



# **Environmental and Social Management Plan**

## **Chilime – Trishuli Project, Nepal**

**Report**

August, 2015

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# Environmental and Social Management Plan

## Chilime – Trishuli Project, Nepal

Prepared for:  
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## ANNEX A - Outline of Biodiversity Action Plan

**Note:** The epicentre of the 7.8 Gorkha Earthquake that hit Nepal on April 25th, 2015, was located only 50 km away from the Project area. The exact impacts to the Project area are not fully known yet. It is likely that the Project design will have to be amended due to impacts caused by the earthquake and the aftershocks. Any changes concerning this Project will be addressed during the next design stage.

## 1 INTRODUCTION

Environmental Resources Management GmbH, Germany (ERM), was appointed by KfW Development Bank (KfW) to support Nepal Electricity Authority (NEA, the Project Proponent) with improving the Initial Environmental Examination (IEE) documents for the 26.5 km Transmission Line (TL) and two substations (Chilime and Trishuli), hereafter referred to as “the Project”.

The Project is essential for transporting energy generated by hydropower projects in the Upper Trishuli Valley to Kathmandu Valley. The Government of Nepal, NEA, EIB (European Investment Bank) and KfW will finance the Project.

This Environmental and Social Management Plan (ESMP) presents the actions envisaged for implementing the environmental and social mitigation measures for the Project.

Some of the actions considered herein may require additional detailing in the form of procedures / action plans / monitoring plans for operational implementation.

This ESMP is based on the IEEs prepared by NEA (October & November 2014), and ERM's Gap Analysis (April 2015), IEE Addendum (July 2015) and Stakeholder Engagement Plan (August 2015).

## *PURPOSE OF THE ESMP*

The broad purpose of the ESMP is:

- Provide a structured list of actions to be undertaken during project implementation to ensure that environmental and social risks identified during the assessment process are addressed to international good practice and standards; and
- To provide assurance to third parties that their requirements with respect to environmental and social performance will be met.

The overall responsibility for implementation of a given measure always rests with the NEA, the Project Proponent; the specific implementation of ESMP items is then (usually, though not always) undertaken by the contractors who construct the Project. All contractors must adopt and comply with the policies and plans required as part of this ESMP.

Item	Topic / Potential Impact / Issue	Mitigation Measure	Responsibility	Indicator	Monitoring / KPI
<b>1 - GENERAL EHS MANAGEMENT</b>					
1.1	<i>Policy</i>	Develop an overarching Environmental, Health & Safety (EHS) Policy which should be communicated to all levels of the organization (currently no overall policy exists). The EHS policy documents the organisation's overall EHS aims and objectives in a policy statement, and identifies and registers environmental aspects and impacts and occupational health and safety risks as well as regulatory requirements.	NEA	Policy is in place and has been formally approved by NEA management. Employees and contractors are aware of it.	Developed and included in the ESMS.
1.2	<i>Environmental and Social Management System (ESMS)</i>	Formalisation and implementation of an ESMS for the Project with contents in conformance to IFC PS1 including stakeholder engagement and training to employees and contractors, according to their role in the Project.  Ensure that main construction contractor(s) have acceptable systems to manage environmental and social matters.	NEA	ESMS is in place and has been formally approved by NEA management. Employees and contractors are aware of it. Confirmed through monitoring/audit reports and training records.	Quarterly internal (NEA) monitoring and annual external auditing by Lender's representatives.  Report on status of system development and operation
1.3	<i>E&amp;S Management Capacity</i>	Appoint qualified person(s) to be responsible for and to oversee environmental, social, and occupational health and safety performance of contractors at the project site.	NEA	Appoint and maintain in place prior to and during construction and operation	

