KENYA ELECTRICITY EXPANSION PROJECT-KPLC DISTRIBUTION COMPONENT

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK
For
KPLC DISTRIBUTION COMPONENT

Second Revised Draft

DECEMBER 21, 2009
# TABLE OF CONTENTS

**TABLE OF CONTENTS** ............................................................................................................. 2  
**ACRONYMS** .......................................................................................................................... 4  
**EXECUTIVE SUMMARY** ..................................................................................................... 5  
**CHAPTER ONE: INTRODUCTION** ....................................................................................... 9  
  1.1 BACKGROUND .................................................................................................................... 9  
  1.2 LEVEL OF ENVIRONMENTAL WORK ............................................................................... 9  
  1.3 COORDINATION OF ENVIRONMENTAL AND SOCIAL SCREENING AT KPLC .................. 10  
  1.4 PREPARATION AND USE OF THIS FRAMEWORK ........................................................... 10  
  1.5 ORGANIZATION OF THE FRAMEWORK ...................................................................... 11  
  2.1 KENYA LEGISLATION RELEVANT TO KENYA ELECTRICITY EXPANSION PROJECT IMPLEMENTATION ........................................................................................................... 12  
  2.2 ENVIRONMENTAL PROBLEMS IN KENYA .................................................................... 12  
  2.3 INSTITUTIONAL FRAMEWORK ....................................................................................... 12  
  2.3.1 National Environment Management Authority (NEMA) ...................................... 12  
  2.3.2 National Environment Council (NEC) ......................................................................... 14  
  2.4 ENVIRONMENTAL LEGAL FRAMEWORK .................................................................... 15  
  2.4.1 The Environment Management and Co-ordination Act, 1999 ............................... 15  
  2.4.2 Public Health Act (Cap. 242) ................................................................................... 15  
  2.4.3 Local Authority Act (Cap. 265) ................................................................................ 15  
  2.4.4 Waste Management Standards (Legal Notice 121: The Environmental Management Coordination (Waste Management) Regulations) ....................................... 16  
  2.4.5 Water Management Standards (Legal Notice 120: The Environmental Management Coordination (Water Quality) Regulations) ...................................................... 17  
  2.4.6 Environmental Management and Co-ordination (Noise and Excessive vibration pollution) (Control) Regulations, 2009 (Legal Notice 61) .................................................. 17  
  2.4.7 Physical Planning Act, 1996 ..................................................................................... 17  
  2.4.8 Land Planning Act (Cap. 303) .................................................................................. 18  
  2.4.9 Water Act, 2002 ..................................................................................................... 18  
  2.4.10 Energy Act of 2006 .................................................................................................. 19  
  2.4.11 Building Code 1968 .............................................................................................. 20  
  2.4.12 Penal Code Act (Cap.63) ........................................................................................ 20  
  2.4.13 The Wildlife Conservation and Management Act, Cap 376 .................................. 21  
  2.4.14 The Lakes and Rivers Act Chapter 409 Laws of Kenya ....................................... 21  
  2.4.15 The Forestry Services Act, 2005 ........................................................................... 21  
  2.4.16 Occupational Safety and Health Act, 2007 ............................................................ 21  
  2.4.17 The Traffic Act Chapter 295 Laws of Kenya ......................................................... 22  
  2.4.18 The Way leaves Act Cap 292 ................................................................................. 22  
  2.4.19 The Land Acquisition Act Chapter 295 Laws of Kenya ...................................... 22  
  2.5 THE WORLD BANK SAFEGUARD POLICIES ................................................................. 23  
  2.5.1 OP 4.01 Environmental Assessment ....................................................................... 24  
  2.5.2 OP 4.12 Involuntary Resettlement .......................................................................... 24  
  2.5.3 OP 4.04 Natural Habitats ....................................................................................... 25  
  2.5.4 OP 4.10 Indigenous People ................................................................................... 25  
  2.5.5 OP 4.09 Pest Management .................................................................................... 26  
  2.5.6 OP 4.11 Physical Cultural Resources .................................................................... 26  
  2.5.6 OP 4.36 Forests .................................................................................................... 26  
  2.5.7 World Bank’s Policy on Information Disclosure .................................................... 28  
**CHAPTER THREE: THE PROJECT** ................................................................................. 28
CHAPTER THREE: THE PROJECT .................................................................28

3.1 Introduction ............................................................................................. 28
3.2 Project Components (Please make sure this is current) ................................. 29
   3.2.1 Substations ....................................................................................... 29
   3.2.2 Power Distribution Lines .................................................................... 29
   3.2.3 Access roads ...................................................................................... 30
3.3 KPLC past Land Acquisition Procedure ...................................................... 30
   3.3.1 Substations ....................................................................................... 30
   3.3.2 Distribution lines (66kv and below) ...................................................... 31
3.4 Effectiveness in addressing concerns environmental and social concerns ..... 31

CHAPTER FOUR: THE ENVIRONMENTAL AND SOCIAL SCREENING PROCESS FOR
KENYA ELECTRICITY EXPANSION PROJECT .................................................33

4.1 Environmental and Social Screening Framework in Kenya ............................ 33
4.2 Environmental and Social Screening in the Framework ............................... 33
4.3 Application of the Screening Processes ......................................................... 33
4.4 The Screening Process ............................................................................... 37
4.5 Recommendation for Approval/Disapproval ............................................... 38

CHAPTER FIVE: PUBLIC CONSULTATION .........................................................44

5.1 Rationale for Consultation and Disclosure .................................................... 44
5.2 Instruments for Use during Consultations ..................................................... 45

CHAPTER SIX: ENVIRONMENTAL AND SOCIAL MONITORING ....................45

6.1 Purpose of the Environmental and Social Management Plan ......................... 46
6.2 Environmental and Social Impacts ................................................................ 46
6.3 Mitigation Measures .................................................................................. 47
6.4 Monitoring Plan ....................................................................................... 48
6.5 Identification and summary of potential adverse environmental and social
   impacts of sub-projects ................................................................................ 49
6.6 Proposed mitigation measures (with technical details to the extent possible): 49

CHAPTER SEVEN: INSTITUTIONAL SETUP FOR ENVIRONMENTAL AND SOCIAL
MONITORING AND CAPACITY BUILDING REQUIREMENTS ..........................51

7.1 Responsibilities for Environmental and Social Monitoring ............................ 51
7.2 Monitoring, Evaluation and Reporting ......................................................... 53
7.4 Capacity Building and Environmental Trainings .......................................... 53

ANNEXES ...................................................................................................... 56
<table>
<thead>
<tr>
<th>ACRONYMS</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EIA</td>
<td>Environmental Impact Assessment</td>
</tr>
<tr>
<td>EMCA</td>
<td>Environmental Management Act - 1996</td>
</tr>
<tr>
<td>ESMF</td>
<td>Environmental and Social Management Framework</td>
</tr>
<tr>
<td>ESMP</td>
<td>Environmental and Social Management Plan</td>
</tr>
<tr>
<td>ESSF</td>
<td>Environmental and Social Screening Form</td>
</tr>
<tr>
<td>IP</td>
<td>Indigenous People</td>
</tr>
<tr>
<td>IPM</td>
<td>Integrated Pest Management</td>
</tr>
<tr>
<td>LA</td>
<td>Local Authority</td>
</tr>
<tr>
<td>NEAP</td>
<td>The National Environmental Action Plan</td>
</tr>
<tr>
<td>NEP</td>
<td>National Environmental Policy - 2004</td>
</tr>
<tr>
<td>PCR</td>
<td>Physical Cultural Resources</td>
</tr>
<tr>
<td>PRA</td>
<td>Participatory Rapid Appraisal</td>
</tr>
<tr>
<td>RAP</td>
<td>Resettlement Action Plan</td>
</tr>
<tr>
<td>RPF</td>
<td>Resettlement Policy Framework</td>
</tr>
<tr>
<td>PIT</td>
<td>Project Implementation Team</td>
</tr>
<tr>
<td>SHE</td>
<td>Safety, Health and Environment</td>
</tr>
</tbody>
</table>
EXECUTIVE SUMMARY

Objectives of the Environmental and Social Management Framework

1. The Environmental and Social Management Framework (ESMF) seeks to institute a consistent and effective environmental and social screening process for application in all Kenya Electricity Expansion Project distribution component funded projects at local and national levels. Specifically, the following are the objectives of the ESMF:

   • To ensure that all sub-projects are screened for potential adverse environmental and social impacts and appropriate mitigation and monitoring measures, including cost estimates, are identified and implemented by qualified personnel at the local and national levels;
   • To support and empower Kenya Power and Lighting Company Regional officers to carry out the environmental and social screening process as outlined in this Framework, including the implementation and monitoring of mitigation measures of all sub-projects as necessary.

Legal Framework

2. A number of legislations, policies and instruments are available to support environmental management and the environmental impact assessment process in Kenya. The Environmental Management Coordination Act and other sectoral sections in other legislations are the key instruments that cover environmental management in all the sectors of development. The Environmental Impact Assessment Guidelines prescribe the process, procedures and practices for conducting an EIA and preparing the EIA reports. In addition to these instruments, there are sector specific policies and legislations that prescribe the conduct for managing the environment.

3. However, the national legislation does not include procedures for screening smaller-scale investments for potential adverse environmental and social impacts. To close this gap between national legislation and the Bank’s OP 4.01 Environmental Assessment which requires that all investments proposed for Bank-financing are screened for potential adverse environmental and social impacts and appropriate environmental work be carried out based on the screening results, this ESMF is being prepared. Based on the
screening results, the sub-project will either prepare a separate EA report; implement simple mitigation measures, or may not require any environmental work.

**KPLC Support in Screening Process**

4. The World Bank will ensure through this ESMF that all sub-projects funded by the bank will be screened for potential adverse environmental and social impacts. Based on the screening results, each sub-project will include local costs of implementing and monitoring the mitigation measures. This will be done through involvement of National Environment Management Authority and KPLC Environment Unit in coordination with the Project Implementation Team (PIT). This will be complimented by the availability of District Environmental Officers who are the environmental custodians.

**Capacity Building for KPLC Staff**

5. KPLC has a functional Safety, Health and Environment (SHE) department. The SHE staff will be included in Project Implementation Team (PIT). KPLC PIT staff with help from regional staff will be involved day to day in the implementation of the environmental screening process for sub-projects. The sub-component on strengthening KPLC PIT staff will include support for capacity building in environmental and social management as regards the rehabilitation and construction of distribution lines, sub stations and access roads. Selected KPLC staff are proposed to undergo training in environmental management systems and impact assessment, implementation of the environmental and social screening process outlined in this ESMF, hazardous waste management and pollution control and occupational safety and Health as part of capacity building.

6. The ESMF builds on experience gained under previous projects in KPLC which underlines the fact that environmental and social screening processes should be an integral part of a service delivery sub-project cycle. It is also based on the understanding of the environment and what constitutes degradation. Issues related to water resources, deforestation and loss of fertile soils have been rated as important as far as the environment is concerned.
7. The project cycle for each project that requires that each activity supported by expected resources provided for financing from World Bank and other donors will be screened for potential adverse environmental and social effects and that this process will be integrated as a routine activity within the project cycle processes.

**Screening Process**

8. The environmental and social screening process outlines the institutional responsibilities for the implementation of each step (steps 1-7). In addition to the Environmental and Social Screening Form, an Environmental and Social Checklist will be prepared and availed to facilitate the identification of simple mitigation measures for distribution sub-projects not requiring a separate EA report. Main features of the checklists will include; a detailed description of the activities to be undertaken, potential negative effects (environmental and social concerns), mitigation measures to be undertaken and the organization/person responsible for each activity, and monitoring responsibilities, and cost estimates.

**Proposed Mitigation Measures**

9. After environmental and social screening, mitigation measures will be identified for each negative impact identified during the screening process – with a particular focus on the safe disposal of PCB and creosote-treated poles. The Mitigation measures will be implemented by the contractor with monitoring done by KPLC PIT, KPLC’s Environment and Social Unit, and regional staff.

**Potential Impacts of Proposed Mitigation Measures**

10. Even though the magnitude of environment degradation at a single sub-project site may not be adverse but shall require adequate mitigation measure, efforts on mitigation will have the following positive impacts:

   1. Knowledge gained through training on environmental degradation and importance of mitigation will be used in other projects by KPLC.
   2. Soil erosion will be reduced due to the soil conservation measure that will be instituted at every sub-project regardless of its nature. Drainages around substation and access roads will continuously remind the communities and KPLC of its use in contributing to control of erosion.
3. Actual planting of trees as a replacement of vegetation that were cleared to pave way for construction

4. Tree planting will directly contribute to elimination of carbon dioxide in the air hence reducing ozone layer depletion.

