

REPUBLIC OF LIBERIA

ENVIRONMENTAL PROTECTION AGENCY



**ENVIRONMENTAL & SOCIAL IMPACT ASSESMENT  
PROCEDURAL GUIDELINES**

**2017**

## **REGULATORY INSTRUMENT**

### **ENVIRONMENT PROTECTION AGENCY**

**Instrument:** Environmental and Social Impact Assessment  
(ESIA) Procedural Guidelines

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# 1 INTRODUCTION

The Environmental Protection and Management Law (EPML) **provides** for a wide ranging responsibility for environmental management by the EPA. One of the most prominent mandates is the need for development of administrative procedures for the preparation of ESIA to ensure effective environmental governance. The required administrative procedures and how they are arranged to reflect the intent of the law is the subject of the following guidelines. These Guidelines will be reviewed periodically and updated when necessary.

This guideline is a result of the joint effort of the Environmental Protection Agency and the national stakeholders including line ministries/agencies and the private sectors. The intention is to provide the EPA, sector agencies, private sectors, NGOs, members of the public and consultants a set of approved guidelines for the conduct and review of Environmental & Social Impact Assessments (ESIA) in Liberia.

The need to have clear guidance on the ESIA process has been evident since the establishment of the EPA. ESIA is a means of identifying and planning for the avoidance or minimization of negative environmental impacts that may arise from development and exploitation of resources, and ensuring sustainable development. It will also be customized to reflect issues that are relevant and specific to projects. While not exhaustive, the guidelines are meant to complement other sectoral ESIA guidelines which may be produced by the EPA from time to time.

## *1.1 Meaning and Importance of ESIA*

Environmental and Social impact assessment is a systematic process to identify, predict and evaluate the potential environmental and socio-economic effects of proposed projects, plans or policies. This process is applied prior to issuance of environment permits.

The ESIA process helps to provide stakeholders with information about the likely potential impacts of projects. In some cases the outcome of the ESIA process may require a developer to alter or in extreme cases abandon a project. Although the ESIA process may result in delays and added costs, these will be out-weighted by the overall benefits that accrue from ESIA application.

## *1.2 Operating Stages of THE ESIA PROCESS*

The following is sequence of major operating stages required in the ESIA process:

**Applications for ESIA permit** –A formal request, in the form of a letter, is made to the EPA prior to the commencement of project activities. .

**Submission of Project Brief** – following a response from the EPA, containing a package of list of evaluators and assessment form, the proponent is advised to proceed with the project brief.

**The contents and format of the project brief is listed below in section 2.1**

**Screening** – is a process that is undertaken to determine whether or not a proposal should be subject to ESIA and if so, to what level. If it is determined that the project does not require full ESIA, permit is issued or denied at this stage

**Notice of Intent –if the project, following screening, is subject to full ESIA, a notification is made through the media describing the proponent intention to engage in an undertaking.**

**Scoping** – is undertaken to identify the issues and impacts that are likely to be important and to establish the terms of reference for an ESIA study.

**Impact analysis** – is the process that will identify and predict the likely environmental, social and other related effects of the proposal.

**Evaluation of significance** – is required to determine the relative importance of and acceptability of residual impacts (i.e. impacts that cannot be mitigated).

**Mitigation and impact management** – to establish the measures that are necessary to avoid, minimize or offset predicted adverse impacts and, where appropriate to incorporate these into an environmental management plan or system.

**Preparation of an environmental impact statement (EIS) or report** – to document clearly and impartially impacts of the proposal, the proposed measures for mitigation, the significance of effects, and the concerns of the interested public and the communities affected by the proposal.

**Review of the EIS** – to determine whether the report meets its terms of reference, provides a satisfactory assessment of the proposal and contains the information required for decision making.

**Decision making** – to approve or reject the proposal and to establish the terms and conditions for its implementation.

**Follow up** – to ensure that the terms and conditions of approval are met; to monitor the impacts of development and the effectiveness of mitigation measures; to strengthen future ESIA applications and mitigation measures and where required, to undertake environmental audit and process evaluation to optimize environmental management.

### ***1.3 Definitions***

Important definitions relevant to the environmental impact assessment procedures include:

**“Adverse impact”** means any actual or potential effects on the environment that may lead in the present or in the future harm to the environment or human health or that may lead to an impairment of the ability of people and communities to provide for their health, safety and cultural and economic well-being.”

**“Day”** means an official working day.

“**Developer**” means the proponent of a development project or activity that is subject to an environment impact assessment process.

“**Environment**” means the physical features of the surroundings of the human beings, indoors and outdoors, including land, water, atmosphere, climate, sound, odor, taste, biological factors of animals and plants and the social factors of aesthetics and includes both natural, built and cultural/historical environment;

“**Environment Court of Appeals**” means the appellate court established under section (33) of the Environment Protection Agency Act to hear appeals from the decisions of the Environmental Court and from which decisions may be appealed to the Supreme Court of Liberia.

“**Environmental Court**” means the Environmental Administrative Court established under section (32) of the Environment Protection Agency Act.

“**Environmental Impact Study**” means the study conducted to determine the possible environmental impacts of a proposed project and measures to mitigate their effects.

“**FONSI**” means a finding of no significant impact.

“**Line Ministry**” means a Ministry, Agency, Department, statutory corporation or authority in which any law vests or functions for the protection, conservation or management of any segment of the environment or whose activities may have an impact on the environment as defined in this Law; “**Mitigation**” means measures to minimize or reduce adverse effects to the environment and/or to avoid aggravating damages or adverse effects inflicted on the environment.

“**Project**” includes both plan and policy that lead to such undertaking, which has or is likely to have an impact on the environment;

“**Project Brief**” means a preliminary statement on the basis of which a determination is made as to the potential environmental impact of the project or activity.

“**Project Report**” means a summary statement of the likely environmental effects of a proposed development.

“**Proponent**” means a person proposing or executing a project, policy, program or an undertaking specified in the Annex I of the Environment Protection and Management Law.

“**Public participation**” means, in keeping with the peoples’ right to know the potential impacts of decisions being made, the information relating to the right of any person to receive effective notice with relevant information and to review and comment on major decisions with such comments being taken into consideration at the decision making stage; and involves open, ongoing two-way communication, both formal and informal between decision makers and stakeholders – those interested in or affected by the decisions.

“**Public record**” means a record, memorial of some act or transaction, written evidence of something done, or document, considered as either concerning or interesting to the public, affording notice or information to the public or open to public inspection; any documentation prepared, owned, used or retained by any ministry or agency in pursuance of law or in connection with the transaction of public business;

“**Published notice**” means notice that shall be placed in at least one daily newspaper of major national circulation, and/or one newspaper having a district circulation, and shall be broadcast on a popular local station in English and at least one vernacular language relevant to the venue; and shall be disseminated as widely as is practicable by Environmental County officers through the county and district environmental committees, NGOs and CBOs.

**RAP ( Resettlement Action Plan)**

“**Scoping**” means an early and open process for determining the scope of the issues to be addressed and for identifying the significant issues related to the proposed activity.

“**Sustainable development**” means development that meets the needs of the present generation without compromising the ability of future generations to meet their needs by maintaining the carrying capacity of the supporting ecosystems;

“**Sustainable use**” means present use of the environment or natural resources which does not compromise or impose on the ability to use the same by future generations or degraded the carrying capacity of supporting ecosystems.