Item	Topic / Potential Impact / Issue	Mitigation Measure	Responsibility	Indicator	Monitoring / KPI
1.4	<i>Cumulative Impact</i>	<p>Ensure that the construction activities for their projects under development by NEA are planned to minimise disturbance to the natural and social environment due to construction of access roads, storage areas and work camps.</p> <p>Apply appropriate mitigation measures to avoid any spill of hazardous materials or liquids into the nearby rivers.</p> <p>Apply the erosion protection measures as outlined in the IEE and liaise with the other project developers in the area to apply the same measures.</p> <p>During the land inventory for the TL and substations, check if land owners are also potentially affected by other projects to ensure that those land owners that are affected by more than one project are protected from hardship.</p> <p>Install deflectors along the entire TL.</p> <p>Conduct full, detailed Cumulative Impact Assessment in accordance with IFC and EIB standards and adaptation of the ESMP to include mitigating measures and other recommendations that result from the CIA.</p> <p>NEA should paint the towers in green colour to reduce the visibility of the TL in the forest areas of the valley.</p>	NEA	<p>Completion of a full Cumulative Impact Assessment and adaptation of the ESMP.</p> <p>Address in Land Acquisition and Compensation Plan (LACP)</p>	CIA has been completed and provided to Lenders

Item	Topic / Potential Impact / Issue	Mitigation Measure	Responsibility	Indicator	Monitoring / KPI
1.5	<i>Emergency Preparedness and Response (EPRP)</i>	<p>Implementation of an Emergency Preparedness and Response Plan (EPRP), engineering contingencies, collisions, natural hazards and other emergencies during construction and operation to include:</p> <ul style="list-style-type: none"> <li>• The emergency response in the event of fire, accidents, earthquakes, floods;</li> <li>• Procedure for staff and subcontractors to report any incidents and the investigation, remediation and preventive actions taken,</li> <li>• Regular emergency response training;</li> <li>• Emergency communication procedure including with local communities and authorities.</li> </ul>	NEA	<p>EPRP is in place and has been formally approved by NEA management.</p> <p>Contractors and employees are aware of EPRP.</p>	Quarterly internal (NEA) monitoring and annual external auditing by Lender's representatives.
1.6	<i>Ongoing Communication to Affected Communities / Update and Implementation of Project SEP</i>	<p>Implement a Stakeholder Engagement Plan (SEP) including appointment of a member of staff as a focal community liaison officer and implementation of stakeholder grievance mechanism and FPIC activities.</p> <p>The SEP outlines appropriate reporting methods to provide annual reports to affected communities concerning ongoing risks, impacts and mitigation measures.</p> <p>The SEP will be updated prior to construction and a second time prior to operation. Additional updates due to Project development may be required.</p>	NEA	<p>Employment of Community Liaison Officer.</p> <p>Development of communication procedure.</p> <p>Annual reports to affected communities concerning ongoing risks, impacts and mitigation measures.</p> <p>Updated versions of SEP prior to construction and operation.</p>	Maintain a log of all communication with affected communities, including dates of future scheduled communications.
<b>2 - LABOUR AND WORKING CONDITIONS</b>					
2.1	<i>Working Conditions and Management of Worker Relationships</i>	<p>An overall Occupational Health &amp; Safety Plan will be implemented.</p> <p>Contracts shall include provision that all contractors shall abide by national regulations (e.g. Nepalese Labour</p>	NEA / Construction Contractor	<p>Worker Health and Safety Plan is in place and has been formally approved by NEA management. The Worker Health and Safety</p>	<p>Quarterly internal (NEA) monitoring and annual external auditing by Lender's representatives.</p> <p>Report immediately any</p>