5. The use of Environmental Guidelines for Contractors will ensure that environmentally and socially sustainable construction techniques are applied, and construction sites and camp sites are properly managed.

11. The estimated ESMF Implementation budget is **US$ 294,872** (refer to Annex 6 of this ESMF)
CHAPTER ONE: INTRODUCTION

1.1 Background

12. The objective of this Environmental and Social Screening Process (the screening process) is to ensure that the project’s distribution sub-projects are designed and implemented in an environmentally and socially sustainable manner, taking into account Kenya’s relevant sector legislation as well as the World Bank’s Safeguard Policies. The Electricity Expansion project has 13 environmental and social safeguards documents, which are prepared by KenGen, KPLC, Ketraco and REA for their respective sub-components. Every institution should be responsible in implementing of it sub component in the Electricity Expansion project that could be funded by World Bank.

13. KPLC PIT - with help of regional staff - will be responsible for completing the Environmental and Social Screening Form, and based on the screening results, the appropriate level of environmental work will be determined by KPLC’s Environment unit and carried out by qualified KPLC staff. The screening process has been developed because the locations and types of Kenya Electricity Expansion Project- distribution component funded sub-projects are not known prior to the appraisal of the parent project, and therefore potential adverse localized environmental and social impacts cannot be precisely identified. Furthermore, Kenya's environmental legislation does not provide for the environmental and social screening of small-scale projects, such as those included in the distribution component of the Electricity Expansion Project, whereas the Bank's OP 4.01 Environmental Assessment requires that all projects are screened for potential adverse environmental and social impacts to determine the appropriate mitigation measures.

1.2 Level of Environmental Work

14. The appropriate level of environmental work could range from the application of simple mitigation measures (using the Environmental and Social Checklist); to the preparation of a comprehensive EIA Report; to no environmental work being required. The environmental and social screening process is consistent with Kenya's environmental policies and laws as discussed in this Framework, as well as with the Bank's OP 4.01 Environmental Assessment.
15. It is expected that the project will have limited negative environmental and social impacts. However, potential localized adverse environmental and social impacts that would require proper mitigation and possibly the preparation of a comprehensive EIA might occur. The Environmental and Social Screening Form will enable sub-project implementers to identify, assess and mitigate potential negative environmental and social impacts; and to ensure proper mitigation and possibly the preparation of a comprehensive EIA and or Resettlement Action Plan (RAP) where appropriate. The RAP would be prepared based on the guidance provided in the Resettlement Policy Framework (RPF). The RPF has been prepared as a separate document, consistent with the requirements of the Bank’s OP 4.12 Involuntary Resettlement.

1.3 Coordination of Environmental and Social Screening at KPLC

16. It will be of critical importance during the implementation of Kenya Electricity Expansion Project distribution component whose funding is expected from World Bank and other donors, to be coordinated closely by KPLC environment unit to ensure that the investments are consistent with those being implemented in the energy sectors. This will be achieved by ensuring the involvement of the district environmental officers in the evaluation of environmental impacts.

1.4 Preparation and Use of this Framework

17. This ESMF has been prepared by KPLC based on previous experience on projects that have been handled. The ESMF provides a guide to be used within existing Government Policy regulations for environment and social processes and the Bank’s safeguard policies. This ESMF will be a living document that will be subject to periodic review to address specific concerns raised by stakeholders, and emerging policy requirements. It will compliment the environmental impact assessment and environmental audits guidelines provided for operationalisation of provisions of the Environmental Management and Coordination Act of 1999 which doesn’t require EIA to be carried for distribution lines.

18. This Environmental and Social Screening Process is to be used by key stakeholders involved in the planning, implementation, management and operation of future KPLC funded sub-projects. As a reference material, the process would be useful to the following
KPLC key stakeholders:

- Funding and development partners;
- Local and political leaders;
- Senior government officials responsible for policy making and development planning;
- Government extension workers in the various ministries; and
- Non-governmental organizations involved in natural resource management.

1.5 Organization of the Framework

The Framework is organized as follows:

Chapter 1 provides the introduction to the Framework;
Chapter 2 presents the legal framework within which Kenya Electricity Expansion Project distribution component KPLC funded projects will operate;
Chapter 3 presents a summary of the Kenya Electricity Expansion project;
Chapter 4 describes the potential environmental and social impacts of the Electricity Expansion Project
Chapter 5 describes the proposed environmental and social mitigation measures
Chapter 6 presents the environmental and social screening process for sub-projects;
Chapter 7 presents the public consultation process carried out during the preparation of the ESMF and summarizes the outcomes;
Chapter 8 indicates environmental indicators how environmental and social monitoring will be conducted;
Chapter 9 provides the institutional setup for environmental and social monitoring and capacity building and training at KPLC to ensure efficient implementation of the ESMF.
CHAPTER TWO: THE LEGAL FRAMEWORK

2.1 Kenya Legislation Relevant to the Implementation of the Distribution Component of the Kenya Electricity Expansion Project

19. There is a growing concern in Kenya and at global level that many forms of development activities cause damage to the environment. Development activities have the potential to damage the natural resources upon which the economies are based. Environmental Impact Assessment is a useful tool for protection of the environment from the negative effects of developmental activities. It is now accepted that development projects must be economically viable, socially acceptable and environmentally sound.

2.2 Environmental Problems in Kenya

20. There are many environmental problems and challenges in Kenya today. Among the cardinal environmental problems include: loss of biodiversity and habitat, land degradation, land use conflicts, human animal conflicts, water management and environmental pollution. This has been aggravated by lack of awareness and inadequate information amongst the public on the consequences of their interaction with the environment. KPLC is aware of the important role the environment plays and as such strives to carry its activities in an environmentally friendly way.

2.3 Institutional Framework

21. At present there are over twenty (20) institutions and departments which deal with environmental issues in Kenya. Some of the key institutions include:

2.3.1 National Environment Management Authority (NEMA)

22. The objective and purpose for which NEMA is established is to exercise general supervision and co-ordinate over all matters relating to the environment and to be the principal instrument of the government in the implementation of all policies relating to the environment. However, NEMA’s mandate is designated to the following committees:

2.3.1.1 Provincial and District Environment Committees

23. According to EMCA, 1999 No. 8, the Minister by notice in the gazette appoints Provincial and District Environment Committees of the Authority in
respect of every province and district respectively. The Provincial and District Environment Committees are responsible for the proper management of the environment within the Province and District in respect of which they are appointed. They are also to perform such additional functions as are prescribed by the Act or as may, from time to time be assigned by the Minister by notice in the gazette. The decisions of these committees are legal and it is an offence not to implement them.

2.3.1.2 Public Complaints Committee

24. The Committee performs the following functions:

- Investigate any allegations or complaints against any person or against the authority in relation to the condition of the environment in Kenya and on its own motion, any suspected case of environmental degradation and to make a report of its findings together with its recommendations thereon to the Council.
- Prepare and submit to the Council periodic reports of its activities which shall form part of the annual report on the state of the environment under section 9 (3) and
- To perform such other functions and excise such powers as may be assigned to it by the Council.

2.3.1.3 National Environment Action Plan Committee

25. This Committee is responsible for the development of a 5-year Environment Action Plan among other things. The National Environment Action Plan shall:

- Contain an analysis of the Natural Resources of Kenya with an indication as to any pattern of change in their distribution and quantity over time.
- Contain an analytical profile of the various uses and value of the natural resources incorporating considerations of intergenerational and intra-generational equity.
- Recommend appropriate legal and fiscal incentives that may be used to encourage the business community to incorporate environmental requirements into their planning and operational processes.
- Recommend methods for building national awareness through environmental education on the importance of sustainable use of the environment and natural resources for national development.
• Set out operational guidelines for the planning and management of the environment and natural resources.
• Identify actual or likely problems as may affect the natural resources and the broader environment context in which they exist.
• Identify and appraise trends in the development of urban and rural settlements, their impact on the environment, and strategies for the amelioration of their negative impacts.
• Propose guidelines for the integration of standards of environmental protection into development planning and management.
• Identify and recommend policy and legislative approaches for preventing, controlling or mitigating specific as well as general diverse impacts on the environment.
• Prioritise areas of environmental research and outline methods of using such research findings.
• Without prejudice to the foregoing, be reviewed and modified from time to time to incorporate emerging knowledge and realities and;
• Be binding on all persons and all government departments, agencies, States Corporation or other organ of government upon adoption by the national assembly.

2.3.1.4 Standards and Enforcement Review Committee

26. This is a technical Committee responsible for environmental standards formulation, methods of analysis, inspection, monitoring and technical advice on necessary mitigation measures.

2.3.1.5 National Environment Tribunal

27. This tribunal guides the handling of cases related to environmental offences in the Republic of Kenya.

2.3.2 National Environment Council (NEC)

28. EMCA 1999 No. 8 part iii section 4 outlines the establishment of the National Environment Council (NEC). NEC is responsible for policy formulation and directions for purposes of EMCA; set national goals and objectives and determines policies and priorities for the protection of the environment and promote co-operation among public departments, local authorities, private
sector, non-governmental organisations and such other organisations engaged in environmental protection programmes.

2.4 Environmental Legal Framework

2.4.1 The Environment Management and Co-ordination Act, 1999
29. Part II of the Environment Management & Coordination Act, 1999 states that every person in Kenya is entitled to a clean and healthy environment and has the duty to safeguard and enhance the environment. In order to partly ensure this is achieved, Part VI of the Act directs that any new programme, activity or operation should undergo environmental impact assessment and a report prepared for submission to the National Environmental Management Authority (NEMA), who in turn may issue a license as appropriate.

30. KPLC is committed to ensuring that all its activities are carried out in an environmentally friendly manner throughout the three major project phases of design, construction and operation of the proposed project.

2.4.2 Public Health Act (Cap. 242)

31. Part IX, section 115, of the Act states that no person/institution shall cause nuisance or condition liable to be injurious or dangerous to human health. Section 116 requires that Local Authorities take all lawful, necessary and reasonably practicable measures to maintain their jurisdiction clean and sanitary to prevent occurrence of nuisance or condition liable to be injurious or dangerous to human health. Such nuisance or conditions are defined under section 118 and include nuisances caused by accumulation of materials or refuse which in the opinion of the medical officer of health is likely to harbour rats or other vermin. The environmental management plan (EMP) advises the Proponent on safety and health aspects, potential impacts, personnel responsible for implementation and monitoring, frequency of monitoring, and estimated cost.

32. KPLC shall observe policy and regulatory requirements and implement measures to safeguard public health and safety.

2.4.3 Local Authority Act (Cap. 265)
33. Section 140 helps local authorities ensure effective utilization of the sewages systems. Section 170, allows the right to access to private property at all times by local authorities, its officers and servants for purposes of inspection, maintenance and alteration or repairs of sewers. The Act under section 176 gives powers to local authority to regulate sewage and drainage, fix charges for use of sewers and drains and require connecting premises to meet the related costs. According to section 174, any charges so collected shall be deemed to be charges for sanitary services and will be recoverable from the premise owner connected to the facility. Section 264 also requires that all charges due for sewage sanitary and refuse removal shall be recovered jointly and severally from the owner and occupier of the premises in respect of which the services were rendered. This in part allows for application of the “polluter-pays-principle”

34. To ensure sustainability in this regard, the each local authority is empowered to make by-laws in respect of all such matters as are necessary or desirable for the maintenance of health, safety and wellbeing of the inhabitants of its area as provided for under section 201 of the Act.

35. KPLC shall observe the guidelines as set out in the environmental management and monitoring plan laid out in this report as well as the recommendation provided for mitigation/minimisation/avoidance of adverse impacts arising from the project activities.

**2.4.4 Waste Management Standards (Legal Notice 121: The Environmental Management Coordination (Waste Management) Regulations)**

36. The regulation provides that a waste generator shall use cleaner production methods, segregate waste generated and the waste transporter should be licensed. The notice further states no person shall engage in any activity likely to generate any hazardous waste without a valid Environmental Impact Assessment license issued by the National Environment Management Authority.

37. Hazardous waste will not be generated from this development. The project proponent will ensure that waste is segregated and a licensed waste transporter is contracted to disposed solid waste.