## 2 THE ESIA PROCESS

### 2.1 *Application for ESIA Permit/ License and Submission of a Project Brief*

Prior to the commencement of project activities, , a proponent whose project /activity falls under the prescribed list of Annex 1 of the Environment Protection and Management Law of Liberia (EMPL) is required to submit an application for ESIA permit/ along with a project brief. A specified fee for project brief review is required. If the EPA considers the project brief to be complete, a copy of the project brief may be transmitted to individual relevant line ministry/agency ten days after its submission, for comments. The project brief must be submitted using the below format:

1. Executive Summary ( maximum 1 page)
2. Introduction ( Not more than 2 pages)
  - a) The nature of the project;  
this must state whether the project focuses on agriculture, mining, construction, etc.
  - b) The location of the project and the county under whose jurisdiction it is situated and reasons for proposing the project in the area;

the central geographical location of the project; its geographic coordinates which may also includes readable maps, description of the landscape, biodiversity, and other sensitive critical areas  
description of the community, inhabitants, and livelihood activities within the project area.

### 3. **Project Design**

- a. The activities that shall be undertaken during and after the development of the project;
- b. copy of facility design , blueprint and other technical drawing where necessary
- c. the materials to be used during construction

### 4. **Impact Identification ( Not more than 3 pages )**

- a. Describe both positive and negative impacts
- b. describe the number of new jobs and employment
- c. The possible products or by-products anticipated and their environmental consequences including the potential mitigation methods and measures;
- d. The projected areas of land, air and water that may be affected;
- e. impacts to biodiversity and critical habitat where appropriate
- f. socio-economic impacts including resettlement, changes in livelihood activities, health and Any other pertinent evidence and analysis which the Agency may require for decision-making.

### 5. **Mitigation Measures**

- a. Summary description of the major impacts along with the mitigation measures.
- b. provide impact mitigation matrix

### 6. **Conclusion**

### 7. **Appendix**

This must include

- a. Copies of relevant documents / Any other pertinent evidence and analysis which the Agency may require for decision-making

## 2.2 **Screening**

The EPA will evaluate the project brief and may transmit a copy with comments to relevant line ministries /agencies. The sector agencies/ministries in turn shall review the document and submit to the EPA their comments on the project brief within 10 working days of receiving copies of the project brief. After receiving comments on the Project brief, from the date of submission, the EPA will communicate its decision on the project to the proponent within 30 working days. The decision will take into account comments from relevant sector agencies/ministries. The following determination may be made from the screening process:

- A certificate of approval may be issued to the applicant where the EPA considers that the project / activity will not have or is unlikely to have a significant environmental impact; or that the project discloses sufficient mitigation measures to ensure the acceptability of the anticipated impacts.

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The proponent or applicant will be required to prepare an environmental impact study in accordance with Section 14 of the EMPL if the project /activity will have or is likely to have a significant impact on the environment.

### **2.3 Notice of Intent**

A proponent whose undertaking requires an ESIA must prepare and publish a Notice of Intent that provides information to enable stakeholders to identify their interest in the proposed project. Information in the Notice of Intent must include:

- a) The nature of the project;
- b) County, district, and community where the project or activity is to be carried out, or is likely to have a significant environmental impact;
- c) The activities that shall be undertaken;
- d) The proposed timeframe for the project or activity;
- e) Notice that copy of the application is available for inspection at the Registry of the Agency

### **2.4 Scoping**

If an ESIA is required, the proponent will be requested to carry out scoping. The scoping exercises will identify what possible impacts there may be from the project and from alternatives considered. This process will also lead to the identification of terms of reference for preparation of Environmental and Social Impact Statement of the proposed project. The Terms of Reference must take into account issues contained in Annex- C and the results of the consultations. The EPA must approve the TOR prior to commencement of the ESIA study. Evaluators for ESIA must also meet the qualification criteria set by the Agency, and be in its Registry.

The scoping report must include the following:

- An overview or profile of the proposal, the environment and community and the community that is likely to be affected;
- Description of the scoping process used;
- Possible alternatives;
- Range of potential impacts;
- Mitigation measures for identified impacts
- Geographical areas(s) and the timeframe(s) for the impact analysis
- The policy and institutional frameworks under which the ESIA will be conducted;
- Existing information sources, gaps, and constraints on methodology;
- The scheduling of the ESIA study, and the allocation of resources and responsibility;
- Identification of all the authorities involved in the project or activities;
- The identification of interested and affected persons; and
- Terms of reference developed

## ***2.5 Preparation and Submission of ESIA Report***

Where ESIA is required, the applicant will prepare an ESIA report that includes Environmental Impact Statement (EIS) and Environmental Management Plan (EMP) in line with the Terms of Reference approved by the EPA. The report contents must take into account Sections 14 and 15 of the EMPL. Ten hard copies and two electronic version (pdf) of the report are required for submission to the EPA.

## ***2.6 Review of the ESIA Report***

The EPA will review the report to ensure that it is of standard and addresses the scope of work outlined in the terms of reference. If the report is satisfactory in these respects, the Agency will distribute copies of it to relevant line ministry or agency and other relevant public agencies, and communities for comments. Comments from the public will be received within 30 days of the publication of notice in respect of the report. If deemed appropriate, on consideration of comments from public and sector agencies/ministries the EPA may determine the need for a public hearing to be held at a location suitable to persons who are likely to be affected by the project.

## ***2.7 Making a Decision on the ESIA Report***

Following the review of the ESIA Report and considering comments received during the review period, the EPA will make a decision on the proposed project. In Pursuance of Section 21 of the EMPL, the Agency may:

- Approve the project unconditionally;
- Approve the application conditionally;
- Request for further study and/or submission of additional detail; or
- Reject the application if the project is likely to cause significant or irreversible damage to the environment.

## ***2.8 Environmental License or Permit***

The issuance of ESIA permit/ license will be made within the time period specified below for different categories of projects:

- For project not requiring ESIA, 15 days from the date of decision indicated in communication to the applicant.
- For projects requiring ESIA, three months following receipt of the ESIA Report.

# **3 DESCRIPTION OF ESIA COMPONENTS**

This section provides detail description of the various components of the ESIA report.

## ***3.1 Environmental Impact Statement***

The Environmental Impact Statement (EIS) is the document produced after studying the potential environmental impacts of a proposed project. The EIS will provide all relevant details on the project and its effect on the environment. This document should provide a summary level of detail adequate to allow the average reader to make an informed decision on the project. This document will include a broad range of data including information on the developer, schedule, and the detailed description of the project, regulatory framework, and review of alternatives, environmental management plans, socioeconomic factors, environmental impacts, mitigation, monitoring and reclamation.

The completion of the EIS requires gathering necessary resource information, conducting field investigations, and using scientific methods to evaluate potential interactions between the environment and activities associated with the undertaking. The EIS would be accompanied by supporting appendices, the baseline study report and the environmental assessment that will provide technical detail on specific issues, assumptions and modeling projections. These supporting documents would be more technical.

An EIS must be written by an experienced professional with expertise in environmental issues of specific concern to the undertaking. It is the proponent's responsibility to prepare the EIS through an independent environmental evaluator at the cost of the proponent. The EIS should be prepared in a well-organized document in order to provide reviewers with enough information to understand what is being proposed and the environment in which the project is to be located. The EIS could be achieved by an independent consulting firm chosen by and paid for by the proponent. The proponent can be provided with a list of reliable and unanimous consulting firms that will act as a third party without prior intentions or unintended biasness.

### ***3.2 Contents of the Report***

The Environmental and Social Impact Assessment (ESIA) report should contain a brief introduction explaining the need for the conduct of the project. There may be other applicable criteria of the project that may have to be reviewed. However, in order to avoid delay in the review process, the proponent should ensure that all sections listed below are included in the report.