Item	Topic / Potential Impact / Issue	Mitigation Measure	Responsibility	Indicator	Monitoring / KPI
		<p>Act), and the ILO standards.</p> <p>Company provisions for workers grievances shall be included in contracts with contractor companies.</p> <p>The Project will ensure not to discriminate people based on their gender, caste, colour and place of origin. Similarly, priority for jobs will be given to vulnerable groups as per their ability and skills and willingness to work in the Project area.</p> <p>Workers' accommodation to be provided in compliance with international best practice and IFC Standards and Guidance on workers accommodation. NEA to oversee accommodation conditions.</p>		<p>Plan is available in construction camps.</p> <p>Grievance log entries.</p> <p>Accommodation to meet international standards (see IFC Guidance Document on Workers Accommodation for reference).</p>	major incidents or issues.
2.2	<i>Child and Forced Labour</i>	<p>Contract documents will stipulate that no child or forced labour shall be employed by the Project. This refers not only to work sites, but also to camp sites.</p> <p>Child Labour Act (B.S. 2049) will be effectively implemented during the construction period. This Act also provides protection from heavy lifting and dangerous working to all those aged under 18 years.</p>	NEA / Construction Contractor	<p>Contractual Conditions.</p> <p>Valid work contract for all contractor personnel.</p>	External audit of contractor recruitment policies and procedures.
2.3	<i>Health, Water and Sanitation</i>	<p>The Project contractors will keep the Project area clean and hygienic to ensure that the Project does not cause the spread of communicable diseases.</p> <p>The workers camp will be provided with simple dry pit toilets constructed on hard ground and far from water sources. Toilets will be set up for temporary camps at the rate of approximately 1 toilet for 6 people.</p> <p>First aid kits will be maintained for preliminary treatment in emergencies, with specialist equipment being provided to existing health care facilities.</p> <p>Construction contractor proponent will provide safety</p>	NEA / Construction Contractor	<p>Contractual Conditions.</p> <p>Worker Health and Safety Plan is in place and has been formally approved by NEA management. is in Worker Health and Safety Plan is available in construction camps.</p>	Quarterly internal (NEA) monitoring and annual external auditing by Lender's representatives.

Item	Topic / Potential Impact / Issue	Mitigation Measure	Responsibility	Indicator	Monitoring / KPI
		<p>helmet, eye glass, safety boot, safety belt, firefighting accessories, to the work force at the work site.</p> <p>Prior to construction, quantify the required water amounts, water sources and the availability of water in terms of the volume that can be provided from the from the planned water courses.</p> <p>Based on this study, the impact on drinking water should be evaluated and a water management plan developed.</p>			
2.4	<i>Occupational Health and Safety</i>	<p>NEA will contractually stipulate that contractors apply good international practice as per PS 2 and the General and Sector-Specific EHS Guidelines</p> <p>Ensure that contractors (i) have qualified OHS supervisory staff on site and (ii) prepare and implement Health &amp; Safety Plans that comply with national requirements and the health and safety provisions contained in the <i>EHS Guidelines for Power Transmission and Distribution</i>. All workers shall receive safety induction.</p> <p>Daily hired workers are to have the same rights and working conditions as other construction workers.</p> <p>NEA shall ensure that provisions regarding construction health &amp; safety and labour conditions are put forward into the contracts with contractors and subcontractors. Such conditions shall be consistent with the requirements as set out in Section 6 “Staff and Labour” of the FIDIC “Pink Book” - Conditions of Contract for Construction, MDB Harmonised Edition, 2010 and the EHS Guidelines of the WBG and IFC Performance Standard 2 and the provisions of the environmental and</p>	NEA	<p>Contractors’ Supervisors on site.</p> <p>Health and Safety Plans in place.</p> <p>Training matrix for all contractor personnel.</p>	Quarterly internal (NEA) monitoring and annual external auditing by Lender’s representatives.

Item	Topic / Potential Impact / Issue	Mitigation Measure	Responsibility	Indicator	Monitoring / KPI
		<p>social management plan.</p> <p>NEA will be responsible to supervise the occupational health &amp; safety and environmental performance of contractors and the labour conditions.</p> <p>Contractor(s) will be responsible that all sub-contractors receive an EHS induction prior to starting work, a work-site orientation and on-the-job or formal training prior to being assigned a job. The Contractor shall apply best practice international standards to occupational safety with regard to use of personal protective equipment, work procedures (for tower erection and maintenance, substation construction and maintenance) and equipment movement. All employees will be provided with the necessary training and safety equipment as required for their respective responsibilities and duties.</p> <p>Main Contractor(s) has to ensure that each sub-contractor submits, at the tender stage, proof of its good OHS practices in order to be shortlisted for the work. In case that sub-contractors are required to execute specific specialist works on site (e.g., demolition, excavation, electrical work, welding) they will be required to describe a work method i.e. specifying how to reduce or eliminate potential risks. Safety induction meetings will be regularly conducted, and incident statistics maintained. A site management plan, safety &amp; health plan, including emergency response and hazardous material/waste management plans are obligatory under national OHS laws and regulations. Health and safety staff will be appointed and present on the construction site during working hours and will include an on-site first aid emergency capacity.</p>			