38. KPLC will manage all the construction waste as per the provision of this regulation.
2.4.5 Water Management Standards (Legal Notice 120: The Environmental Management Coordination (Water Quality) Regulations)

39. This Legal Notice on Water Quality provides that anyone who discharges effluent into the environment or public sewer shall be required to apply for Effluent Discharge License. The license for discharge is Kshs 5,000 while annual license fee for discharge into the environment will be Kshs. 20,000 or Kshs 100,000 depending on the facility. Non compliance with the regulations attracts a fine not exceeding Kshs 500,000 and the polluter pay principle may apply depending on the court ruling. The table below gives NEMA Waste Water Discharge Guidelines.

2.4.6 Environmental Management and Coordination (Noise and Excessive vibration pollution) (Control) Regulations, 2009 (Legal Notice 61)

40. This regulation prohibits any person to cause unreasonable, unnecessary or unusual noise which annoys, disturbs, injures or endangers the comfort, repose, health or safety of others and the environment. Part 11 section 6(1) provides that no person is shall cause noise from any source which exceeds any sound level as set out in the First Schedule of the regulations.

2.4.7 Physical Planning Act, 1996

41. The Local Authorities are empowered under section 29 of the Act to reserve and maintain all land planned for open spaces, parks, urban forests and green belts. The same section, therefore allows for the prohibition or control of the use and development of land and buildings in the interest of proper and orderly development of an area.

41. Section 24 of the Physical Planning Act gives provision for the development of local physical development plan for guiding and coordinating development of infrastructure facilities and services within the area of authority of County, municipal and town council and for specific control of the use and development of land. The plan shows the manner in which the land in the area may be used.

42. Section 36 states that if in connection with development application a local authority is of the opinion that, the proposed activity will have injurious impact
on the environment, the applicant shall be required to submit together with the application an Environmental Impact Assessment report. The environmental impact assessment report must be approved by the National Environmental Management Authority (NEMA) and followed by annual environmental audits as spelled out by EMCA 1999. Section 38 states that if the local authority finds out that the development activity is not complying to all laid down regulations, the local authority may serve an enforcement notice specifying the conditions of the development permissions alleged to have been contravened and compel the developer to restore the land to its original conditions.

2.4.8 Land Planning Act (Cap. 303)
43. Section 9 of the subsidiary legislation (The Development and Use of Land Regulations, 1961) under this Act requires that before the local authorities submit any plans to their Minister for approval, steps should be taken as may be necessary to acquire the owners of any land affected by such plans.

2.4.9 Water Act, 2002
44. Part II, section 18, of the Water Act 2002 provides for national monitoring and information system on water resources. Following on this, sub-section 3 allows the Water Resources Management Authority (WRMA) to demand from any person or institution, specified information, documents, samples or materials on water resources. Under these rules, specific records may require to be kept by a facility operator and the information thereof furnished to the authority.

45. The Water Act Cap 372 vests the rights of all water to the state, and the power for the control of all body of water with the Minister, the powers is exercised through the Minister and the Director of water resources in consultation with the water catchments boards, it aims at provision of conservation of water and appointment and use of water resources. Part II Section 18 provides for national monitoring and information systems on water resources. Following on this, Sub-section 3 allows the Water Resources Management Authority to demand from any person, specified information, documents, samples or materials on water resources. Under these rules, specific records may be required to be kept and the information thereof furnished to the authority on demand.

46. Section 76 states that no person shall discharge any trade effluent from any trade premises into sewers of a licensee without the consent of the licensee upon application indicating the nature and composition of the effluent,
maximum quantity anticipated, flow rate of the effluent and any other information deemed necessary. The consent shall be issued on conditions including the payment rates for the discharge as may be provided under section 77 of the same Act.

2.4.10 Energy Act of 2006

47. The Energy Act of 2006, replaced the Electric Power Act of 1997 and The Petroleum Act, Cap 116. The Energy Act, amongst other issues, deals with all matters relating to all forms of energy including the generation, transmission, distribution, supply and use of electrical energy as well as the legal basis for establishing the systems associated with these purposes.

48. The Energy Act, 2006, also established the Energy Regulatory Commission (ERC) whose mandate is to regulate all functions and players in the Energy sector. One of the duties of the ERC is to ensure compliance with Environmental, Health and Safety Standards in the Energy Sector, as empowered by Section 98 of the Energy Act, 2006.

In this respect, the following environmental issues will be considered before approval is granted:

1. The need to protect and manage the environment, and conserve natural resources;
2. The ability to operate in a manner designated to protect the health and safety of the project employees; the local and other potentially affected communities.

49. Licensing and authorisation to generate and transmit electrical power must be supported by an Environmental Impact Assessment Report (EIA) approved by NEMA.

50. Part IV Section 80(1) provides that a person shall not conduct a business of importation, refining, exportation, whole sale, retail, storage or transportation of petroleum, except under and in accordance with the terms and conditions of a valid licence.

51. Part IV Section 90 (1) stipulates that a person intending to construct a pipeline, refinery, bulk storage facility or retail dispensing site shall before commencing such construction, apply in writing to the Energy Regulatory commission for a permit to do so.
The application shall: specify the name and address of the proposed owner; be accompanied by three (3) copies of plans and specifications and be accompanied by an Environmental Impact Assessment (EIA) Report.

52. Part IV section 91(1) stipulates that the Energy Regulatory Commission shall, before issuing a permit under section 90, take into account all relevant factors including the relevant government policies and compliance with Environment Management and Coordination Act, 1999 and in particular EIA report as per Impact Assessment and Audit Regulations 2003, the Physical Planning Act, 1996 and the Local Government Act.

53. Part iv section 100 (1) provides that it is an offence if a person being the owner or operator of a refinery, pipeline, bulk liquefied Petroleum gas or natural gas facility, service station, filling station or storage depot, fails to institute appropriate environmental, health or safety control measures. The offence if convicted, he/she shall be liable to a fine not exceeding two million shillings or to a maximum term of imprisonment of two years, or to both.

2.4.11 Building Code 1968
54. Section 194 requires that where sewer exists, the occupants of the nearby premises shall apply to the local authority for a permit to connect to the sewer line and all the wastewater must be discharged into sewers.

2.4.12 Penal Code Act (Cap.63)
55. Section 191 of the penal code states that if any person or institution that voluntarily corrupts or foils water for public springs or reservoirs, rendering it less fit for its ordinary use is guilty of an offence. Section 192 of the same Act says a person who makes or vitiates the atmosphere in any place to make it noxious to health of persons /institution, dwelling or business premises in the neighborhood or those passing along public way, commit an offence.

56. KPLC shall observe the guidelines as set out in the environmental management and monitoring plan laid out in this report as well as the recommendation provided for mitigation/minimization/avoidance of adverse impacts arising from the project activities.
2.4.13 The Wildlife Conservation and Management Act, Cap 376

57. This Act provides for the protection, conservation and management of wildlife in Kenya. The provisions of this Act should be applied in the management of the project. Part III Section 13 subsection (I) stipulates that any person who not being an officer of Kenya Wildlife Service hunts any animal in a National Park shall be guilty of a forfeiture offence and liable to a fine or imprisonment. Subsection 2 of the Act likewise provides that any person who, without authorization conveys into a National Park, or being within the area thereof, in possession of, any weapon, ammunition, explosive, trap or poison, shall be guilty of a forfeiture offence. The Act provides that no person is allowed to use any aircraft, motor vehicle or mechanically propelled vessel to manage a drive, stampede or unduly disturb any protected animal or game animal. Therefore it will be prudent that the construction workforce is conversant with the provisions of this Act.

2.4.14 The Lakes and Rivers Act Chapter 409 Laws of Kenya:

58. This Act provides for protection of rivers, lakes and associated flora and fauna. The provisions of this Act may be applied in the management of the project.

2.4.15 The Forestry Services Act, 2005

59. The Act led to the establishment of Kenya Forest Service which is charged with management of forests in consultation with the forest owners. The body enforces the conditions and regulations pertaining to logging, charcoal making and other forest utilization activities.

60. To ensure community participation in forest management, the service collaborates with other organizations and communities in the management and conservation of forests and for the utilization of the biodiversity.

61. Section 43 subsection 1 provides that if mining, quarrying or any other activity carried out in the forest, shall, where activity concerned is likely to result in forest cover depletion, the person responsible shall undertake compulsory re-vegetation immediately upon the completion of the activity.

2.4.16 Occupational Safety and Health Act, 2007
62. Before any premises are occupied, or used a certificate of registration must be obtained from the Director of Occupational Safety and Health Services. The Act provides for the health, safety and welfare for employees at workplaces. This shall be considered at the construction, implementation and decommissioning phases of the project.

2.4.17 The Traffic Act Chapter 295 Laws of Kenya

63. This Act consolidates the law relating to traffic on all public roads. The Act also prohibits encroachment on and damage to roads including land reserved for roads. KPLC will observe the provision of this Act.

2.4.18 The Way leaves Act Cap 292

64. According to the Way leaves Act Cap 292 Section 2, Private land does not include any land sold or leased under any Act dealing with Government lands. Section 3 of the Act states that the Government may carry any sewer, drain or pipeline into, through, over or under any lands whatsoever, but may not in so doing interfere with any existing building. Section 8 further states that any person who, without the consent of the Permanent Secretary to the Ministry responsible for works (which consent shall not be unreasonably withheld), causes any building to be newly erected over any sewer, drain or pipeline the property of the Government shall be guilty of an offence and liable to a fine of one hundred and fifty shillings, and a further fine of sixty shillings for every day during which the offence is continued after written notice in that behalf from the Permanent Secretary; and the Permanent Secretary may cause any building erected in contravention of this section to be altered, demolished or otherwise dealt with as he may think fit, and may recover any expense incurred by the Government in so doing from the offender.

2.4.19 The Land Acquisition Act Chapter 295 Laws of Kenya

65. The Act provides for the compulsory or otherwise acquisition of land from private ownership for the benefit of the general public. Section 3 states that when the Minister is satisfied on the need for acquisition, notice will be issued through the Kenya Gazette and copies delivered to all the persons affected. Full compensation for any damage resulting from the entry onto land to do things such as survey upon necessary authorization will be undertaken in accordance with section 5 of the Act. Likewise where land is acquired
compulsorily, full compensation shall be paid promptly to all persons affected in accordance to sections 8 and 10 along the following parameters:

(i) Area of land acquired
(ii) The value of the property in the opinion of the Commissioner of land (after valuation),
(iii) Amount of the compensation payable,
(iv) Market value of the property,
(v) Damages sustained from the severance of the land parcel from the land,
(vi) Damages to other property in the process of acquiring the said land parcel,
(vii) Consequences of changing residence or place of business by the land owners,
(viii) Damages from diminution of profits of the land acquired.

66. Part II of the Act allows for the temporary acquisition of the land for utilisation in promotion of the public good for periods not exceeding 5 years. At the expiry of the period, the Commissioner of Land shall vacate the land and undertake to restore the land to the conditions it was before. Any damages or reduction of value shall be compensated to the landowners.

2.5 The World Bank Safeguard Policies

2.5.1 An overview of the Safeguard Policies

67. The World Bank’s environmental and social safeguard policies are a cornerstone of its support to sustainable poverty reduction. The objective of these policies is to prevent and mitigate undue harm to the local people and their environment in the development process. These policies do provide guidelines for Bank-funded projects in the identification, preparation, and implementation of programs and projects. The effectiveness and development impact of projects and programs supported by the Bank has substantially increased as a result of attention to these policies. Safeguard policies have often provided a platform for the participation of stakeholders in project design, and have been an important instrument for building ownership among local populations for the projects and programs that are being implemented. These safeguard policies and the disclosure policy (BP 17.50) include the following: OP 4.01 Environmental assessment; OP 4.04 Natural habitats; OP 4.36 Forests; OP 4.09 Pest management; OP 4.11 Physical cultural resources; OP 4.12 Involuntary resettlement; OP 4.10 Indigenous people; OP
4.37 Safety of dams; OP 7.50 Projects on International waters; and OP 7.60 Projects in Disputed areas. A summary of the ten safeguard policies is provided in Annex 3.

68. The activities of the proposed distribution component of the Kenya Electricity Expansion Project have triggered the following World Bank safeguards policies OP 4.01, OP 4.10 and OP 4.12. OP 4.04, OP 4.10, and OP 4.11 may be triggered.