- Executive summary
- Introduction or overview of the project
- Policy, legal and administrative framework
- Detailed project description
- Description of the potentially affected Environment including specific information necessary for identifying and assessing the environmental effect of the proposed project of activities
- Impact Prediction and Evaluation
- Socio-economic analysis of project impacts
- Economic Information regarding the project
- Environmental Management Plan and Mitigation Measures

- Identification of Alternatives
- Environmental Management and Training
- Monitoring Program
- Public Participation
- A statement of the degree of irreversible damage and an explanation
- A description of the best available technology
- An emergency response plan
- An indication of any difficulty encountered in the ESIA
- Conclusion and Recommendations
- List of References
- Annexes

### **3.2.1 Executive Summary**

The executive summary presents the most important findings of the report in a very 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 will include the following:

- A font size of 12 and Time New Roman with a line spacing 1.0
- Project Description: covering description of the proposed project, project objectives, project features and how environmental impacts will be mitigated or resolved.
- To be placed in the annex
- Findings: including assessed environmental impacts, recommended mitigation measures, and recommended monitoring program.
- A brief description of how the information provided in the report was generated;
- An identification of gaps in knowledge and uncertainties which were encountered in completing the required information;

Significant environmental impacts should also be highlighted.

### **3.2.2 Introduction-overview of the project**

This section will cover data regarding the ESIA scope including:

- ESIA Objective and Scope;
- Project Rationale: describing the principle of the project along with a review of similar projects and methods used therein to identify, predict and evaluate impacts.

### 3.2.3 Policy, legal and administrative framework

This section of the ESIA report sets the policy, administrative and legal basis within which the project may be implemented. Regulations and standards applicable to the project should be referred to.

### 3.2.4 Detailed project description

This is a detailed statement of all the critical activities which will be involved in the proposed project including construction phase, (e.g. civil construction, mines development, land clearing etc. ), start-up and commissioning through operational phase of the facilities. This should include:

- Statement of need
- Concept and phases
- Location, scale, and scheduling of activities
- Project layout/technical diagram
- Project status and construction phase
- description of present land use of the project area and the area contiguous to it
- project size
- activities associated with development stages from construction to closure
- alternatives considered (include reasons for preferring the proposal location and rejecting alternative sites/technology;
- staffing and employment
- emission characteristics
- By-products from the process (i.e. sewage, water supply, waste management, wastewater, waste disposal, etc.)
- Additional projects required as a result of the project (i.e. treatment plants, road intersections, agriculture, mining, forest concessions, etc.)

Most development projects involve two stages-construction and operation.

#### 3.2.4.1 Construction Phase

The construction activities associated with the proposed project should be described in this section of the ESIA.

#### 3.2.4.2 Operational Phase

This section of the EIS should discuss the environmental issues related to the operation of a specific project. The report should discuss the expected lifespan of the project and any planned updates to the facility over that time frame.

### **3.2.5 Description of the Environment**

The environment in which the project is to be located should be described in this section. The type of information and level of detail provided in each part of the Description of the Environment section will vary according to the project, its location, and the natural features that may be impacted. This section should include description of the biological environment, physical environment, human environment and scaled maps with associated coordinates.

A checklist in Appendix A lists some factors which should be considered in describing the environment. This description of the environment setting is a record of conditions prior to implementation of the proposed project. It is primarily a benchmark against which to measure environmental changes and to assess impacts.

#### **3.2.5.1 Biological Environment**

This section should describe vegetation at and around the project site, presence of flora, fauna rare and endangered species; endemic flora and fauna; and sensitive ecological habitats and ecological balance. Specific data may be required on aquatic animals, endangered species and diversity; plankton; spawning sites; mercury levels; aquatic plants, wetlands, mangroves and salt marshes; and terrestrial plants and animals. Occurrences of rare species (plants and animals) and habitat suitable for rare species should be identified, particularly where the project will affect uncultivated areas. Field evaluations may be required to supplement existing information depending on project location.

#### **3.2.5.2 Physical Environment**

Geology, topography, runoff characteristics and soil types, climate and meteorology; ambient air quality; noise; surface and groundwater hydrology; surface and groundwater quality; seasonal changes; sediment quality; seismology; and coastal and marine parameters such as currents, bathymetry, sedimentation and erosion.

#### **3.2.5.3 Human Environment**

The EIS should address land use including parks, reserves, local zoning, protected areas, residential and community features, commercial, agriculture and industrial at and around the project area including information concerning existing infrastructure (roads, utilities), significant cultural/historic or heritages status, etc. If there is known contamination of other disturbances identified on the property, this should also be described.

In the collection of data it is imperative to include a Quality Assurance/Quality Control program, submit detailed protocols for all field testing procedures and use procedure generally accepted by other jurisdictions.

### **3.2.6 Impact Prediction and Evaluation**

Impact identification is a critical step in ESIA. First an exhaustive list of all impacts including minor/major, short/long term, moderate, direct and indirect, is drawn up. Then the manageable, significant impacts are selected, based on magnitude, significance, extent and special sensitivity for further study.

The ESIA should describe the positive and negative effects which the project may have on the environmental features. The level of evaluation on particular subjects will vary according to project complexity and potential for interaction with particular environmental components. Other impacts may relate to animal or plants species.

These impacts could include the following issues:

- Air quality
- Sewage disposal
- Sludge and wastewater management
- Surface and Groundwater impacts and servicing
- Proximity and impact on environmental features
- Waste management

The process usually consists of two stages. Magnitude refers to the amount of change to be created by the impact. For some impacts magnitude is calculated by computer modelling.

Significance refers to the actual effects. It looks beyond magnitude.

Extent refers to the area to be affected.

Quantification of impacts is a difficult technical aspect of an ESIA. For some impacts the theoretical basis for computing the magnitude does not exist. Such impacts may have to be addressed in a qualitative way.

In identifying possible impacts, use of an impact identification matrix should be adopted as it is the most useful.

The scale in [Table 1](#), could be used during the assessment.

**Table 1: Impact Rating Scores**

SCORE	IMPACT			
	MAGNITUDE	PERMANENCE	REVERSIBILITY	CUMULATIVE
1	Within the project site	Not applicable	Not applicable	Not applicable
2	Local conditions and/or to areas immediately outside	Temporary	Reversible	Non-cumulative/single
3	Regional / national / international change	Permanent	Irreversible	Cumulative

This section should also highlight, where applicable, the stage at which irreversible and irretrievable impacts are likely to occur if the project is implemented in the manner proposed by the proponent.

### 3.2.7 Socio-economic analysis of project impacts

The socio-economic characteristic of the existing location should be identified. The impacts of the proposed project on the socio-economic environment should then be analysed. The analysis should include the use of land, the main economic activities e.g. tourism, agriculture, the social level within nearby communities, employment levels and the existence of archaeological or historical sites, cultural sites, shrines, burial sites, RAMSAR sites, etc.

Impacts should be categorized in terms of positive and negative. Examples of negative impacts are conflicts between existing businesses and new project workers, potential pollutants discharge that have an adverse effect on a waterbody of economic importance, and creation of increase in fees to be charged for services which used to be free. Positive impacts include creation of jobs, decrease public health risks, upgrading of physical infrastructure, and trading of worker.

### **3.2.8 Economic Information regarding the project**

This can include financial statements, budgets, etc. This may be submitted as a separate document to preserve confidentiality.

### **3.2.9 Environmental Management Plan (EMP) and Mitigation Measures**

This section should document how the environment will be managed during the implementation of the project both construction and operational phases. The Environmental Management Plans are necessary to ensure that the proposed procedures, actions and measures identified as part of alleviating environmental impacts of a project are not just a statement of goodwill by the proponent but that they will be effectively implemented.

The EMP should identify feasible and cost effective measures that may reduce potentially significant adverse environmental impacts to acceptable levels as authorized by EPA. It should also involve both operational and post operational procedures needed to avoid environmental risks during daily maintenance operations, as well as emergency and contingency plans in case of accidents, where applicable.