Item	Topic / Potential Impact / Issue	Mitigation Measure	Responsibility	Indicator	Monitoring / KPI
2.5	<i>Local recruitment</i>	Develop recruitment procedure to ensure that unskilled workers are recruited from within the Project area.	NEA/Construction Contractor	Contractual Conditions. Notices of job opportunities posted in local settlements.	Sample Contract Job announcement
2.6	<i>Supply Chain</i>	No child or forced labour to be used in the Project supply chain.	NEA	Requirement to be set out in supply contract documents.	Supply contract
<b>3 - RESOURCE EFFICIENCY AND POLLUTION PREVENTION</b>					
3.1	<i>Emergency Preparedness and Response</i>	<p>Implementation of an EPRP for spill containment and clean-up, engineering contingencies, collisions, natural hazards and other emergencies during construction and operation to include:</p> <ul style="list-style-type: none"> <li>• The emergency response in the event of spills, fire, accidents, earthquakes, floods;</li> <li>• Procedure for staff and subcontractors to report any incidents and the investigation, remediation and preventive actions taken,</li> <li>• Regular emergency response training;</li> <li>• Emergency communication procedure including with local communities and authorities.</li> </ul>	NEA	EPRP is in place and has been formally approved by NEA management.	Quarterly internal (NEA) monitoring and annual external auditing by Lender's representatives.
3.2	<i>Water Consumption</i>	<p>Prior to construction, quantify the required water amounts, water sources and the availability of water in terms of the volume that can be provided from the from the planned water courses.</p> <p>Based on this study, the impact on drinking water should be evaluated and a water management plan developed.</p>	NEA	Water Resource Availability Report. Development of Water Management Plan.	Quarterly internal (NEA) monitoring and annual external auditing by Lender's representatives.

Item	Topic / Potential Impact / Issue	Mitigation Measure	Responsibility	Indicator	Monitoring / KPI
3.3	Noise from vehicles and equipment	Implement a Vehicle Machinery and Inspection Programme of own and Contractor/third party trucks and other machinery; identify e.g. noisy exhausts, engines, loose parts of machinery.	NEA	Inspection log books for vehicles and machinery.  Confirmed through regular inspections and monitoring reports.	Quarterly internal (NEA) monitoring and annual external auditing by Lender's representatives.
3.4	Waste	<p>The construction contractor will be responsible for the development of a Waste Management Plan to ensure that all wastes (hazardous, non-hazardous, waste water) are all disposed of in an environmentally sound manner.</p> <p>Garbage and solid wastes generated in the Project area will, where practicable, be converted into compost. Where this is not possible, it will be buried in designed landfill areas.</p> <p>Good construction practices and site management will be adopted to avoid impacting soil and ground water, and pollution of water bodies from accidental spills from fuels and lubricants etc.</p> <p>Toilets will be provided during construction in all camps. Toilets will be simple dry pit toilets constructed on hard ground and far from water sources.</p> <p>There will be training for the workers in order to ensure adequate waste management.</p>	NEA / Construction Contractor	Contractual requirements.  Confirmed by external monitoring reports.	Monthly contractor waste management reports.
3.5	Traffic Management	<p>Develop Traffic Management Plan for construction phase, including at least:</p> <ul style="list-style-type: none"> <li>- Forecast of vehicle/equipment journeys and timing, including routes, based on indicative construction schedule</li> <li>- Driver training requirements</li> <li>- Maintenance requirements, with particular attention</li> </ul>	NEA	Confirmed through regular inspections and monitoring reports.	<p>Plan developed and implemented, disclosed to local authorities.</p> <p>Drivers trained, including contractors.</p> <p>Report on status of</p>