2.5.2 OP 4.01 Environmental Assessment

69. The objective of OP 4.01 is to ensure that Bank-financed projects are environmentally sound and sustainable, and that decision-making is improved through appropriate environmental screening, analysis of actions and mitigation of their likely environmental impacts and monitoring. This policy is triggered if a project is likely to have potential adverse environmental and social impacts in its area of influence. The construction and rehabilitation of various types of sub stations, distribution lines and access roads as well as the use of quarries and borrow pits and the establishment of camp sites under distribution component of the Kenya Electricity Expansion Project are likely to have some adverse environmental and social impacts, which will require mitigation. Therefore, OP 4.01 has been triggered, and in line with this operational policy, the environmental and social screening process for the distribution component of the Kenya Electricity Expansion Project (KPLC) funded sub-projects has been prepared.

2.5.3 OP 4.12 Involuntary Resettlement

70. The objective of OP 4.12 is to avoid or minimize involuntary resettlement where feasible, exploring all viable alternative project designs. Furthermore, it intends to assist displaced persons in improving their former living standards; it encourages community participation in planning and implementing resettlement and in providing assistance to affected people, regardless of the legality of title of land. This policy is triggered not only if physical relocation occurs, but also by any loss of land resulting in: relocation or loss of shelter; loss of assets or access to assets; loss of income sources or means of livelihood, whether or not the affected people must move to another location.
71. A separate document, the Resettlement Policy Framework (RPF) has been prepared for the distribution component of the Kenya Electricity Expansion Project for KPLC that will be funded from the World Bank. The RPF outlines the principles and procedures to be applied in the event that any Kenya Electricity Expansion Project funded distribution sub-projects involve land acquisition and thus require the mitigation of potential adverse social impacts. Where there is land acquisition, impact on assets, and/or loss of livelihood, the RPF guidelines must be followed and a RAP completed prior to sub-project implementation. Where there are differences between Kenya’s legislation and the Bank’s operational policy, the latter prevails for the duration of project implementation.

2.5.4 OP 4.04 Natural Habitats

72. This policy recognizes that the conservation of natural habitats is essential to safeguard their unique biodiversity. Natural habitats comprise terrestrial, freshwater, coastal, and marine ecosystems. They include areas lightly modified by human activities, but retaining their ecological functions and most native species. The Bank supports the protection, management, and restoration of natural habitats in its project financing. The Bank supports, and expects borrowers to apply a precautionary approach to natural resource management to ensure environmentally sustainable development. This policy is not triggered by the proposed project because it is unlikely to have negative impacts on natural habitats as the distribution lines will be built mostly on existing road reserves and sub-stations location sites and thus will avoid natural habitats.

2.5.5 OP 4.10 Indigenous Peoples

74. The objective of this policy is to (i) ensure that the development process fosters full respect for the dignity, human rights, and cultural uniqueness of indigenous peoples; (ii) ensure that adverse effects during development process are avoided, or if not feasible, ensure that these are minimized, mitigated or compensated; and (iii) ensure that indigenous peoples that will have negative effects on receive culturally appropriate and gender and inter-generationally inclusive social and economic benefits.

75. The policy advocates for the full respect for human rights, economies, and cultures of IP and avoidance of adverse effects on IP during the project development.
76. This policy will be triggered when there are indigenous people in the proposed project area. Policy triggered whether potential impacts to indigenous people are positive or negative.

2.5.6 OP 4.09 Pest Management

77. The aim of the policy is to ensure pest management activities follow an Integrated Pest Management (IPM) approach, minimize environmental and health hazards due to pesticide use and contribute to developing national capacity to implement IPM and to regulate and monitor the distribution and use of pesticides. The policy has not been triggered because pesticides and/or herbicides won’t be used under the Electricity Expansion Project’s distribution component.

2.5.7 OP 4.11 Physical Cultural Resources

78. The Physical Cultural Resources (PCR) includes archaeological and historical sites, historic urban areas, sacred sites, graveyards, burial sites, unique natural values. The policy aims to ensure that Physical Cultural Resources (PCR) are identified and protected in World Bank financed projects, and national laws governing the protection of physical, cultural property are complied with. The policy is implemented as an element of the Environmental Assessment. The distribution lines will mainly be constructed along road reserves and substation sites will be acquired from sites located far from areas with physical cultural resources hence OP 4.11 has not been triggered. However, the ESMF includes guidance in the event chance finds are made (see Annex 1, 3).

2.5.8 OP 4.36 Forests

79. The policy aims to ensure that Forests are managed in a sustainable manner, significant areas of forest are not encroached upon and the rights of communities to use their traditional forest areas in a sustainable manner are not compromised. The distribution lines will mainly be constructed on road reserves hence OP 4.36 has not been triggered.

2.5.9 OP 7.50 Projects in International Waters

80. The objective of this policy is to ensure that Bank-financed projects affecting International waterways would not affect:
i. Relations between the Bank and its borrowers and between states (whether members of
the Bank or not); and
ii. The efficient utilization and protection of international waterways.
The policy applies to the following types of projects:
   a) Hydroelectric, irrigation, flood control, navigation, drainage, water and sewerage,
      industrial and similar projects that involve the use or potential pollution of
      international waterways; and
   b) Detailed design and engineering studies of projects under (a) above, include those
      carried out by the Bank as executing agency or in any other capacity.

This policy is triggered if
(a) Any river, canal, lake or similar body of water that forms a boundary between, or any
river or body of surface water that flows through two or more states, whether Bank
members or not;
(b) Any tributary or other body of surface water that is a component of any waterway
described under (a); and
(c) Any bay, gulf strait, or channel bounded by two or more states, or if within one state
recognized as a necessary channel of communication between the open sea and other
states, and any river flowing into such waters. OP 7.50 has not been triggered by the
project.

2.5.10 OP 7.60 Projects in Disputed Areas
81. The objective of this policy is to ensure that projects in disputed areas are dealt with
at the earliest possible stage:
   a) So as not to affect relations between the Bank and its member countries;
   b) So as not to affect relations between the borrower and neighboring countries;
   c) So as not to prejudice the position of either the Bank or the countries concerned.

82. This policy is triggered if the proposed project will be in a "disputed area". Questions
to be answered include:
   • Is the borrower involved in any disputes over an area with any of its neighbors?
   • Is the project situated in a disputed area?
   • Could any component financed or likely to be financed as part of the project be situated
      in a disputed area?
83. The policy has not been triggered since the distribution lines and other investments under the proposed distribution component of the project will not be located in disputed areas.

2.5.11 World Bank's Policy on Information Disclosure BP 17.50

84. The goal of the World Bank’s policy on the disclosure of information is to raise awareness about development issues, share global knowledge, and ensure participation in Bank programs and projects. This policy details WB’s requirements for making operational information available to the public. In this policy, the bank reaffirms its recognition and endorsement of the fundamental importance of transparency and accountability to the development process.

85. The World Bank's Policy on Disclosure of Information 2002 sets out the Bank's policy for disclosing and sharing information. The policy reaffirms the Bank’s commitment to transparency and accountability in its activities for promoting development effectiveness and poverty reduction. In 2005, the Board approved a major expansion in the number of documents the Bank discloses. The ESMF will be disclosed in Kenya in publicly accessible places and at the Bank’s Infoshop as per this policy.

CHAPTER THREE: THE PROJECT

3.1 Introduction
86. The project will support the efforts of the Governments of Kenya in the Electrification Schemes. The project will include significant amount of construction work for distribution lines, substation and Access roads to substations thus with minimal environmental impacts. All this projects shall be subjected to environmental screening so as to determine its impacts and propose various mitigation measures on the impacts to be identified. This will minimize the triggering of World Bank safe guard policies in relation to the construction of the distribution lines, sub stations and access roads to the sub-stations.
3.2 Project Components
87. The Project will have three components namely: (1) Substations (2) Power distribution lines (3) Access roads to substations

3.2.1 Substations
88. There are different sizes of substations that will be constructed or upgraded. These substations will require different land sizes and equipment. The land sizes required are:

- 132/33 kV substation - 2 acres
- 66/11 kV substation - 1 acre (minimum 0.5 acre)
- 33/11 kV substation - 0.5 acres

89. The equipment in the substation will include transformers, bus bars, circuit breakers, isolators and switchgears. The work in new substations will include the civil works like removal of the topsoil and filling with hardcore material before preparing the transformer plinth and the foundation for equipment bases. The fencing is usually done to secure the compound prior to the commencement of the construction works. All the transformers and capacitors that could imported for these project should be free of PCBs since it's the policy of KPLC that shall be maintained. The transformers and capacitors should be analysed and investigated before they are used in these project to ensure that they are PCBs free.

3.2.2 Power Distribution Lines
90. There are three categories of distribution lines under this project namely:

- High voltage lines – 66kV
- Medium voltage lines - 33kV and 11kV
- Low voltage lines - 415V

91. Most of the overhead power networks at 11KV, 33KV and 66KV are constructed on treated wooden poles. The poles are treated with creosote, which is a petrol-chemical product. The screening process and the sub project ESMP shall provide for safe treatment and disposal for treated wooden poles that could be used in these project).
3.2.3 Access roads

92. The access roads will be required where new substations will be constructed. They will be earth roads where gravel may be required to make them all weather roads.

3.2.4 Construction Materials

93. The proponent will source building materials such as sand, ballast and hard core from registered quarry and sand mining firms whose projects have undergone satisfactory environmental impact assessment/audit and received NEMA approval. Since such firms are expected to apply acceptable environmental performance standards, the negative impacts of their activities at the extraction sites are considerably well mitigated. To reduce the negative impacts on availability and sustainability of the materials, the proponent will only order for what will be required through accurate budgeting and estimation of actual construction requirements. This will ensure that materials are not extracted or purchased in excessive quantities. Moreover, the proponent will ensure that wastage, damage or loss (through run-off, wind, etc) of materials at the construction site is kept minimal, as these would lead to additional demand for and extraction or purchase materials. In addition to the above measures, the proponent shall consider reuse of building materials and use of recycled building materials. This will lead to reduction in the amount of raw materials extracted from natural resources as well as reducing impacts at the extraction sites.

3.3 KPLC past Land Acquisition Procedure

3.3.1 Substations

93. The KPLC would identify the potential site and the individual registered landowner whom they would approach and negotiate the land price based on the existing market value. If the plot belongs to the Local Authority or is public land (Government), the KPLC would make a formal request to either of them. Upon approval, the Local Authority would effect the allotment of the land while the Government would grant the land through the Commissioner of Lands, as the case may be. KPLC also approaches its sister companies (parastatals) for land. This is only done on a willing seller basis. The owner of the land is compensated appropriately. If there are tenants or squatters on the land, they are also compensated according to the report of the assessment team. The
assessment team would value the property on the land i.e. buildings and crops, as well as the land itself.

94. For substations KPLC tries to acquire clean land to avoid resettlement but same process outlined above is followed where resettlement is inevitable.

95. Due to the likelihood of the presence of distinct vulnerable social and cultural groups, meeting the OP 4.10 criteria of Indigenous peoples, the KEEP will prepare an Indigenous peoples Planning Framework (IPPF). If during project implementation, indigenous peoples’ presence in, or attachment to, the corresponding Indigenous Peoples Plan (IPP) will be prepared, following the guidelines established in the IPPF. The IPP will be prepared in a flexible manner and its level of detail will vary depending on the specific project component and the nature of effects to be addressed.

3.3.2 Distribution lines (66kv and below)

96. KPLC mainly follows the road reserves and redesign is done to avoid resettlement. Where unavoidable the following steps are taken to ensure fair compensation. Right of way agreement is signed between the owner and KPLC. Evaluation land loss / damages are done with aim of ensuring livelihood restoration. Compensation is made to the owner.

3.4 Effectiveness in addressing concerns environmental and social concerns

97. Effectiveness in addressing environmental and social concerns requires a number of functions. These include:

- Ensuring that proper appraisal of environmental and social effects of new interventions takes place and proper measures are put in place to mitigate these effects. This is a KPLC function;
- Setting out the basis for compliance and enforcement of terms and conditions of approval of project plans. This should be an integral part of KPLC and other representatives from the government departments;
- Designing compliance strategies by the SHE Department of KPLC; and
- Monitoring compliance and management of environment and social issues.
• The Director of NEMA in charge of enforcement and compliance may conduct independent follow-up to verify compliance.