Measures to avoid, minimize or manage impacts should be presented. If some mitigation measures have been included in the project description, they should be summarized in this section. Any impacts that cannot be mitigated should be identified. If impacts are not completely understood, it may be necessary for the proponent to undertake additional evaluation and to prepare specific contingency plans to be implemented if the impacts occur.

In the case of beneficial impacts it should be demonstrated how these can be maximised.

### **3.2.10 Resettlement Action Plan**

A resettlement action plan (RAP) is a document specifying procedures that responsible agency will follow and the actions it will take to properly resettle and/or compensate and provide development benefits to persons and communities affected.

#### **3.2.10.1 Outline of a Resettlement Action Plan**

##### **1. Introduction**

- Briefly describe the project.
- List project components including associated facilities (if any).

- Describe project components requiring land acquisition and resettlement; give overall estimates of land acquisition and resettlement.

## **2. Minimizing Resettlement**

- Describe efforts made to minimize displacement.
- Describe the results of these efforts.
- Describe mechanisms used to minimize displacement during implementation.

## **3. Maps, Census and Socioeconomic Surveys**

- The area from which people will be moved as well as the area to which people will be resettled should be mapped in detail.
- Provide the results of the census, assets inventories, natural resource assessments, and socioeconomic surveys.
- Identify all categories of impacts and people affected.
- Summarize consultations on the results of the various surveys with affected people.
- Describe need for updates to census, assets inventories, resource assessments, and socioeconomic surveys, if necessary, as part of RAP monitoring and evaluation.

## **4. Legal Framework**

- Describe all relevant local laws and customs that apply to resettlement.
- Identify gaps between local laws and World Bank Group policies, and describe project-specific mechanisms to address conflicts.
- Describe entitlement policies for each category of impact and specify that resettlement implementation will be based on specific provisions of agreed RAP.
- Describe method of valuation used for affected structures, land, trees, and other assets.
- Prepare entitlement matrix.

## **5. Resettlement Sites**

- Does the project require community relocation sites? Have affected people been involved in a participatory process to identify sites, assess advantages and disadvantages of each site, and select preferred sites?
- Have the affected people been involved in developing an acceptable strategy for housing replacement? Will new housing be constructed/allocated?
- Does the project involve allocation of agricultural land or pasture/rangeland?
- Have the individual households that will be allocated lands been involved in identifying potential new sites, and have they explicitly accepted the selected sites?

- Describe the specific process of involving affected populations in identifying potential housing sites, assessing advantages and disadvantages, and selecting sites.
- Describe the feasibility studies conducted to determine the suitability of the proposed sites, including natural resource assessments (soils and land use capability, vegetation and livestock carrying capacity, water resource surveys) and environmental and social impact assessments of the sites.
- Demonstrate that the land quality and area are adequate for allocation to all of the people eligible for allocation of agricultural land. Provide data on land quality and capability, productive potential, and quantity.
- Give calculations relating to site requirements and availability.
- Describe mechanisms for: 1) procuring, 2) developing and 3) allotting resettlement sites, including the awarding of title or use rights to allotted lands.
- Provide detailed description of the arrangements for site development for agriculture including funding of development costs.
- Have the host communities been consulted about the RAP?
- Have they participated in the identification of likely impacts on their communities, appropriate mitigation measures, and preparation of the RAP? Do the host communities have a share of the resettlement benefits?

## **6. Income Restoration**

- Are the compensation entitlements sufficient to restore income streams for each category of impact? What additional economic rehabilitation measures are necessary?
- Briefly spell out the restoration strategies for each category of impact and describe their institutional, financial, and technical aspects.
- Describe the process of consultation with affected populations and their participation in finalizing strategies for income restoration.
- How do these strategies vary with the area of impact?
- Does income restoration require change in livelihoods, development of alternative farmlands or some other activities that require a substantial amount of training, time for preparation, and implementation?
- How are the risks of impoverishment to be addressed?
- What are the main institutional and other risks for the smooth implementation of the resettlement programs?
- Describe the process for monitoring the effectiveness of the income restoration measures.
- Describe any social or community development programs currently operating in or around the project area. If programs exist, do they meet the development priorities of their target communities? Are there opportunities for the project proponent to support new programs or expand existing programs to meet the development priorities of communities in the project area?

## **7. Institutional Arrangements**

- Describe the institution(s) responsible for delivery of each item/activity in the entitlement policy; implementation of income restoration programs; and coordination of the activities associated with and described in the resettlement action plan.
- State how coordination issues will be addressed in cases where resettlement is spread over a number of jurisdictions or where resettlement will be implemented in stages over a long period of time.
- Identify the agency that will coordinate all implementing agencies. Does it have the necessary mandate and resources?
- Describe the external (non-project) institutions involved in the process of income restoration (land development, land allocation, credit, and training) and the mechanisms to ensure adequate performance of these institutions.
- Discuss institutional capacity for and commitment to resettlement.
- Describe mechanisms for ensuring independent monitoring, evaluation, and financial audit of the RAP and for ensuring that corrective measures are carried out in a timely fashion.

## **8. Implementation Schedule**

- List the chronological steps in implementation of the RAP, including identification of agencies responsible for each activity and with a brief explanation of each activity.
- Prepare a month-by-month implementation schedule (using a Gantt chart, for example) of activities to be undertaken as part of resettlement implementation.
- Describe the linkage between resettlement implementation and initiation of civil works for each of the project components.

## **9. Participation and Consultation**

- Describe the various stakeholders.
- Describe the process of promoting consultation/participation of affected populations and stakeholders in resettlement preparation and planning.
- Describe the process of involving affected populations and other stakeholders in implementation and monitoring.
- Describe the plan for disseminating RAP information to affected populations and stakeholders, including information about compensation for lost assets, eligibility for compensation, resettlement assistance, and grievance redress.

## **10. Grievance Redress**

- Describe the step-by-step process for registering and addressing grievances and provide specific details regarding a cost-free process for registering complaints, response time, and communication modes.
- Describe the mechanism for appeal.
- Describe the provisions for approaching civil courts if other options fail.

### **11. Monitoring and Evaluation**

- Describe the internal/performance monitoring process.
- Define key monitoring indicators derived from baseline survey. Provide a list of monitoring indicators that will be used for internal monitoring.
- Describe institutional (including financial) arrangements.
- Describe frequency of reporting and content for internal monitoring.
- Describe process for integrating feedback from internal monitoring into implementation.
- Define methodology for external monitoring.
- Define key indicators for external monitoring.
- Describe frequency of reporting and content for external monitoring.
- Describe process for integrating feedback from external monitoring into implementation.
- Describe arrangements for final external evaluation.

### **12. Costs and Budgets**

- Provide a clear statement of financial responsibility and authority.
- List the sources of funds for resettlement and describe the flow of funds.
- Ensure that the budget for resettlement is sufficient and included in the overall project budget.
- Identify resettlement costs, if any, to be funded by the government and the mechanisms that will be established to ensure coordination of disbursements with the RAP and the project schedule.
- Prepare an estimated budget, by cost and by item, for all resettlement costs including planning and implementation, management and administration, monitoring and evaluation, and contingencies.
- Describe the specific mechanisms to adjust cost estimates and compensation payments for inflation and currency fluctuations.
- Describe the provisions to account for physical and price contingencies.
- Describe the financial arrangements for external monitoring and evaluation including the process for awarding and maintenance of contracts for the entire duration of resettlement.

### **13. Annexes**

- Copies of census and survey instruments, interview formats, and any other research tools Information on all public consultation including

announcements and schedules of public meetings, meeting minutes, and lists of attendees.

- Examples of formats to be used in monitoring and reporting on RAP implementation.