Item	Topic / Potential Impact / Issue	Mitigation Measure	Responsibility	Indicator	Monitoring / KPI
		<p>to proper operation of noise controls and emissions controls</p> <ul style="list-style-type: none"> <li>- Preferred routes for specific activities, including restrictions/limitations to minimize disturbance to schools, hospitals, other sensitive areas</li> <li>- Timing of activities to minimize road closures and disruption to local residents</li> <li>- Consultations with local authorities and traffic authorities</li> </ul> <p>Incident reporting and response actions.</p>			planning, highlights of implementation.
3.6	<i>Hazardous Materials Management</i>	<p>Development and implementation of a Hazardous Materials Management Plan. This plan shall describe measures to be implemented to prevent and control inadvertent spills of hazardous materials such as fuels and lubricants. All drivers and equipment operators must be aware of spill prevention and control measures.</p> <p>Waste oils and chemicals will be collected and stored in suitable storage tanks and disposed of by a certified company.</p>	NEA	<p>Hazardous Materials Management Plan exists and employees are aware.</p> <p>All spill events are logged in event reports.</p> <p>Maintenance of an inspection/maintenance logbook for vehicles.</p>	Quarterly internal (NEA) monitoring and annual external auditing by Lender's representatives.
3.7	<i>GHG emissions</i>	In order to avoid any leakage of SF6, handling of SF6 during transport to site, initial filling and maintenance of the gas insulated station will be undertaken only by the GIS manufacturer or mandated specialised companies.	NEA	Supply and maintenance contract.	Supply and maintenance contract
3.8	<i>Pesticide Use and Management</i>	<p>Pesticides / herbicides will not be used at all in any case.</p> <p>In exceptional case any such application would be required, NEA shall ensure that no extremely or highly hazardous pesticides (WHO classes I a and I b, <a href="http://www.who.int/ipcs/publications/pesticides_hazard/en/">http://www.who.int/ipcs/publications/pesticides_hazard/en/</a>) are utilized by any of the end-users.</p> <p>Moderately hazardous pesticides (WHO class II) are not</p>	NEA	-	-

Item	Topic / Potential Impact / Issue	Mitigation Measure	Responsibility	Indicator	Monitoring / KPI
		to be used, unless the end-user has appropriate controls established with respect to the manufacture, procurement, or distribution and/or use of these chemicals. These chemicals should not be accessible to personnel without proper training, equipment, and facilities in which to handle, store, apply, and dispose of these products properly.			
<b>4 - COMMUNITY HEALTH, SAFETY, AND SECURITY</b>					
4.1	<i>Air Quality</i>	Water spraying will be done to control dust pollution.	NEA / Construction Contractor	Community Health and Safety Plan. Grievance log	Regular monitoring
4.2	<i>Noise and Vibration</i>	Regular maintenance will be done for all equipment as per manufacturer's specifications.  Working hours will be limited in sensitive areas (e.g. near settlements).  Helmets, ear mufflers or plugs, safety boots and other safety equipment will be provided to the construction workers.	NEA	Community Health and Safety Plan. Grievance log	Regular monitoring. No complaints.
4.3	<i>Noise</i>	The TL emits some noise, especially during wet weather conditions, due to the so-called corona effect. The corona effect can be reduced through design and this should be applied in the detailed design.	NEA / Detailed Design Consultant	Detailed Design	Regular monitoring.
4.4	<i>Public Safety</i>	Public awareness about the possible collapsing or toppling of towers. Quick information system will be developed through locals/ NEA while happening of such incident particularly during earthquake or thunder. The awareness raising actions are described in the SEP.  Anti-climb guards will be installed at the base of each tower and an education programme for local schools	NEA	Public Awareness Sessions and Documentation. Emergency Response Procedure	Quarterly internal (NEA) monitoring and annual external auditing by Lenders' representatives.