98. KPLC is expected to take an active role in the management of their environment and social concerns while other government departments that are more directly involved with the project will provide guidance to communities where these projects will be implemented to ensure compliance with policies from the Ministry of Environment and NEMA as well as the Bank’s safeguard policies (annex 3). This will be facilitated through capacity building. The communities will be giving their views in regard to the proposed project and give suggestions on the project will be implemented in a sustainable way taking into consideration of environmental and social issues of those communities.

99. The environmental and social screening process will be used at the planning stage of the sub-project to determine potential adverse environmental and social impacts, including the need for land acquisition, and design of the distribution lines. KPLC PIT staff - with help of regional staff - will fill the environmental and social screening form. KPLC’s Environmental Unit will analyze the forms and advise on the most suitable alternatives as necessary.
CHAPTER FOUR: THE ENVIRONMENTAL AND SOCIAL SCREENING PROCESS FOR DISTRIBUTION SUB-PROJECTS

4.1 The Environmental and Social Screening Process in Kenya

100. The Environmental Management Coordination Act of 1999 and the Environmental (Impact Assessment and Audit) Regulations (June 2003) the Kenya EIA guidelines prescribe the conduct for Environmental Impact Assessment for development projects. However, these instruments do not contain guidelines regarding the screening, identification, assessment and mitigation and monitoring of potential adverse, localized environmental and social impacts of small-scale investments, where the project details and specific project sites are not known at the time of appraisal of the parent project.

4.2 Environmental and Social Screening in the Framework

101. The Environmental and Social Screening Process outlined in the ESMF complements Kenya’s EIA procedures for meeting the environmental and social management requirements, of the EIA guidelines. The Environmental and Social Screening Process also meets the requirements of the World Bank's OP 4.01 Environmental Assessment. It provides a mechanism for ensuring that potential adverse environmental and social impacts of future Kenya Electricity Expansion Project funded sub-projects are identified, assessed and mitigated and monitored as appropriate, through an environmental and social screening process. *Environmental and social screening form* in (Annex 1). This will be undertaken by qualified KPLC staff at the national and regional levels.

4.3 Application of the Screening processes

102. Since the specific details and locations of the Kenya Electricity Expansion Project are not known at this time, an environmental and social screening process for sub-projects (the screening process) is proposed in this ESMF. The objectives of the screening process are to:

- Determine the potential adverse environmental and social impacts of the sub-project;
- Determine the appropriate environmental category as per OP 4.01
Based on the assigned environmental category, determine the appropriate level of environmental work required (i.e. whether an EIA is required or not (environmental category B2 and A); whether the application of simple mitigation measures will suffice (environmental category B1); or whether no additional environmental work required (environmental category C);. Category A sub-projects can be funded because the parent project has been assigned the environmental category A. Determine appropriate mitigation measures for addressing adverse impacts using the Environmental and Social Checklist (annex 2); this checklist can be adjusted to reflect sub-project-specific environmental management requirements;

- Determine the extent of potential solid and liquid waste generation, including hazardous wastes such as PCB and creosote, and appropriate mitigation measures;
- Determine potential adverse impacts on physical cultural resources, and provide guidance to be applied in the case of chance finds;
- Incorporate environmental mitigation measures as presented in the screening form and/or separate EA report into the proposed sub-project design;
- Determine potential adverse social impacts due to land acquisition;
- Determine whether indigenous peoples are likely to be affected by the sub-project;
- Indicate the need for a Resettlement Action Plan (RAP), which would be prepared in line with the Resettlement Policy Framework (RPF), prepared for the project donor;
- Facilitate the review and approval of the screening results and separate EA reports (the screening form would be looking at planned construction and rehabilitation activities); and
- Provide environmental and social monitoring indicators to be followed during the construction, rehabilitation, operation and maintenance of the infrastructure service facilities and related project activities.

- Determine indigenous peoples presence in, or attachment to project lands
- Indicate the need for an IPP, prepared following the guidelines of the IPPF

102. The following criteria should be followed for sub-project selection so as to comply with the World Bank safe guards for its funded projects.

- Sub-project construction/expansion will avoid or mitigate adverse impacts of sub-project construction / expansion projects on physical...
cultural resources, “physical cultural resources” are the movable or immovable objects, sites, structures, groups of structures, natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance;

- Sub-project construction/expansion will not be located within conservation areas, protected areas, sanctuary, and forest areas as designated by Wildlife Conservation and Forest Departments;
- Proposed project will not be located within a wetland or on a reservation of surface water bodies.
- Potential environmental impacts associated with location will be minimized by selection of alternative sites;
- All stages of sub-project screening, design and implementation will be done in a participatory manner, with public consultation with potential affected persons;
- Solid and liquid waste management facilities under the proposed project will not be sited adjacent to settlements; will not include treatment of hazardous waste. The PCB wastes will be disposed off by using of powerful reagents such as sodium. The reagent does not affect the basic oil itself, but breaks down the PCB, generating a residue which may be removed by physical separation. In the hands of expert contractors, such technologies can be carried out even whilst a transformer is in use and operating. The residue will be disposed off by incineration process. Waste oils can be recovered and recycled, either directly in the case of high oil content wastes, or after some form of separation and concentration from high aqueous content materials. While certain types of waste oils, lubricants in particular, can be subjected to regeneration processes which give products of comparable quality to the original material, a large volume of waste oil is used for its energy content, as a secondary or substitute fuel.
- The disposal of creosote treated wood, however, is subject to local regulation of disposing of the Insecticide, Fungicide, and Rodenticide. Incase the local regulations will not apply then the international regulations shall apply on the three major wood preservations--namely, creosote, pentachlorophenol, and inorganic arsenicals. Among other things, these rules require that wood which has been treated with creosote should not be burned in an outdoor fire or in stoves or fireplaces; rather, this wood should be buried in a non-hazardous
waste landfill unless otherwise required by the law. This requirement was included to ensure that no toxic contaminants would be released as a result of the burning process.

- Proposed project with some significant environmental impacts will be undertaken but adequate mitigation measures will be put in place so as to minimize those impacts to the manageable size throughout the project period.
- There will be no involuntary land acquisition for proposed project as the distribution lines will be built along road reserves and plots for substations will be bought on willing buyer-willing seller basis. So as to avoid involuntary resettlement and avoiding disputed areas. This will comply with World Bank safeguard.

103. The following procedure will be followed for the subprojects that are under the above criteria.
(a) The first step in environmental assessment will be preliminary screening. The KPLC PIT staff with assistance of regional staff will accomplish this task by completing the environmental and social screening form (annex 1) described in the ESMF.
(b) The completed environmental and social screening form (annex 1 of the ESMF) is attached to the recommendation and submitted NEMA regional level for review and clearance purposes.
(c) Projects assessed to have some adverse environmental impacts and assigned the environmental category B2 or A will be required to go through a full EA.
(d) The environmental assessment will be undertaken in a participatory manner and the stakeholder consultations will be documented in the environmental assessment documents; KPLC Environment Unit will prepare TOR and be involved in recruitment of EA consultants.
(e) The Environmental Guidelines for Contractors (annex 4) will be attached to the bidding documents to ensure environmentally and socially sound construction practices.
(f) For sites where Environmental assessments will be undertaken, NEMA approval will be sought before commencement of detailed design in order to ensure that good practices are included in the technical design.
(g) As regards the approval of environmental and social screening results, NEMA’s regional offices will provide review and clearance prior to the commencement of civil works.
(g) KPLC Environment Unit will ensure that environmental concerns are addressed during planning, design, construction, and operations of the subprojects and appropriate mitigation measures are in place.

104. Proposed sub-project selection, design, contracting, mitigation, monitoring and evaluation will be consistent with agreed process outlined in the ESMF and ESMP will be fully integrated into the Project Implementation Plan/Operations Manual and project cost tables.

105. The list of measures to mitigate potential adverse impacts as per screening results and/or separate EA reports, including terms and conditions and the sector specific ESMP, supplemented by any additional site specific measures will be attached as a part of the contract specifications. A clause in the Particular Conditions of Contract will refer to the Environmental and Social Management Plan for a sub-project. The Particular Conditions of Contract prepared by KPLC based on the environmental and social management plan will also stipulate that any non-compliance with the mitigation measures set out in the contract will attract the same remedies under the contract as any non-compliance with the contract provisions; such remedies would be instructions, notices, suspension of works, etc. The Instruction to Bidders will highlight the inclusion of the ESMP in the contract specifications and the contractor’s obligation of compliance. The performance agreement will carry a clause to the effect that the recipient shall ensure the design; construction; operation and implementation of the sub-project are carried out in accordance with the ESMF. In addition Environmental Guidelines for Contractors (Annex 4) will be implemented and monitored by the KPLC SHE staff.

4.4 The Screening Process

106. The extent of environmental work that might be required, prior to the commencement of construction and rehabilitation of the Kenya Electricity Expansion Project will depend on the outcome of the screening process described below.

Step 1: Screening Of Sub-project Activities and Sites

107. Prior to going to the field, a desk appraisal of the construction and rehabilitation plans, including sub stations, access roads, establishment of camp sites, use of quarries
and borrow pits, and distribution lines designs, will be carried out by KPLC PIT and Environment unit staff or selected consultant. KPLC PIT - with help of regional staff - will carry out the initial screening in the field, by completing the Environmental and Social Screening Form (Annex 1).

108. The screening form, when correctly completed, will facilitate the identification of potential environmental and social impacts, potential water and soil pollution, soil erosion, the need for safe disposal of creosote treated poles, PCB, the presence of indigenous peoples, need for land acquisition, the determination of their significance, the assignment of the appropriate environmental category (consistent with OP 4.01), the determination of appropriate environmental and social mitigation measures, and the need to conduct an Environmental Impact Assessment (EIA) and/or Resettlement Action Plans (RAPS) and/or IPPS.

109. To ensure that the screening form is completed correctly for the various project locations and activities, training should be provided to KPLC PIT staff, KPLC Environment unit staff and KPLC regional Staff as part of strengthening internal capacity. This will be funded on need basis using funding from World Bank project.

Step 2: Assigning the Appropriate Environmental Categories

110. The environmental and social screening form, when completed, will provide information on the assignment of the appropriate environmental category to a particular subproject.

111. The KPLC PIT will be responsible for assigning the appropriate environmental category to the proposed Kenya Electricity Expansion Project with the requirements of OP 4.01:

(a) **Category A**: A proposed project is classified as Category A if it is likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works. EA for a Category A project examines the project’s potential negative and positive environmental impacts, compares them with those of feasible alternatives (including the "without project" situation), and recommends any measures needed to prevent, minimize,
mitigate or compensate for adverse impacts and improve environmental performance. For a Category A project, the borrower is responsible for preparing a report, normally an EIA (or a suitably comprehensive or sectoral EA) that includes as necessary, elements such as environmental audits or hazard or risk assessments.

Note: Since the parent project has been assigned the environmental category A, sub-projects assigned the environmental category A can be funded once a full EA has been carried out.

(b) Category B: A proposed project is classified as Category B if its potential adverse environmental impacts on human populations or environmentally important areas - including wetlands, forests, grasslands, and other natural habitats - are less adverse than those of Category A projects. These impacts are site-specific; few if any of them are irreversible; and in most cases mitigatory measures can be designed more readily than for Category A projects. The scope of EA for a Category B project may vary from project to project, but it is narrower than that of Category A. Like Category A, it examines the project’s potential negative and positive environmental impacts and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance.

Note: Given that most Kenya Electricity Expansion Project funded sub-projects will not have significant adverse environmental and social impacts requiring a separate EIA report, the screening process will recommend the assignment of (i) category B1 to sub-projects requiring only the application of simple mitigation measures (using the attached environmental and social checklist); and (ii) B2 for those sub-projects requiring a separate EIA report due to the severity of their potential adverse environmental and social impacts. All sub-projects which require land acquisition, impacts assets, causes a loss of livelihood, and led to restrict access to natural resources will require the preparation of a RAP.

(c) Category C: A proposed project is classified as Category C if it is likely to have minimal or no adverse environmental impacts. Beyond screening, no further EA action is required for a Category C project.

Note: In cases where the results of the screening process indicate that the sub-project will not have significant adverse environmental and social impacts, if any, no
additional environmental work will be required and sub-project implementation can proceed immediately.

(d) **Category FI:** A proposed project is classified as Category FI if it involves investment of Bank funds through a financial intermediary, in subprojects that might result in adverse environmental impacts.

112. Note: This environmental category will not apply to any of the Kenya Electricity Expansion Project funded sub-projects as it will not involve the investment of Bank funds through financial intermediaries.