### **3.2.11 Identification of Alternatives**

The ESIA will assist decision-makers in selecting optimum alternatives whether related to the materials, process/technology or selected sites. All the alternatives taken into account in developing the project should be documented. For example, if the project were to be sited elsewhere, the impacts associated should be reviewed and the associated mitigation action and costs defined. The long-term viability of the project would form the crux of this section. The investigation of alternative mitigation measures through assessment of operation is an integral part of the ESIA process. Each alternative should be evaluated irrespective of its potential environmental losses and gains must be combined with economic costs and benefits to give the full picture for each alternative.

Different options will be ranked in view of selecting the most suitable ones to meet the objectives of the project in a sustainable manner.

An analysis of the “no action” alternative should be included.

### **3.2.12 Monitoring Program**

A detailed environmental monitoring programme/plan should be defined to identify the necessary monitoring activities to ensure proper process and performance efficiency of the project. The reasons for the costs associated with the monitoring activities should be covered. Institutional arrangements to ensure the proper implementation of the EMP will also be identified.

It should be noted that some details presented may change depending on the final designs after the ESIA preparation and review. These changes must be submitted to the EPA for verification and approval.

The monitoring programme should clearly state the:

- Compliance with mitigation measures including information on location, time schedule, periodic reporting, audit/review results, implementation of mitigation measures.
- Residual impacts including indicators, standards, methodology, location, schedule, responsibilities and cost.

### **3.2.13 Public Participation**

An important part of the Environmental Impact Assessment process is the public consultation that is carried out by the proponent. The proponent’s plans for public consultation should be detailed in this section of the Environmental Impact Statement.

### **3.2.14 A description of the best available Technology**

Details in this section depend on the type of project; however, it is necessary to describe and list the specifications of the technology used. For example, if an ESIA is to be conducted for the use of incinerator, a full description should be provided in terms of specifications, internal structure, operating conditions, etc.

### **3.2.15 Conclusion and Recommendations**

The consultant or report writer must make a conclusion or recommendation on whether the project should proceed as described in the Environmental Impact Assessment report. It is important to have this statement, as it provides the readers with a conclusion to assess. The Conclusion Statement must be concise and incorporate the mitigation measures that are planned for the project.

### **3.2.16 Annexes**

These include:

- Reference documents
- Unpublished data
- Terms of References
- Consulting team composition
- Notes on Public Consultation sessions.

## **ANNEX A: Basic checklist which can be used to compile the description of the environmental setting**

### **1. Basic Land conditions**

#### **a. Geological Conditions**

- Major land formations (valleys, rivers, mountains, plains etc.)
- Geological structures (faults, folds, sub-strata, etc)
- Geological resources (minerals, oil, & gas, etc.)
- Seismic hazards (earthquakes, faults, liquefaction, tidal wave, etc.)
- Slope stability and landslide potential

#### **b. Soil Conditions**

- Soil type (clay, sandy, silt, loams, etc.)
- Soil conservation service, classification
- Hazard potential (erosion, subsidence or expansiveness)
- Natural drainage rate
- Sub-soil permeability
- Run-off rate
- Effective depth
- Inherent fertility
- Suitability for method of sewage disposal
- Suitability for landfill

#### **c. Archaeological value of site**

- The amount and quality of information already on record
- The ground cover
- The visibility of various classes of site
- The anticipated use of data

## **2. Biotic Community Conditions**

### **a. Plant**

- General type of dominant species
- Densities and distributions
- Animal habitat value
- Historically important specimen
- Watershed value
- Man-introduced species
- Endangered species (location, distribution and conditions)
- Fire potential (chaparral, grass, etc.)
- Timber value
- Specimen of scientific or aesthetic interest

### **b. Animal**

- General types / dominant species (mammal, fish, fowl, etc.)
- Densities and distribution
- Habitat (general)
- Migratory species
- Game species
- Man-introduced species (exotic species)
- Endangered species
- Commercially valued species

## **3. Watershed Conditions**

- Water quality (groundwater and surface water)
- Source of public or private water supply on-site
- Watershed importance (on-site and surrounding area)
- Flood plain importance (on-site and surrounding area)
- Water run-off rate
- Streamside conditions (habitat conditions and stream flow rate)
- Location of wells, springs
- Marshlands, lakes, ocean frontage importance

## **4. Airshed conditions**

- General climatic type
- Air quality
- Airshed Importance
- Wind hazards area (min/max speeds)
- Odour levels
- Noise levels
- Rainfall (average)
- Temperature (average highs and lows)
- Prevailing winds (direction and intensity)
- Fog conditions (hazard potential)

## **5. Social Economic Condition**

- Livelihood Activities
- Type of Human Settlement
- Gender
- Religion and Cultural Activities Human Capital(Education & Health)
- Physical Capital( infrastructure, Safety & Security)
- Resettlement

## ANNEX B: ESIA REVIEW CHECKLIST

Item Evaluated	Comments/Recommendations	Rating
<p><b>1. Adherence to the TOR</b> Adherence to the TOR must be based on the outcome of the scoping result in consultation with the Agency. Developed under subsection 1, the TOR must clearly outline research results/technical data necessary to:</p> <p>a. Identify the nature the magnitude including reversibility/irreversibility of the anticipated impacts of the project; simple by checking that all items and information requested in the TOR have been presented, regardless of the content or quality of such information.</p>		
<p><b>2. Multidisciplinary Team</b> The accuracy of the ESIA depends on the qualification of the multidisciplinary team not only regarding the ESIA process and methods but also regarding their knowledge of the several stages of the specific type of project. Therefore, individual CVs should be submitted as part of the ESIA Annexes. Signatures of each member of the team must be affixed.</p>		
<p><b>3. Inter-disciplinary achievement</b> An ESIA must present information regarding the interactions and integration between the physical, biological and socio-economic aspects of the environment in that particular area of the study.</p>		
<p><b>4. Executive Summary</b> The Executive Summary, also referred to as the non-technical summary, should provide a brief description of the project and information regarding the potential impacts of the project, arranged in order of significance, along with the proposed mitigation/compensatory measures of each impact. The summary should end with the consultants' recommendations.</p>		
<p><b>5. Project Description</b> The process of environmental impact assessment depends on the full understanding of the project proposal and accurate identification of the project actions. If actions are unclear, sufficiently detailed impacts are not likely to be identified with the accuracy and specificity needed to enable the development of appropriate mitigation measures.</p> <p>5.01 Is the project proposal fully understood?</p> <p>5.02 Are all phases identified (e.g. planning, construction, operation and decommissioning)? And decommissioning?</p> <p>5.03 Is the geographical area for each phase identified?</p> <p>5.04 Are the land use requirements for each phase identified?</p> <p>5.05 Is there an inventory of the nature and quality of materials used in the construction, production, operation and decommissioning process?</p> <p>5.06 Are there inventories of the type and quality of products ,by-Products and effluents expected to be produced by the project?</p> <p>5.07 Is there an inventory of the type and quality of residue?</p> <p>5.08 Are the levels of emission expected detailed with respect to</p>		