Item	Topic / Potential Impact / Issue	Mitigation Measure	Responsibility	Indicator	Monitoring / KPI
		<p>will be developed to highlight the dangers of e.g. kite flying in proximity to the overhead lines.</p> <p>Develop and enforce code of conduct that is part of workers' contracts. This should include rules on interactions with local communities to prevent conflicts with local residents or other disruptions.</p>			
<b>5 - LAND ACQUISITION AND INVOLUNTARY RESETTLEMENT</b>					
5.1	<i>Compensation for loss of structures, land and crops</i>	<p>Preparation and implementation of Land Acquisition and Compensation Plan (LACP) in accordance with IFC PS 5.</p> <p>LACP to take account of the changes in the environmental and social baseline conditions in the Project area following the earthquake of 25<sup>th</sup> April, 2015, and subsequent seismic events.</p> <p>Appoint a qualified independent monitor of the implementation of the LACP.</p>	NEA	<p>Confirmed by minutes of meeting with affected people and LACP.</p> <p>To be included in monitoring reports.</p> <p>Appointment of qualified monitor.</p> <p>Development of monitoring plan for Lenders' approval.</p> <p>Implementation of monitoring plan.</p>	Quarterly internal (NEA) monitoring and annual external auditing by Lender's representatives.
<b>6 - BIODIVERSITY, CONSERVATION AND SUSTAINABLE MANAGEMENT OF LIVING NATURAL RESOURCES</b>					
6.1	<i>Topography, Land use pattern and Land-take</i>	<p>The natural slope disturbances will be minimized during the construction of tower pads.</p> <p>Erection of tower foundation in the unstable land and/or near water bodies will be avoided.</p> <p>Land fragmentation will also be avoided as far as possible.</p>	NEA / Construction Contractor	Detailed design drawings and method statements are available and followed.	Quarterly internal (NEA) monitoring and annual external auditing by Lender's representatives.

Item	Topic / Potential Impact / Issue	Mitigation Measure	Responsibility	Indicator	Monitoring / KPI
		<p>The stringing of the line and other construction activities will be done in off-farm season.</p> <p>Wherever possible the proposed TL will be aligned along the existing Right-of-Way (RoW) of gravel road and edges of the fields.</p>			
6.2	<i>Watershed</i>	<p>Streamside areas along the transmission line will be re-vegetated. Vegetation clearing and ground disturbances will be confined to within the foundation and required RoW.</p> <p>Top soil around the tower pad construction area will be stockpiled and reused for site restoration. Site restoration will be done at each tower site. Clearing works will be carried out in dry season to avoid erosion problems.</p> <p>Special technologies for foundation works like matt foundation will be selected of tower pads which are near to the road, streams and other flood prone areas. Adequate drainage around all the towers pad area will be provided.</p>	NEA / Construction Contractor	<p>No significant changes to drainage patterns are identified.</p> <p>No significant soil erosion.</p>	Proper inspection and maintenance of tower pad areas will be done to reduce the risk of soil erosion. The annual site verifications and costs will be borne by the Project proponent and will be included in the annual operation and maintenance budget.
6.3	<i>Forest / Vegetation Clearing</i>	<p>Tree felling is to be limited to the RoW for the TL and will be carried out manually, and any vegetation will be cleared without the requirement of herbicides.</p> <p>As required under Nepali law, any felled tree will be replaced with a 1:2 ratio.</p> <p>Any trees felled will be removed, counted, marked and harvested using proper management techniques and handed over to the relevant forest user groups.</p> <p>Contractors will be provided with kerosene to meet their fuel requirements, thereby removing the requirement to use cleared forest material as a fuel source.</p>	NEA	No net loss of biodiversity	Regular monitoring of newly planted trees. Newly planted trees to be managed for five years and maintenance and operation costs for each site will be borne by the Project.

