, undertakings, processes, technologies and designs. The alternatives shall be compared in terms of potential environmental and social impacts as well as capital and operating costs. The analysis shall include a “no project” option.

#### Assessment of impacts

Based on a rigorous analysis of available knowledge about hydropower projects in general and the proposed project in particular, This section will predict potential impacts on the physical, biological and human environment for the construction and operation phases, respectively.

Following the identification and description of each impact, the significance and magnitude of the impacts shall be determined based on the spatial extent, timing, duration, severity / intensity, reversibility, and probability / risk of the different impact sources.

The impact statement shall include beneficial and adverse, direct and indirect, immediate and long-term, temporary and permanent, and pre-mitigation and post-mitigation impacts.

Impacts shall be predicted for each of the issues addressed in the baseline description (see Task 4). However, special attention should be given to the following key issues:

- River fragmentation, including the barrier effect of the dams and the dewatered sections
- Critical habitats, endemic and threatened species, and migratory (potamodromous) fish species

- Land acquisition and resettlement, including impacts on water abstractions for irrigation
- Impact of planned and spontaneous immigration to the project site, including sanitation issues, waste disposal, occupational and community health and safety, and HIV/AIDS

This section will also address potential cumulative impacts taking into account other initiatives planned in the study area.

#### Environmental and Social Management Plan (ESMP)

This section will define appropriate mitigation/enhancement measures to prevent, minimise, mitigate, or compensate for adverse impacts or to enhance the project environmental and social benefits, including responsibilities for mitigation/enhancement management and monitoring, and associated costs. Specific mitigation and enhancement measures shall be identified for all significant impacts.

The mitigation/enhancement measures shall be included in a project-specific Environmental and Social Management Plan (ESMP), which should include, but not be limited to, the following:

- Recommendation of feasible and cost-effective measures to prevent or reduce significant negative impacts to acceptable levels
- An estimate of the effects and costs associated with the various mitigation measures.
- Consideration for compensation to affected parties for impacts that cannot be mitigated
- Set of internationally “best practices” on environmental, health and safety to be followed in order to avoid some of the impacts during construction and operation phases of the project
- Proposed budget estimates, schedules, and institutional arrangements for implementation of the ESMP
- Identification of institutional requirements and capacities to implement the mitigation/enhancement measures.
- Description of monitoring indicators and detailed arrangements required for monitoring the implementation of mitigating measures and the impacts of the project during construction and operation.

Special attention should be given the following issues:

- Environmental flow releases
- Feasibility of fish passages (if significant fish migration is documented through the ESIA study)
- Resettlement/compensation planning and management
- HIV/AIDS awareness and prevention among staff/workers and communities
- Watershed/catchment management, if deemed relevant

The monitoring of the mitigation/enhancement measures and their outcomes/impacts shall be specified in an Environmental and Social Monitoring Plan. The plan should provide a description of monitoring parameters/indicators, sampling areas/points, frequency of monitoring, applicable standards/targets, institutional responsibilities, and budget estimates.

#### Stakeholder consultations

As an integrated part of the ESIA, consultations will be carried out with the identified stakeholders and affected people, interested people, community leaders and civil society organisations in order to obtain and consider their views on the project. These consultations shall occur during the preparation of the ESIA report to identify key environmental and social issues and impacts, and after completion of the draft

ESIA report to disclose the findings and obtain comments from stakeholders on the proposed mitigation/enhancement measures.

This section will provide a thorough consultation program and a record (with evidence of picture, adverts and signatures) of meetings, communications and comments.

## **5. PREPARATION OF ESIA REPORT**

The ESIA Report will be prepared after the baseline studies, impact assessment and proposed mitigation strategies are developed.

## **6. SUBMISSION OF THE ESIA**

In accordance with the EPA Liberia 'Environmental Impact Assessment Procedural Guidelines' (2006), 10 (ten) hard copies and an electronic version (pdf) of the ESIA will be submitted to the EPA.

In accordance with Section 14 of the EMPL (2003), the ESIA will be a public document and may be inspected by any person at the Registry of the EPA.