<ul style="list-style-type: none"> <li>▪ Noise</li> <li>▪ Vibration?</li> <li>▪ Light?</li> <li>▪ Heat?</li> <li>▪ Radiation?</li> <li>▪ Gases?</li> <li>▪ Liquids?</li> <li>▪ Dust and particulates</li> </ul> <p>Are the types and levels of any other emission included? 5.09 Has information on employment been provided?</p>		
<b>OVERALL RATING FOR SECTION 5</b>		
<p><b>6. Identification and description of alternatives</b></p> <p>The assessment of sound alternatives is necessary to validate the ESIA process. Therefore reasonable alternatives have to be fully and comprehensively considered. As a minimum, one of the following alternatives must be considered: location, project layout, technology, scheduling, and project scale.</p> <p>6.01 Did the developer consider alternatives? 6.02 Was the “no-project” scenario considered? 6.03 Were the environmental factors adequately presented for each alternative? 6.04 Is the final choice adequate?</p>		
<b>OVERALL RATING FOR SECTION 6</b>		
<p><b>7. Definition and justification of physical boundaries (direct and indirect area of influence)</b></p> <p><i>Inconsistency in identifying the correct areas of influence will inevitably lead to inconsistency in the baseline data and the impact analysis. The indirect area of influence is the area likely to be affected by indirect, secondary and/or long term impacts.</i></p>		
<p><b>8. Analysis of the legal aspects involved</b></p> <p><i>The analysis of the legal framework involves more than a list of legal Acts. It involves assessing the consequences for the project of enforcing all the environmental legislation and regulations regarding the proposed site and sectoral requirements relate4d to the proposed activity.</i></p>		
<p><b>9. Identification of other existing planned activities or projects in the area of influence</b></p> <p>This information is of utmost importance to ensure that land-use and other types f conflicts do not arise later during the project implementation.</p> <p>9.01 Has the compatibility between the proposal and the identified existing  Activity been analyzed?</p>		

<p>9.02 Are the activities compatible?                  9.03 Does the inventory of existing activities match what is observed?</p>		
<p><b>OVERALL RATING FOR SECTION 9</b></p>		
<p><b>10. Adequacy and completeness of relevant baseline data</b></p> <p>Baseline data must be specific and relevant to the area of influence. General and superficial information does not allow for the use of adequate impact prediction techniques.</p> <p>10.01 Is the information presented specific and relevant?                  10.02 Were difficulties in obtaining information (if any) documented?                  10.03 Where the Impact Indicators adequately identified?                  10.04 Have the impact indicators identified been adequately covered (see Section 13)</p> <p>10.04</p>		
<p><b>OVERALL RATING FOR SECTION 10</b></p>		
<p><b>11. Appropriateness of EA Methods</b></p> <p>The use of appropriate EA methods(scoping) is necessary to ensure reliability of the results of the ESIA study. Each type of EA method has different strengths and vulnerabilities regarding its appropriateness to perform each step of the ESIA study. Some EA methods are unable to provide the means of identification of indirect, secondary and/or long-term impacts. Scientific and technical accuracy of the ESIA methods used must therefore be evaluated to ensure the reliability of the conclusions drawn from the impact assessment.</p>		
<p><b>12. Impact Assessment</b></p> <p>12.1 Physical Impacts</p> <ul style="list-style-type: none"> <li>▪ Have al the identified impacts on air, water, soil, noise, landscape and natural resources been checked against the relevant impacts defined in the TOR</li> <li>▪ Are impacts identified with respect to air?</li> <li>▪ Are impacts characterized (positive/negative, direct/indirect, primary/secondary, short/medium/long-term, reversible/irreversible, temporary/permanent, local/regional/national/strategic, avoidable/unavoidable?)</li> <li>▪ Have the magnitude been estimated?</li> </ul>		

<ul style="list-style-type: none"> <li>▪ Have the impacts been assigned a significance?</li> <li>▪ Have the social implications of the impacts been assessed?</li> <li>▪ Have cause/effect relations been properly identified?</li>   <li>▪ Are impacts identified with respect to water?</li> <li>▪ Are impacts characterized (positive/negative, direct/indirect, primary/secondary, short/medium/long term, reversible/irreversible, temporary/permanent, local/regional/national/strategic, avoidable/unavoidable)?</li> <li>▪ Have the magnitudes been estimated?</li> <li>▪ Have the impacts been assigned significance?</li> <li>▪ Have the social implications of the impacts been assessed?</li> <li>▪ Have cause/effect relations been properly identified?</li> <li>▪ Are impacts identified with respect to Soil?</li> <li>▪ Are impacts characterized (positive/negative, direct/indirect, primary/secondary, short/medium/long term, reversible/irreversible, temporary/permanent, local/regional/national/strategic, avoidable/unavoidable)?</li> <li>▪ Have the magnitudes been estimated?</li> <li>▪ Have the impacts been assigned significance?</li> <li>▪ Have the social implications of the impacts been assessed?</li> <li>▪ Have cause/effect relations been properly identified?</li> <li>▪ Are impacts identified with respect to noise?</li> <li>▪ Are impacts characterized (positive/negative, direct/indirect, primary/secondary, short/medium/long term.</li> </ul>		
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<p>Reversible/irreversible, temporary/permanent, local/regional/national/strategic, avoidable/unavoidable?</p> <ul style="list-style-type: none"> <li>▪ Have the magnitudes been estimated?</li> <li>▪ Have the impacts been assigned significance?</li> <li>▪ Have the social implications of the impacts been assessed?</li> <li>▪ Have cause/effect relations been properly identified?</li> <li>▪ Are impacts identified with respect to Landscape?</li> <li>▪ Are impacts characterized (positive/negative, direct/indirect, primary/secondary, short/medium/long term. Reversible/irreversible, temporary/permanent, local/regional/national/strategic, avoidable/unavoidable?)</li> <li>▪ Have the magnitudes been estimated?</li> <li>▪ Have the impacts been assigned a significance?</li> <li>▪ Have the social implications of the impacts been assessed?</li> <li>▪ Have cause/effect relations been properly identified?</li> <li>▪ Are impacts with respect to natural resources (excluding biological resources)?</li> <li>▪ Are impacts characterized (positive/negative, direct/indirect, primary/secondary, short/medium/long term. Reversible/irreversible, temporary/permanent, local/regional/national/strategic, avoidable/unavoidable?)</li> <li>▪ Have the magnitudes been estimated?</li> <li>▪ Have the impacts been assigned a significance?</li> <li>▪ Have the social implications of the impacts been assessed?</li> <li>▪ Have cause/effect relations been properly identified?</li> <li>▪ Have cause/effect relations been properly identified?</li> </ul>		
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<ul style="list-style-type: none"> <li>▪ Have natural resources which are degraded/eliminated been identified?</li> <li>▪ How quickly could the natural system deteriorate?</li> <li>▪ How quickly could the natural system regenerate?</li> </ul>		
<b>OVERALL RATING FOR PHYSICAL IMPACT ASSESSMENT</b>		
<p><b>12.2 Biological Impacts</b></p> <ul style="list-style-type: none"> <li>▪ Have all the identified impacts on flora, fauna, rare/ endangered species, sensitive ecosystem, species habitats and ecological balance been checked against the relevant impact in the TOR.</li> <li>▪ Are impacts identified with respect to flora?</li> <li>▪ Are impacts characterized (positive/negative, direct/indirect, primary/secondary, short/medium/long term. Reversible/irreversible, temporary/permanent, local/regional/national/strategic, avoidable/unavoidable?)</li> <li>▪ Have the magnitudes been estimated?</li> <li>▪ Have the impacts been assigned a significance?</li> <li>▪ Have the social implications of the impacts been assessed?</li> <li>▪ Have cause/effect relation been properly identified?</li> <li>▪ Are impacts identified with respect to fauna??</li> <li>▪ Are impacts characterized (positive/negative, direct/indirect, primary/secondary, short/medium/long term. Reversible/irreversible, temporary/permanent, local/regional/national/strategic, avoidable/unavoidable?)</li> </ul>		