Item	Topic / Potential Impact / Issue	Mitigation Measure	Responsibility	Indicator	Monitoring / KPI
		<p>Maximise use of manual labour during construction operations, to reduce requirements for path clearing for heavy plant equipment.</p> <p>All Natural Habitat will be classified prior to removal, so that a correct species mix offset is established in the areas to be re-vegetated.</p> <p>Re-vegetation on non-private land should be those with high economic value, such as Chriainto, Kurello, Jetrofa, Allevera, Asuro, Amriso.</p> <p>Where trees are felled on private land compensation will be paid as per the District Forest Office (DFO) norms depending on the species, and any wood extracted will be given to the owner. Costs for any transportation will be borne by the Project.</p>			
6.4	<i>Use of forest resources, hunting and poaching</i>	<p>All workers will be prohibited from the collection of non-timber forest products.</p> <p>Hunting and poaching will be strictly forbidden contractually.</p>	NEA / Construction Contractor	<p>Clauses included in contract documentation.</p> <p>Information and warning boards at construction sites.</p> <p>All contractors informed of wildlife law and act at orientation.</p>	Quarterly internal (NEA) monitoring and annual external auditing by Lender's representatives.
6.5	<i>Bird Collision</i>	<p>Trees under the TL's RoW will be maintained at a minimum height so as to reduce the potential for bird strikes.</p> <p>Silhouettes of prey and markers (e.g. alternating black and white stripes) will be placed on the TL to improve visibility of the TL, and where necessary, screens will be erected to prevent monkeys and other arboreal animals from climbing the towers. The exact locations of these</p>	NEA	Preventative measures included on Project infrastructure.	Regular monitoring, carcasses counts to test efficacy of preventative measures.

Item	Topic / Potential Impact / Issue	Mitigation Measure	Responsibility	Indicator	Monitoring / KPI
		will be set out in the Biodiversity Action Plan.			
6.6	<i>Biodiversity Action Plan</i>	A Biodiversity Action Plan (BAP) will be developed which covers all phases of the Project prior to Project commencement (an outline of which is presented in Annex A).  Employment of a dedicated environmental officer to monitor Project progress against the BAP, and to provide training to Project and local personnel.	NEA	A BAP exists, and all relevant stakeholders are aware of it.  Employment of Environmental Officer.	Quarterly internal (NEA) monitoring and annual external auditing by Lender's representatives.
6.7	<i>Fire</i>	A fire management plan to minimise the risk of forest fires will be developed and implemented by contractors.  Contractor tender documents will state that fire will not be used as a method of forest or vegetation clearance.	NEA	Fire Management Plan in place and all relevant Project staff including contractors are aware of it.	Quarterly internal (NEA) monitoring and annual external auditing by Lender's representatives.
6.8	<i>Conservation objectives</i>	Development of a Conservation Awareness Programme to educate local people about the importance of forest conservation, plantation and economic importance of forest and its role in rural society. A Wildlife Conservation Awareness programme will also be implemented. The conservation programme will cover the importance of wildlife conservation, wildlife occurrence in the Project area, existing rules and regulations with respect to wildlife and benefits associated with the wildlife conservation. Organization of lectures, distribution of pamphlets, audio visual, posters and mobilizing of local NGOs will be utilized for the awareness programme.	NEA	Conservation Awareness Programme in place.  Employment of Environmental Officer.  Awareness posters are posted and visible.	Quarterly internal (NEA) monitoring and annual external auditing by Lender's representatives.  Maintenance of records of presentations given.
<b>7 - CULTURAL HERITAGE</b>					
7.1	<i>Cultural Heritage</i>	Develop a Chance Finds Procedure taking into account local legislation and IFC PS 8. The Chance Finds Procedure will include:	NEA	A Chance Finds Procedure is in place and approved by NEA management.	Quarterly internal monitoring.  Maintenance of records of

Item	Topic / Potential Impact / Issue	Mitigation Measure	Responsibility	Indicator	Monitoring / KPI
		<ul style="list-style-type: none"> <li>- training of all site personnel in the recognition and proper handling and custody of archaeological finds;</li> <li>- establishment of protocols for responding to chance finds including cessation of works for finds and notification of NEA, who will advise the appropriate authorities; and</li> <li>- expedited procedures for evaluation and treatment of significant chance finds in order to limit impacts to important resources while limiting construction delays.</li> </ul>		Contractor and employees are familiar with Chance Finds Procedures.	any chance finds. Training records.
<b>8 - VISUAL IMPACTS</b>					
8.1	Visual Impact	In order to minimise visual impacts near the two substations, trees and bushes should be planted. For this measure, the availability of space, especially around Chilime Substation, should be checked and confirmed during the detailed design phase.	NEA / Detailed Design Consultants	Detailed Design	Area of available space for replanting is confirmed and replanting plan has been developed.