113. In the event that Resettlement Action Plans (RAPS) will have to be prepared for Kenya Electricity Expansion Project, these would be reviewed and approved by the Commissioner for Lands, consistent with the Resettlement Policy Framework as well as the World Bank, prior to initiating compensation and commencement of project activities.

**Step 3: Carrying Out Environmental and Social Work**

114. After reviewing the information provided in the environmental and social screening form, and having determined the appropriate environmental category, KPLC Environment Unit staff will determine whether (a) the application of simple mitigation measures outlined in the Environmental and Social Checklist will suffice (category B1); (b) a comprehensive Environmental Impact Assessment (EIA) will need to be carried out, using the national EIA guidelines (category B2; A); or (c) no additional environmental work will be required (category C).

115. In situations where the screening process identifies the need for land acquisition, impacts assets, causes a loss of livelihood, and/or restricts access to natural resources, a RAP shall be prepared consistent with the standards and guidelines set forth in the Resettlement Policy Framework (RPF) and World Bank OP 4.12. In situations where the screening process identifies peoples’ presence in, or attachment to, project lands, an Indigenous Peoples Plan (IPP) will be prepared, following the guidelines established in IPPF.
116. NB. The Kenya Environmental regulations don’t require Environmental Impact Assessment to be carried out for distribution lines. The environmental and social screening is intended to fill this gap.

**Carrying out Environmental Impact Assessment (EIA)**

117. The EIA process will identify and assess the potential environmental and social impacts of the proposed construction activities, evaluate alternatives, as well as design and implement appropriate mitigation, management and monitoring measures. These measures will be captured in the Environmental and Social Management Plan (ESMP) which will be prepared as part of the EIA process for each sub-project. *Environmental and Social checklist (Annex 2)* will be used for category B1 sub-projects; and *Generic EA TOR in Annex 5* will guide EA study for category B2/A sub-projects.

118. Preparation of the EIA, the ESMP and the RAP will be carried out in consultation with the relevant sector Ministries including potentially affected persons. The relevant government departments in close consultation with the Ministry of Environmental and mineral resources and the Project Management Team will arrange for the (i) preparation of EIA terms of reference for sub-projects; (ii) recruitment of a service provider to carry out the EIA; (iii) public consultations; and (iv) review and approval of the EIA through the national EIA approval process.

119. The Project Management Team, in close consultation with the relevant government departments, will arrange for the preparation of the RAPs, following the provisions outlined in the Resettlement Policy Framework. Copies of the RAPs will be sent to the Bank for review and clearance prior to the commencement of civil works.

**Step 4: Review and Approval of the Screening Activities**

120. The results and recommendations presented in the environmental and social screening forms and the proposed mitigation measures presented in the environmental and social checklists will be reviewed by NEMA at the district level.
121. Where an EIA has been carried out, NEMA will review the reports to ensure that all environmental and social impacts have been identified and that effective mitigation measures have been proposed.

122. Where a RAP has been carried out, the Ministry of Finance will review the action plans to ensure individuals have been properly identified, meaningfully consulted, participated in the planning, and appropriately compensated. Prior to implementing the compensation process, KPLC will ensure World Bank review and clearance of the RAP.

123. Based on the results of the above review process, and discussions with the relevant stakeholders and potentially affected persons, NEMA, in case of projects that don’t require EIA or RAP, will make recommendations to the District Environmental Committee for approval/disapproval of the screening results and proposed mitigation measures. As regards EIA reports, district environmental officer will recommend EIA reports to the NEMA for approval while RAPs will be approved by the Ministry of Lands and Settlement.

**Step 5: Public Consultations**

Public consultation is a regulatory requirement by NEMA and World Bank safeguards for new projects by which the public’s input on matters affecting them is sought in regard to the sub project. Its main objectives will be improving the efficiency, transparency and public involvement in the sub project that will enhance the compliance of the environmental laws and policies in regard to the implementation of the sub projects. It will involve notification (to publicize the matter to be consulted on), consultation (a two-way flow of information and opinion exchange) as well as participation involving interest groups. Through public participation will enhance environmental conservation.

**Step 6: Environmental Monitoring**

This describes the processes and activities that need to take place to characterize and monitor the quality of the environment in the sub project sites. This will be used towards the preparation of environmental screening, as well as in many circumstances in which the sub project activities carry a risk of harmful effects on the natural environment. All monitoring strategies and programmes for the sub projects shall have reasons and justifications which will be designed to establish the current status of an environment or to establish trends in environmental parameters where the sub projects shall be
implemented. In all cases the results of monitoring will be reviewed, analyzed statistically and published for the purpose of project implementation. The sub project design should have a monitoring programme which must have regard to the final use of the data before project monitoring starts. This environmental monitoring for the sub project should be continues throughout the sub projects.

**Step 7: Environmental Monitoring Indicators**

These are the measurement, statistic or value that provides a proximate gauge or evidence of the effects of environmental management programs or of the state or condition of the environment that could result from sub projects that could be implemented under the KPLC distribution component. The environmental indicators that need to be monitored include; air quality, water quality, flora and fauna, human health, social and economic conditions
CHAPTER FIVE: PUBLIC CONSULTATION

5.1 Rationale for Consultation and Disclosure

124. According to Kenya’s Guidelines for EIA and the World Bank’s relevant policies, public consultations are an integral component of the environmental and social screening process, EIA, RAP and IPP requirements, and the guidelines identify the following principal elements:

- Developers are required to conduct public consultation during the preparation of Project Briefs, EiAs, RAPS and IPP as well as implementation of the environmental and social screening process outlined in this ESMF.
- The Director of NEMA in charge of compliance and reinforcement may conduct his or her own public consultation to verify the works of a developer.
- Formal EIA, RAP and IPP documents are made available for public review and comments. Documents to which the public has access include Project Briefs, EIA terms of reference, draft and final EIA and RAP reports, and decisions of the appropriate authorities regarding project approval. The Director of NEMA in charge of compliance and enforcement and relevant government departments has developed practices and procedures for making these documents available to the public. It is very unusual that an EIA will need to contain proprietary or market sensitive information (i.e. technological and financial) which a developer would prefer to remain confidential. Unless public knowledge of such information is crucial to project review.
- Certificates approving projects will be published by the developer and displayed for public inspection. Public consultations are critical in preparing an effective proposal for the construction and rehabilitation of the project activities. The first step is to hold public consultations with the local communities and all other interested and affected parties, during the screening process and in the course of preparing the EIA, RAP and IPP.

125. These consultations should identify key issues and determine how the concerns of all parties will be addressed in response to the terms of reference for the EIA, RAP and IPP which might be carried out for construction and rehabilitation proposals.

126. The public will be allowed to access information in Kenya during screening, EA preparation as well as final EA reports before project appraisal and disclosure will also
take place in the World Bank’s INFO-Shop before project appraisal in English. This is in fulfillment of WB Disclosure Policy (BP 17.50).

5.2 Instruments for Use during Consultations

127. The Kenya Guidelines for EIA and EA provides details concerning the public consultation methods in Kenya. Such methods include press conferences, information notices, brochures/fliers, interviews, questionnaires and polls, community meetings, advisory committees, and public hearings. The guidelines for public consultation include, among others, a requirement that major elements of the consultation program should be timed to coincide with significant planning and decision-making activities in the project cycle. In terms of Kenya's EIA process, and World Bank policy standards, public consultation should be undertaken during (i) the preparation of the EIA and RAP terms of reference; (ii) the carrying out of an EIA and RAP; (iii) government review of an EIA and RAP reports; and (iv) the preparation of environmental and social terms and conditions of approval. Consultations will be carried out by communities as part of the environmental and social screening process of sub-projects, and the results will be communicated in an understandable language to potentially affected persons and beneficiaries.

CHAPTER SIX: ENVIRONMENTAL AND SOCIAL IMPACTS
6.1 Purpose of the Environmental and Social Management Plan (ESMP)

128. The purpose of the Environmental and Social Management Plan (ESMP) is to provide guidance during the implementation of the Kenya Expansion Project regarding the institutional responsibilities and cost estimates for effective environmental and social management. Towards this end, the ESMP will:

- Ensure that proper appraisals on the effects of sub-projects takes place and that proper measures are put in place to mitigate the effects;
- Set out the basis for compliance and enforcement of terms and conditions for approval;
- Design compliance strategies; and
- Monitor compliance and managing of the environment.

129. Thus, the ESMP for the Kenya Electricity Expansion Project (annex 6) (i) describes the potential adverse environmental and social impacts of future sub-projects; (ii) outlines proposed mitigation measures to be adopted and indicate parties responsible for implementing mitigation measures; (iii) identifies parties that will carry out the monitoring of the implementation of the mitigation measures; (iv) outlines the time horizons for the various activities; and (v) detail the associated costs and sources of funds. The ESMP will be included in the Project Implementation Manual and the cost estimates for implementing the ESMP will be included in project cost tables.

6.2 Environmental and Social Impacts

130. As regards the proposed Kenya Electricity Expansion Project, potential adverse environmental and social impacts on the natural and human environment are likely to be associated with future sub-projects. The sources of impacts will arise from inputs as well as project processes at the construction and operation and maintenance phases. Potential environmental impacts include:

- Clearing of indigenous vegetation and disturbance to the biodiversity;
- Loss of soil cover arising from excavations;
- Loss of soil cover arising from the use of quarry sites and borrow pits;
- Disturbance in families arising from immigration of workforce without their spouses;
- Occurrence of respiratory infections from dust and cement;
• Irresponsible dumping of solid waste;
• Liquid and solid waste generation, including hazardous wastes, at construction and camp sites
• Noise during construction;
• Air pollution resulting from wrong siting of components like toilets;
• Increased demand of services;
• Increased land value and more intensive land use arising from opening up of access roads;
• Increase in the incidence of sexually transmitted diseases due to availability of cash; and
• Increased water pollution from eroded soils
• Soil and water pollution due to unsafe disposal of creosote-treated poles;
• Soil and water pollution due to unsafe disposal of PCB.

6.3 Mitigation Measures

131. Mitigation measures involve avoiding of impact altogether, minimizing the impact, rectifying the impact and gradual elimination of impact over time. Depending on the nature, these measures will be implemented by communities the support will be in form of financial and human resource efforts.

132. Mitigation measures are twofold: physical and socio-economic. Physical measures relate to issues of project siting, re-vegetation and preventive measures like bush clearing, erosion, sedimentation and pollution control and good construction / farming practices, waste management, and application of Environmental Guidelines for Contractors. Socio-economic measures will include education and awareness, hygiene and sanitation training, rules and regulations, institutional support (including skills training), and recruitment of qualified personnel.

The following are the mitigation measures for the construction camp site include; Explore options to accommodate crew off site and in absence of that, keep the camp site small, educate the crew about preserving vegetation, provide decent temporary sanitation facilities like toilets. Use local and regional labour as much as possible and provide Aids awareness training to the workers and the community, Provide guidelines on local culture, behavior and social life to the workers and Create walk ways and plant grass where necessary. The mitigation measure for use of quarries and borrow pits include;
Identify the most environmentally sound source of materials within budget, Develop logging, quarrying and borrow pit plans that take into account cumulative effects, Monitor adherence to plans and impacts of extraction practices, Fill quarries and pits before abandoning the sites and Control run off into pits.

The mitigation measures for use of hazardous waste include; Use off site treatment methods and only deliver poles ready for fixing, Proper burning or disposal of any hazardous materials found on site, Use protective gear during work, Remove or bury all abandoned construction materials and rubbles and Fill in and close all latrines and septic systems. The mitigation measures for Use of heavy plant and equipment i.e. tippers for material delivery include; Minimize the use of heavy trucks, Provision of drainage channels to guide surface run offs and introduction of mulching to minimize effects on soil erosion and Set protocols for vehicle maintenance on site and not dump any oil around the site.

6.4 Monitoring Plan

133. Monitoring of the implementation of the ESMP will be done by KPLC Environment unit with assistance from regional safety officers/engineers. The ESMP will outline the institutional arrangements and cost estimates for environmental and social management during the implementation, operation and decommissioning of the Kenya Electricity Expansion Project.

The following are specific institutional responsibility for the sub-projects

- Play the role of facilitating the implementation of the sub projects
- To produce an annual and periodical reports to the bank indicating the actions that have been undertaken towards the implementation of sub projects on the environmental status.
- To drawing up sub project objectives for monitoring purposes
- To form a committee that will oversee the exercise
- Develop the key indicators for monitoring purposes with the bank and ensure the monitoring capabilities.
- Carrying out Environmental awareness campaigns and collaborates with other stakeholders where these sub projects will be implemented.
- KPLC will be fully involved in the implementation of the project.