<ul style="list-style-type: none"> <li>▪ Have the magnitudes been estimated?</li> <li>▪ Have the impacts been assigned significance?</li> <li>▪ Have the social implications of the impacts been assessed?</li> <li>▪ Have cause/effect relations been properly identified?</li> <li>▪ Are impacts identified with respect to rare / endangered species?</li> <li>▪ Are impacts characterized (positive/negative, direct/indirect, primary/secondary, short/medium/long term. Reversible/irreversible, temporary/permanent, local/regional/national/strategic, avoidable/unavoidable?)</li> <li>▪ Have the magnitudes been estimated?</li> <li>▪ Have the impacts been assigned a significance?</li> <li>▪ Have the social implications of the impacts been assessed?</li> <li>▪ Have cause/effect relations been properly identified?</li> <li>▪ To what extent does the project preserve the diversity of species?</li> <li>▪ Are impacts identified with respect to sensitive ecoystems?</li> <li>▪ Are impacts characterized (positive/negative, direct/indirect, primary/secondary, short/medium/long term. Reversible/irreversible, temporary/permanent, local/regional/national/strategic, avoidable/unavoidable?)</li> <li>▪ Have the magnitudes been estimated?</li> <li>▪ Have the impacts been assigned a significance?</li> <li>▪ Have the social implications of the impacts been assessed?</li> <li>▪ Have cause/effect relations been properly identified?</li> <li>▪ To what extent does the project preserve the stability of ecoystems?</li> </ul>		
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<ul style="list-style-type: none"> <li>▪ Are impacts identified with respect to species habitats?</li> <li>▪ Are impacts characterized (positive/negative, direct/indirect, primary/secondary, short/medium/long term. Reversible/irreversible, temporary/permanent, local/regional/national/strategic, avoidable/unavoidable?)</li> <li>▪ Have the magnitudes been estimated?</li> <li>▪ Have the impacts been assigned a significance?</li> <li>▪ Have the social implications of the impacts been assessed?</li> <li>▪ Have cause/effect relations been properly identified?</li> <li>▪ Are impacts identified with respect to ecological balance?</li> <li>▪ Are impacts characterized (positive/negative, direct/indirect, primary/secondary, short/medium/long term. Reversible/irreversible, temporary/permanent, local/regional/national/strategic, avoidable/unavoidable?)</li> <li>▪ Have the magnitudes been estimated?</li> <li>▪ Have the impacts been assigned a significance?</li> <li>▪ Have the social implications of the impacts been assessed?</li> <li>▪ Have cause/effect relations been properly identified?</li> </ul>		
<p><b>OVERALL RATING FOR BIOLOGICAL IMPACT ASSESSMENT</b></p>		
<p><b>12.3 Social and Health Impacts</b></p> <ul style="list-style-type: none"> <li>▪ Have all the identified impacts on the social and health context been checked against the relevant impacts in the TOR?</li> <li>▪ Are impacts identified with respect to human health?</li> <li>▪ Are impacts characterized (positive/negative, direct/indirect, primary/secondary, short/medium/long term. Reversible/irreversible, temporary/permanent, local/regional/national/strategic, avoidable/unavoidable?)</li> </ul>		

<ul style="list-style-type: none"> <li>▪ Have the magnitudes been estimated?</li> <li>▪ Have the impacts been assigned a significance?</li> <li>▪ Have the social implications of the impacts been assessed?</li> <li>▪ Have cause/effect relations been properly identified?</li> <li>▪ To what extent does the project protect/improve human health?</li> <li>▪ To what extent does the project/improve human living conditions?</li> <li>▪ Are impacts identified with respect to demographic and household characteristics?</li> <li>▪ Are impacts characterized (positive/negative, direct/indirect, primary/secondary, short/medium/long term. Reversible/irreversible, temporary/permanent, local/regional/national/strategic, avoidable/unavoidable?)</li> <li>▪ Have the magnitudes been estimated?</li> <li>▪ Have the impacts been assigned a significance?</li> <li>▪ Have the social implications of the impacts been assessed?</li> <li>▪ Have cause/effect relations been properly identified?</li> <li>▪ Are impacts identified with respect to employment opportunities?</li> <li>▪ Are impacts characterized (positive/negative, direct/indirect, primary/secondary, short/medium/long term. Reversible/irreversible, temporary/permanent, local/regional/national/strategic, avoidable/unavoidable?)</li> <li>▪ Have the magnitudes been estimated?</li> <li>▪ Have the impacts been assigned a significance?</li> <li>▪ Have the social implications of the impacts been assessed?</li> <li>▪ Have cause/effect relations been properly identified?</li> </ul>		
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<ul style="list-style-type: none"> <li>▪ Are impacts identified with respect to size and distinguishing characteristics of resident population?</li> <li>▪ Are impacts characterized (positive/negative, direct/indirect, primary/secondary, short/medium/long term. Reversible/irreversible, temporary/permanent, local/regional/national/strategic, avoidable/unavoidable)?</li> <li>▪ Have the magnitudes been estimated?</li> <li>▪ Have the impacts been assigned a significance?</li> <li>▪ Have the social implications of the impacts been assessed?</li> <li>▪ Have cause/effect relations been properly identified?</li> <li>▪ Are impacts identified with respect to the provision of social services and infrastructure?</li> <li>▪ Are impacts characterized (positive/negative, direct/indirect, primary/secondary, short/medium/long term. Reversible/irreversible, temporary/permanent, local/regional/national/strategic, avoidable/unavoidable)?</li> <li>▪ Have the magnitudes been estimated?</li> <li>▪ Have the impacts been assigned a significance?</li> <li>▪ Have the social implications of the impacts been assessed?</li> <li>▪ Have cause/effect relations been properly identified?</li> </ul>		
<p><b>OVERALL RATING FOR SOCIAL AND HEALTH IMPACT ASSESSMENT</b></p>		
<p><b>12.4 CULTURAL, Historical and/or Archeological Impacts</b></p> <ul style="list-style-type: none"> <li>▪ Have all the identified impacts related to cultural, historical and/or archeological sites and heritage been checked against the relevant impacts defined in the TOR?</li> <li>▪ Are impacts identified with respect to cultural heritage?</li> </ul>		

<ul style="list-style-type: none"> <li>▪ Are impacts characterized (positive/negative, direct/indirect, primary/secondary, short/medium/long term. Reversible/irreversible, temporary/permanent, local/regional/national/strategic, avoidable/unavoidable)?</li> <li>▪ Have the magnitudes been estimated?</li> <li>▪ Have the impacts been assigned a significance?</li> <li>▪ Have the social implications of the impacts been assessed?</li> <li>▪ Have cause/effect relations been properly identified?</li> </ul>		
<b>OVERALL RATING FOR CULTURAL IMPACT ASSESSMENT</b>		
<p><b>12.5 Economic Impacts</b></p> <ul style="list-style-type: none"> <li>▪ Have all the identified impacts on the economy (local, regional, national) been checked against the relevant impacts defined in the TOR?</li> <li>▪ Are impacts identified with respect to <b>economic assets and activities</b>?</li> <li>▪ Are impacts characterized (positive/negative, direct/indirect, primary/secondary, short/medium/long term. Reversible/irreversible, temporary/permanent, local/regional/national/strategic, avoidable/unavoidable)?</li> <li>▪ Have the magnitudes been estimated?</li> <li>▪ Have the impacts been assigned a significance?</li> <li>▪ Have the social implications of the impacts been assessed?</li> <li>▪ Have cause/effect relations been properly identified?</li> <li>▪ Are impacts identified with respect to <b>income generation for the community and at the National Level</b>?</li> <li>▪ Are impacts characterized (positive/negative, direct/indirect, primary/secondary, short/medium/long term. Reversible/irreversible, temporary/permanent, local/regional/national/strategic, avoidable/unavoidable)?</li> <li>▪ Have the magnitudes been estimated?</li> </ul>		