## ANNEX A - BIODIVERSITY ACTION PLAN OUTLINE

### Contents of a BAP

#### **1 INTRODUCTION**

##### **1.1 OVERVIEW**

##### **1.2 MANAGEMENT AREA FOR THIS BAP**

##### **1.3 PURPOSE AND OBJECTIVES OF THE BAP**

##### **1.4 COMPANY STRATEGY, POLICY, STANDARDS AND GUIDELINES**

*Chapter 1 Note: This chapter defines the project site and boundaries as well as outlines the objectives for the BAP. A BAP should also align with the aims, objectives and priorities of regional and local action plans where they exist*

#### **2 BIODIVERSITY BASELINE DATA**

##### **2.1 SUMMARY OF BASELINE DATA**

##### **2.2 DATA GAPS**

##### **2.3 IDENTIFICATION OF ACTIONS REQUIRED**

*Chapter 2 Note: This chapter should include a summary of the baseline data collected and identify any data gaps that would be needed to determine suitable mitigation measures that would ensure protection of biodiversity values. This chapter should describe the species, habitats and ecosystems (occurrence and services) that need special management, taking into account international, national and local priorities.*

#### **3 RISK ASSESSMENT**

##### **3.1 HABITAT LOSS – HABITAT TYPES**

##### **3.2 HABITAT LOSS – SPECIES SPECIFIC**

##### **3.3 HABITAT DEGRADATION AND FRAGMENTATION (INCLUDING INVASIVE SPECIES)**

##### **3.4 HUNTING AND POACHING**

##### **3.5 MORTALITY**

##### **3.6 FIRE**

*Chapter 3 Note: This chapter should summarise the key threats to biodiversity values that may occur as a result of project implementation. As the BAP may be used as a standalone document and be updated throughout the life of the construction and operational phases of the Project it is key these risks are listed within the BAP.*

#### **4 STAKEHOLDER CONSULTATION AND COMMUNITY ENGAGEMENT**

##### **4.1 SUMMARY OF STAKEHOLDER CONSULTATION**

##### **4.2 DATA GAPS**

##### **4.3 IDENTIFICATION OF ACTIONS REQUIRED**

*Chapter 4 Note: This chapter should describe the stakeholder consultation effort particularly in relation to the development of the BAP including local community, local and international experts, etc. Stakeholder engagement can help a company build trust, manage expectations, promote a partnership approach and allow companies to enjoy a better working environment, avoid conflict, foresee and prevent potential problems and improve their global business reputations. Actions identified should consider continuous open dialogues with 'community forests' stakeholders as they will play an integral role in the offset planning and implementation stage e.g. employment/ consultation for forest rehabilitation.*

#### **5 MANAGEMENT MEASURES**

##### **5.1 MANAGEMENT PROGRAM**

##### **5.2 RESPONSIBILITIES**

##### **5.3 BIODIVERSITY MONITORING**

*Chapter 5 Note: This chapter should describe the management program (i.e. identified actions required) aimed at achieving the objectives of the BAP. This should include prioritisation of actions with set targets including specific indicators, time frame and responsibilities against which monitoring of actions/progress can be undertaken. Continuous monitoring allows assessment of the effectiveness of each action and identify where changes to management are required.*

#### **6 EVALUATION OF THE BAP**

*Chapter 6 Note: This chapter should describe the assessment of the efficacy of the BAP in achieving the identified objectives. This is essentially a process of verification and improvement of the BAP. A local but independent review panel should be constituted with the mandate to evaluate the approach used within the BAP and assess its implementation.*

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