The capacity building needed for KPLC SHE department will be in terms of training which will involve regional safety engineers/officers and environmental unit staff in
KPLC since they will be involved directly in implementing these World Bank funded sub projects in carrying out environmental screening and monitoring the environmental status. These trainings will ensure the SHE staffs have adequate manpower in all aspects of environment for sustainable development. Provision of necessary equipment for better execution of their duties and proper monitoring of this sub projects to ensure continuity and sustainability should be provided. The following course shall be offered to the SHE staff who will oversee the environmental aspects of the sub projects they include; Environmental Management Systems and Impact Assessment & Implementation of the ESMF, Hazardous Waste Management and Pollution Control and NEBOSH International Certificate in Occupational Safety & Health. KPLC SHE department needs manpower development to cope with its many tasks, which include the World Bank funded project under the distribution component on environmental issues for the sub projects as well as monitoring of the implementation of those sub projects

6.5 Identification and summary of potential adverse environmental and social impacts of sub-projects

134. Identification of potential adverse environmental and social impacts of sub projects is an activity that will take place at project identification/planning stage. The processes will be guided by KPLC’s Environment unit and PIT with the help from KPLC regional staff.

6.6 Proposed mitigation measures (with technical details to the extent possible):

135. Proposed mitigation measures will be identified in line with the Sub-Project Environmental and Social Screening results.

Physical measures will include:

- Re-afforestation to address the problem of deforestation and soil erosion;
- Use of concrete blocks for construction in the sub station especially covering the trenches where electrical cabling will be done.
- Landscaping as part of restoration and improving hygiene and natural beauty;
- Waste management through accepted rubbish disposal methods;
- Safe waste water disposal at construction and camp sites;
- Safe disposal of creosote-treated poles;
• Safe disposal of PCB
• Proper sitting of the camp sites, latrines and other associated facilities;
• Adherence to improved construction practices as per Environmental Guidelines for Contractors (Annex 4) and recommendations made in the screening forms and separate EA reports;
• Provision of drainage infrastructure as appropriate
• Rehabilitation of quarry sites and borrow pits as necessary
• Restoring the camp site to its original state.

Socio-economic measures will include:
• Enforcement of local customary rules governing environmental and social roles through giving more powers to village headpersons;
• Skills training for environment unit and regional staff members in environmental and social screening;
• Public consultation at all sub-project cycle stages
• Ensure efficiency and effectiveness for facilities built to ensure that it provides the intended benefits;
• Identify ways of enjoyment of accrued benefits by all; and
• Ensure that people affected by resettlement/compensation measures are equal or better off than before project interventions.
CHAPTER SEVEN: INSTITUTIONAL SETUP FOR ENVIRONMENTAL AND SOCIAL MONITORING AND CAPACITY BUILDING REQUIREMENTS

7.1 Responsibilities for Environmental and Social Monitoring

136. Environmental and social monitoring will be carried out by the KPLC PIT in conjunction with the relevant government departments that have been given that responsibility by the Kenyan laws. Monitoring of environmental and social safeguards needs to be carried out during the construction and rehabilitation of the existing and new distribution lines and substations, as well as during their operation and maintenance.

137. The table below provides some of the key environmental and social monitoring indicators, to be adapted to the sub-projects as necessary.

Key Environmental and Social Monitoring Indicators will include:

<table>
<thead>
<tr>
<th>ISSUE</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction in soil erosion</td>
<td></td>
</tr>
<tr>
<td>Increase in re-afforestation</td>
<td></td>
</tr>
<tr>
<td>Drainages around infrastructures</td>
<td></td>
</tr>
<tr>
<td>Land Acquisition</td>
<td></td>
</tr>
<tr>
<td>Hectarage of land acquired</td>
<td></td>
</tr>
<tr>
<td>Number of people affected</td>
<td></td>
</tr>
<tr>
<td>Type and amount of assets to be affected for the community members and government by the sub project</td>
<td></td>
</tr>
<tr>
<td>Number of persons expressing willingness to relocate</td>
<td></td>
</tr>
<tr>
<td>Number of persons expressing unwillingness to relocate</td>
<td></td>
</tr>
<tr>
<td>Livelihood status prior to project</td>
<td></td>
</tr>
<tr>
<td>Livelihood status after project</td>
<td></td>
</tr>
<tr>
<td>Has standard of living increased, decreased, or remained the same</td>
<td></td>
</tr>
<tr>
<td>Number of women employed by civil</td>
<td></td>
</tr>
</tbody>
</table>

51
<table>
<thead>
<tr>
<th>works</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of employees receiving HIV/AIDS awareness training at work site</td>
<td></td>
</tr>
<tr>
<td>Number of community members receiving HIV/AIDS awareness training during sub-project implementation</td>
<td></td>
</tr>
<tr>
<td>Number of people employed from sub project surrounding areas</td>
<td></td>
</tr>
<tr>
<td>Construction Works of the sub projects</td>
<td></td>
</tr>
<tr>
<td>Hectarage of land clearance</td>
<td></td>
</tr>
<tr>
<td>Sub project areas where infrastructure will be constructed</td>
<td></td>
</tr>
<tr>
<td>Number of pit latrines for workers at camp site</td>
<td></td>
</tr>
<tr>
<td>Number of water points for workers at camp site</td>
<td></td>
</tr>
<tr>
<td>Number of environmental mitigation measures implemented and financed by sub-projects</td>
<td></td>
</tr>
<tr>
<td>Implementation status of safe disposal of creosote-treated poles</td>
<td></td>
</tr>
<tr>
<td>Implementation status of the Environmental Guidelines for Contractors</td>
<td></td>
</tr>
<tr>
<td>Number of staff and other personnel having completed environmental training</td>
<td></td>
</tr>
<tr>
<td>Implementation status of safe disposal of PCB</td>
<td></td>
</tr>
<tr>
<td>Number of complaints on inconveniences caused by the construction works (complaints against dust)</td>
<td></td>
</tr>
<tr>
<td>Number of Accidents:</td>
<td></td>
</tr>
<tr>
<td>Number of cases contravening health and safety procedures</td>
<td></td>
</tr>
<tr>
<td>Number of disposal sites for wastes from the construction sites and camp sites</td>
<td></td>
</tr>
</tbody>
</table>
The following environmental indicators should be included in the Electricity Expansion’s M&E systems they include; air quality, water quality, flora and fauna, human health, social and economic conditions

### 7.2 Monitoring, evaluation and reporting

138. Monitoring, evaluation and reporting on environmental issues will be part of project implementation processes and reporting systems. KPLC will keep records of all activities that will be undertaken in the sub project sites, which will be compiled and used in enhancing environmental sustainability of the sub project sites. The KPLC PIT will be responsible for environmental and social monitoring at local levels. KPLC’s Environmental Unit and Regional Safety Officers/engineers will distil environmental and social screening actions from the completed Environmental and Social Screening Forms (Annex 1). Compliance to environmental and social screening requirements will also be generated based on quarterly reports, annual reports, evaluation reports, feedback meetings and Implementation support missions. KPLC’s Environment Unit will regularly report to the Bank on the status of environmental and social management of sub-projects in the project’s Quarterly Reports.

### 7.4 Capacity Building and Environmental Trainings

139. The Project envisages capacity building for the Environmental Unit and Regional Safety Officers/Engineers to ensure that the ESMF is effectively operationalized. The KPLC PIT and regional staff involved in environmental matters has to be exposed to formal training in the management of environmental issues. The training program for various role players will include an orientation program on the ESMF to be done by KPLC environment unit staff, environmental assessment processes, and participatory methodologies. Capacity building will help improve the effectiveness of stakeholders at
various levels in the management of environmental and social impacts during planning, implementation and operation of proposed projects.

140. Capacity building will enhance the ESMF management capacity by allowing real application of the critical practices such as the following:

141. Basic practices:

- Screening of investments for potential environmental and social impacts, scoping assessments, planning mitigation options, public consultation to assess feasibility and acceptability options; steps 1-7 to implement the environmental and social screening process for sub-projects;
- Environment: site selection to minimize environmental impacts and social disruption; restoration of drainage patterns including mitigation matters in contracts; management of impacts during construction; monitoring of effectiveness of measures;
- Monitoring and grievance redress: transparency and supervision responsibilities.

142. As regards the institutional capacity building, the KPLC PIT and regional staff as well as some staff of the Environment Unit in Nairobi are to be trained in different aspects of the implementation of the ESMF and the Project, including interpretation and implementation of environmental impact management guidelines and the Bank’s safeguard policies. Different groups involved in project implementation have different training needs in terms of raised awareness, sensitization to the issues, and detailed technical training. While some would require training on general awareness building and more specific training would be needed for others. The three major areas for anticipated trainings are:

- Awareness raising for participants who need to appreciate the significance or relevance of environmental issues;
- Sensitization to the issues for participants who need to be familiar enough with the issues that they can make informal and specific requests for technical support; and
- Detailed technical training for participants who will need to analyze potentially adverse environmental impacts, to prescribe mitigation approaches and measures, and to prepare and supervise the implementation of environmental and social management plans. This training will address such matters as community participation methods;
environmental assessment; using the ESMF; and subproject supervision and monitoring.

- The community members will be trained on better methods of environmental conservation and management.

143. The table below indicates capacity building and Environmental Training needs for the project.

<table>
<thead>
<tr>
<th>Course</th>
<th>Participants</th>
<th>Estimated Tuition Cost</th>
<th>Remarks</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Environmental Management Systems and Impact Assessment &amp; Implementation of the ESMF</td>
<td>Four (4) KPLC regional staff @ 7700 USD</td>
<td>30800 USD</td>
<td>Regional staff will be involved in environmental and social screening</td>
<td>6-10 June 2010</td>
</tr>
<tr>
<td>2. Hazardous Waste Management and Pollution Control</td>
<td>Two (2) Environment and social Unit Staff @ 3850 USD</td>
<td>7700 USD</td>
<td>Training relevant as it will improve skills in waste management</td>
<td>11-15 April 2010</td>
</tr>
<tr>
<td>3. NEBOSH International Certificate in Occupational Safety &amp; Health</td>
<td>One (1) Central Office staff</td>
<td>7900 USD</td>
<td>Training relevant to strengthen the available skills</td>
<td>2-15 May 2010</td>
</tr>
<tr>
<td><strong>Total for Tuition</strong></td>
<td></td>
<td><strong>46,400 USD</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Flight &amp; Accommodation</strong></td>
<td></td>
<td><strong>23,200 USD</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td></td>
<td><strong>69,600 USD</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ANNEXES
Annex 1

Environmental and Social Screening Form

Introduction

This form is a tool to standardise the environmental and social screening process of distribution sub-projects / project areas in each sub-component of the Kenya Electricity Expansion Project-Distribution Component.

The main objective of the screening process is to identify and highlight environmental and social issues that need to be taken into account in further decisions, planning, and design of a project. The aim is to support the sustainable implementation of the planned investments under the above project.

The screening must be carried out at an early stage of the sub-project (i.e., pre-feasibility), in accordance with the requirement for World Bank financed projects.

The proponent must complete each section of this form, as outlined below.

Proponent and Project Identification:

Name of Project:

Project Proponent (Company / Institution): Kenya Power and Lighting and Company

Contact person (Proponent):
   Name: David Mwaniki
   Phone: 254 20 32011488
   E-mail: DMwaniki@KPLC.co.ke

Responsible person and the name of the person completing this form:
   Company:
   Name:
   Phone:
   E-mail:
Locality and date : Nairobi

Signature (Proponent)                                                   Signature (Responsible Consultant / Person)
1 The Screening Form

The questions regarding this form or the procedure may be sent to:
Kenya Power Lighting and Company
Walter Barongo

Phone: 3201437
E-mail: WBarongo@kplc.co.ke

2 Project Description

2.1 Name and Type of Project:

2.2 Expected start and end date (month/year) and project duration (in months) of the construction phase:

2.3 List the technology and machinery to be used in the construction and operation phases:

2.4 List the materials to be used during the construction and operation phases (e.g., infrastructure, creosote treated poles, fuels and oils):

2.5 Expected number of workers during construction and during operation:

2.6 Maps (in Annexes):

2.6.1 Provide a map with the geographical location of the project;

2.6.2 Provide an appropriately-scaled map clearly showing:
   - The project area with existing buildings, infrastructure, vegetation, and land use;
   - The project area with any planned construction, plants, lines, or access roads.