<ul style="list-style-type: none"> <li>▪ Have the impacts been assigned a significance?</li> <li>▪ Have the social implications of the impacts been assessed?</li> <li>▪ Have cause/effect relations been properly identified?</li> </ul>		
<p><b>OVERALL RATING FOR ECONOMIC IMPACT ASSESSMENT</b></p>		
<p><b>12.6 Other Impacts</b></p> <ul style="list-style-type: none"> <li>▪ Have all other impacts been checked against the relevant impacts defined in the TOR?</li> <li>▪ Are impacts characterized (positive/negative, direct/indirect, primary/secondary, short/medium/long term. Reversible/irreversible, temporary/permanent, local/regional/national/strategic, avoidable/unavoidable)?</li> <li>▪ Have the magnitudes been estimated?</li> <li>▪ Have the impacts been assigned a significance?</li> <li>▪ Have the social implications of the impacts been assessed?</li> <li>▪ Have cause/effect relations been properly identified?</li> </ul>		
<p><b>OVERALL RATING FOR SECTION 12</b></p>		

<p><b>13. Cumulative Impacts</b></p> <p>There may be cases where an activity/project will contribute to a cumulative impact on the environment although individually it may not have a significant environmental impact. This may be as a result of the presence of similar activities within the vicinity of the project.</p> <p>13.01 Have cumulative impacts been adequately identified and characterized?</p> <p>13.02 Have the magnitudes been estimated?</p> <p>13.03 Have the impacts been assigned a significance?</p> <p>13.04 Has the social distribution of the impacts been identified?</p> <p>13.05 Have cause/effect relations been properly identified?</p>		
<p><b>14. Impact Indicators</b></p> <p>Impact indicators are the parameters used to estimate the magnitude of the impacts.</p> <p>14.01 Where the impact indicators used adequate for all the impacts identified?</p>		
<p><b>15. Prediction Techniques</b></p> <p><i>Impact prediction techniques are necessary to enable the estimation of magnitude of the impacts. Without the use of adequate impact prediction techniques, accurate impact analysis is not possible.</i></p> <p>15.01 Have the impact prediction techniques used been described?</p> <p>15.02 Are they adequate?</p>		
<p><b>OVERALL RATING FOR SECTION 15</b></p>		

<p><b>16. Magnitude of Impacts</b></p> <p><i>Magnitude is the estimate of the absolute measure/value/dimension of the difference between the environmental situation of a given parameter before and after the project is implemented. In the majority of cases – physical, biological and economic impacts – it must be expressed in <b>quantitative</b> values. The estimation of the magnitude of each relevant impact is one of the most important steps in impact analysis. It ensures the accuracy of the ESIA and allows for the identification of appropriate and cost-effective mitigation measures.</i></p> <p>Have the magnitude of all the relevant impacts been adequately estimated (refer to impact indicators – Section 14)?</p>		
<p><b>OVERALL RATING FOR SECTION 16</b></p>		
<p><b>17. Important/significance of impacts</b> (<i>usual methods involve objective criteria regarding the ecological and social relevance of the project</i>)</p> <p>17.01 Is the relative importance/significance of each impact with regard to the environmental factor affected, and with regard to the other impacts given?</p> <p>17.02 is the significance based on objective criteria in order to minimize subjectivity of judgments?</p>		
<p><b>OVERALL RATING FOR SECTION 17</b></p>		
<p><b>18. Social Distribution of Impacts</b></p> <p><i>Identifies which social groups will be affected by the positive and the negative impacts. These groups are often not the same. The balance between positive and negative impacts cannot be done without the correct identification of the social distribution of the impacts, because it would not have scientific and technical relevance.</i></p>		
<p><b>19. Stakeholder Participation</b></p> <p>19.01 Are the results of stakeholder participation, such as the results of interviews, hearings etc. clearly documented?</p> <p>19.02 Have questionnaires used been included?</p> <p>19.03 Are the extent and method of stakeholder participation adequate?</p> <p>19.04 Are the conclusions drawn valid, based on available data?</p>		

<p><b>20. Analysis and Selection of Best Alternative</b></p> <p><i>Selection must be based on criteria derived from the impact assessment, and appropriate analysis and decision-making methods must be used.</i></p>		
<p><b>21. Environmental Management Plan (EMP)</b></p> <p><i>An EMP is sometimes called an Impact Management Plan. It is a necessary step to ensure that the developer is effectively committed to the implementation of the mitigation measures. It is also a useful corporate management tool.</i></p> <p>Does the EMP, as a minimum, present</p> <ul style="list-style-type: none"> <li>▪ The set of mitigation, remedial or compensatory measures?</li> <li>▪ A detailed description of each one, with indication and criteria for their effectiveness?</li> <li>▪ Detailed budgets for each one?</li> <li>▪ Timetables for Implementation?</li> <li>▪ Assignment of responsibilities, including an Environmental Manager?</li> <li>▪ The Environmental Policy</li> </ul>		
<p><b>OVERALL RATING FOR SECTION 21</b></p>		

<p><b>22. Monitoring</b></p> <p><i>Monitoring is a necessary step to ensure cost-effectiveness of the EMP. It is usually addressed under the EMP (see Section 20)</i></p> <p>Does the monitoring plan, as a <u>minimum</u>, address</p> <ul style="list-style-type: none"> <li>▪ What is going to be monitored (impact indicators)?</li> <li>▪ Where will samples be taken?</li> <li>▪ How the samples will be analysed (method/techniques)?</li> <li>▪ Criteria used to evaluate the results?</li> <li>▪ Financial and human resources required?</li> </ul>		
<p><b>OVERALL RATING FOR SECTION 22</b></p>		
<p><b>23. Implementation Plan for the Mitigation Measures and the Environmental Management Plan</b></p> <p><i>Implementation mechanisms must be in place to ensure effective implementation of the mitigation measures and all other recommendations that might arise from the ESIA study. It usually involves the assignment of a person responsible for environmental management and an approved timetable for implementation of measures.</i></p>		
<p><b>24. OVERALL EVALUATION OF THE ESIA REPORT (use the same criteria below, do not use the average of the individual ratings)</b></p>		

**Criteria for Rating**

1. Poorly performed; inadequate; large amount of complementary work needs to be done; existing work needs to be redone.
2. Not totally well performed; not completely adequate; significant complementary work needs to be done.
3. Well performed; adequate; small amount or no complementary work needs to be done.

**Note:**

**Overall evaluation cannot be rated more than the rating assigned to items 3, 4, 9, 11, 13, 20 and 21. If 1 or 2 < 2, then reject.**

## **ANNEX C: ISSUES TO BE CONSIDERED WHEN PREPARING THE TERMS OF REFERENCE**

### **1. Ecological consideration, including**

- a. Biological diversity
  - (i) Effect on number, diversity, breeding sites, etc. of flora and fauna
  - (ii) Breeding populations of fish and game; and
  - (iii) Effects on the gene pools of domesticated and wild sustainable yield.
- b. Sustainable use including
  - (i) Effects of soil fertility;
  - (ii) Nutrient cycles;
  - (iii) Aquifer recharge, water run-off rates, etc;
  - (iv) Aerial extent of habitats; and
  - (v) Bio-geographical processes.

### **2. Social, economic and cultural considerations including:**

- a. Effects on generation or reduction of employment in the area;
- b. Social cohesion or disruption (resettlement);
- c. Immigration (including induced development when people are attracted to a development site because of possible enhanced economic opportunities);
- d. Communication - roads opened up, closed, re-routed; and
- e. Local economic impacts.

### **3. Landscape**

- a. Views opened up or closed.
- b. Visual impacts (features, removal of vegetation, etc.).
- c. Compatibility with surrounding areas.
- d. Amenity opened up or closed e.g. recreation facilities.

### **4. Land Use**

- a. Effects on land uses and land potential in the project area and in the surroundings areas.
- b. Possibility of multiple uses.

### **5. Water**

- a. Effects of surface water quality and quantity.
- b. Effects on underground water quality and quantity.
- c. Effects on the flow regime the water course.

### **6. Air Quality**

- a. Effects on the quality of the ambient air of the area.
- b. Type and amount of possible emissions (pollutants).