2.7 Is the project area or its immediate surroundings subject to pollution or environmental damage caused by other (existing) activities?

   Yes _____  No _____

2.8 Is there any other infrastructure in or close to the project area?

   Yes_____  No______

Provide an additional description for “yes” answers:

________________________________________________________________________
The Biological Environment

3 The Natural Environment

3.1 Describe the habitats and flora and fauna in the project area and in the entire area expected to be affected by the project (e.g., downstream areas, access roads)

3.2 Will the project directly or indirectly affect:
   3.2.1 Natural forest types? Yes_____ No_____
   3.2.2 Mangroves or swamps? Yes____ No_____
   3.2.3 Wetlands (i.e., lakes, rivers, swamps, seasonally inundated areas)? Yes______ No________
   3.2.4 Other habitats of threatened species that require protection under Kenyan laws and/or international agreements?

       Yes_______ No_____ If yes, describe_________

3.3 Are there according to background research / observations any threatened / endemic species in the project area that could be affected by the project?

       Yes________ No____________

3.4 Will vegetation be cleared?

       Yes______ No_________

3.5 Will there be any potential risk of habitat fragmentation due to the clearing activities?

       Yes_______ No_______

3.6 Will the project lead to a change in access, leading to an increase in the risk of depleting biodiversity resources?

       Yes________ No_____

3.7 Will the proposed project activity trigger OP 4.04 Natural Habitats?

       Yes________ No________ If yes, please describe

Provide an additional description for “yes” answers:
4  Protected Areas

Does the project area or do project activities:

4.1 Occur within or adjacent to any designated protected areas?

Yes_____  No____

4.2 Affect any protected area downstream of the project?

Yes______  No____

4.3 Affect any ecological corridors used by migratory or nomadic species located between any protected areas or between important natural habitats (protected or not) (e.g., mammals or birds)?

Yes______  No_____ 

4.4 Will the proposed project activity trigger OP 4.04 Natural Habitats?

Yes_____  No_____ If yes, please describe

Provide an additional description for “yes” answers:

5. Invasive Species

5.1 Is the project likely to result in the dispersion of or increase in the population of invasive plants or animals (e.g., along distribution lines, access roads, quarry sites or borrow pits)

Yes_______  No_____ If yes, please describe.

Provide an additional description for a “yes” answer:
The Physical Environment

6 River Systems

Will the project affect / change:

6.1 Water quantity? Yes____ No____

6.2 Water quality (i.e., through sedimentation, chemical pollution)?
   Yes________ No________

6.3 River stream pattern? Yes_____ No_____ 

6.4 Seasonal flow variations? Yes_____ No_____ 

6.5 Flooding regime? Yes_____ No_____ 

6.6 River ecology? Yes_____ No_____ 

6.7 Aquatic habitats? Yes_____ No_____ 

Provide an additional description for “yes” answers:

7 Geology / Soils

7.1 Will vegetation be removed and any surface left bare?
   Yes____ No____

7.2 Will slope or soil stability be affected by the project?
   Yes____ No____
7.3 Will the project cause physical changes in the project area (e.g., changes to the topography)?

   Yes_____   No_____

7.4 Will local resources, such as rocks, sand, gravel, or groundwater be used?

   Yes_____   No_____  

7.5 Could the project potentially cause an increase in soil salinity in or downstream the project area?

   Yes_____   No_____  

7.6 Could the soil exposed due to the project potentially lead to an increase in lixiviation of metals, clay sediments, or organic materials?

   Yes_____   No_____  

Provide an additional description for “yes” answers:

________________________________________________________________________

8 Landscape / Aesthetics

8.1 Is there a possibility that the project will adversely affect the aesthetics of the landscape?

   Yes_____   No_____  

Provide an additional description for a “yes” answer:

________________________________________________________________________

9 Pollution
9.1 Will the project use or store dangerous substances (e.g., large quantities of hydrocarbons, creosote-treated poles/ PCB)?

   Yes_____   No_____

9.2 Will the project produce harmful substances?

   Yes_____   No_____

9.3 Will the project produce solid or liquid wastes?

   Yes_____   No_____

9.4 Will the project cause air pollution?

   Yes_____   No_____

9.5 Will the project generate noise?

   Yes_____   No_____

9.6 Will the project generate electromagnetic emissions?

   Yes_____   No_____

9.7 Will the project release pollutants into the environment?

   Yes_____   No_____  

Provide an additional description for a “yes” answer:

__________________________________________________________________________________

The Social Environment

10 Land Use, Resettlement, and/or Land Acquisition

10.1 Describe existing land uses on and around the project area (e.g., community facilities, agriculture, tourism, private property, or hunting areas):
10.2 Are there any land use plans on or near the project location, which will be negatively affected by project implementation?
   Yes_____  No_______

10.3 Are there any areas on or near the project location, which are densely populated which could be affected by the project?
   Yes_____  No_______

10.4 Are there sensitive land uses near the project area (e.g., hospitals, schools)?
   Yes_____  No_______

10.5 Will the project reduce income, the value /use of existing infrastructure, or negatively affect existing economic activities?
   Yes_____  No_______

10.6 Will a large land area or a high proportion of a community’s land be affected?
   Yes_____  No_______

10.7 Will the project affect any resources that local people take from the natural environment?
   Yes_____  No_______

10.8 Will there be additional demands on local water supplies or other local resources?
   Yes_____  No_______

10.9 Will the project restrict people’s access to land or natural resources?
   Yes_____  No_______

10.10 Will the project require resettlement of any residents?
    Yes_____  No_____
10.11 Will the project result in construction workers or other people moving into or having access to the area (for a long time period and in large numbers compared to permanent residents)?

Yes____  No____

10.12 Are financial compensation measures expected to be needed?

Yes____  No____

10.13 Who is/are the present owner(s)/users of the project area: -

Please describe: ________________________________

Provide an additional description for “yes” answers:

11 Loss of Crops, Fruit Trees, and Household Infrastructure

Will the project result in the permanent or temporary loss of:

11.1 Crops? Yes____  No____

11.2 Fruit trees / coconut palms? Yes____  No____

11.3 Household infrastructure? Yes____  No____

Provide an additional description for “yes” answers and refer to the Resettlement Policy Framework (RPF):

12. Indigenous Peoples

12.1 Are indigenous peoples present in, or have attachment to, project lands?

Yes____  No____

12.2 What are the project/component effects ion indigenous peoples?
Please describe: ________________________

Provide an additional description for “yes” answers and refer to the Indigenous Peoples Planning Framework.

_________________________________________________________________

13  Occupational Health and Safety, Health, Welfare, Employment, and Gender

13.1 Is the project likely to affect human / community health or welfare (e.g., through disease vectors)? Yes______ No______

13.2 Is the project likely to safeguard worker’s health and safety and public safety (e.g., occupational health and safety issues)? Yes______ No______

13.3 How will the project minimize the risk of accidents? How will accidents be managed, when they do occur?

Please describe: _________________________________

13.4 Is the project likely to provide local employment opportunities, including employment opportunities for women? Yes_____ No_____

13.4 Is the project being planned with sufficient attention to local poverty alleviation objectives? Yes_______ No_______

13.4 Is the project being designed with sufficient local participation (including the participation of women) in the planning, design, and implementation process?

Yes______ No______

Provide an additional description for “yes” answers:

_________________________________________________________________

14  Historical, Archaeological, or Cultural Heritage Sites
Based on available sources, consultation with local authorities, local knowledge and/or observations, could the project alter:

14.1 Historical heritage site(s) or require excavation near the same?
   Yes____ No____

14.2 Archaeological heritage site(s) or require excavation near the same?
   Yes____ No____

14.3 Cultural heritage site(s) or require excavation near the same?
   Yes____ No____

14.4 Graves, or sacred locations (e.g., fetish trees or stones) or require excavations near the same?
   Yes____ No____

14.5 Will any of the project activities trigger OP 4.11 Cultural Property?
   Yes______ No_______

In the case of chance finds, please contact: ____________________
- National Museums of Kenya
- Ministry National Heritage

Provide an additional description for “yes” answers:

_______________________________________________________

RECOMMENDATIONS:

Based on the above screening results, the proposed project has been assigned the environmental category:

(a) C – will not require additional environmental work:
(b) B1 – will require the application of simple mitigation measures

(c) B2 – will require the preparation of a separate EIA Study

(d) A – Since the parent project has been assigned the environmental category A, category A sub-projects can be funded

(e) require the preparation of a RAP

Screening Form was completed by:

Name  
Position  
Signature  
Date

Screening Results were reviewed and approved by:

Name  
Position  
Signature  
Date
Annex 2

Environmental and Social Checklist – Please note that this checklist does not concern itself with screening which was done through annex 1

| Substation, Power Lines (distribution, medium voltage, low voltage, high voltage) | Access roads |
| Quorries, borrow pits | Camp sites |

The combined impact of all the power investments should be evaluated together on one of these sheets

Large negative impacts may indicate a need to comply with NEMAs EIA Process

<table>
<thead>
<tr>
<th>Project Name:</th>
<th>District:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental &amp; Social Impacts of Distribution Investments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Not in any particular order</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Mitigation Measures**

- Not exhaustive - other measures are encouraged – Please expand as per KPLC experience and add a column for institutional responsibilities

<table>
<thead>
<tr>
<th>Creation of social conflict or inequity</th>
<th>Community participation &amp; buy-in</th>
<th>Institutional Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erosion of economic land value</td>
<td>Plan land use change Compensation, relocation</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Damage to historical/cultural monuments or artefacts</th>
<th>Relocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased Deforestation</td>
<td>Afforestation</td>
</tr>
<tr>
<td>Nuisance – dust, smell or noise</td>
<td>Planning and sitting</td>
</tr>
<tr>
<td>Water and soil pollution</td>
<td>Control of water and soil pollution</td>
</tr>
<tr>
<td>Soil Erosion</td>
<td>Provide and use approved storm water drainage</td>
</tr>
<tr>
<td>Health hazards to workers and communities</td>
<td>Sensitize workers and community on safety and health measures</td>
</tr>
<tr>
<td>Increasing incidence of communicable diseases</td>
<td>Communication and awareness</td>
</tr>
<tr>
<td>Impacts of creosote-treated poles</td>
<td>Proper disposal of</td>
</tr>
<tr>
<td>Issue</td>
<td>Action</td>
</tr>
<tr>
<td>--------------------------------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Impacts of PCB at sub-stations</td>
<td>Contractor, workers and community awareness</td>
</tr>
<tr>
<td>Impacts on aquatic flora and fauna</td>
<td>Minimize clearing of the natural habitat</td>
</tr>
<tr>
<td>Strain on vegetation cover</td>
<td>Minimize clearing of the natural habitat</td>
</tr>
<tr>
<td>Changes in migration patterns of humans and animals</td>
<td>Integrate with rural planning</td>
</tr>
<tr>
<td>Inundation of cultural or archaeological resources or artefacts</td>
<td>Consider alternative siting Remove resources; see OP 4.11</td>
</tr>
<tr>
<td>Water logging of soil</td>
<td>Micro-engineering solutions</td>
</tr>
<tr>
<td>Loss of scenic value</td>
<td>Re-vegetate</td>
</tr>
<tr>
<td>Disruption of land tenure, ownership rights</td>
<td>Community participation &amp; buy-in; implementation of RPF &amp; RAP</td>
</tr>
<tr>
<td>Population migration to the area</td>
<td>Integrate with rural planning</td>
</tr>
<tr>
<td>Relocation of people</td>
<td>Community participation &amp; buy-in; implementation of RPF</td>
</tr>
<tr>
<td>Indigenous Peoples</td>
<td>To be involved</td>
</tr>
<tr>
<td>Community participation &amp; support, implementation of IPPF</td>
<td></td>
</tr>
</tbody>
</table>

Completed by KPLC’s Environment Unit? PIT:  

Checked and approved by Regional NEMA Officer

Signature:

Date:
### OP/BP 4.01 Environment Assessment

The objective of this policy is to ensure that Bank-financed projects are environmentally sound and sustainable, and that decision-making is improved through appropriate analysis of actions and of their likely environmental impacts. This policy is triggered if a project is likely to have potential (adverse) environmental risks and impacts on its area of influence. OP 4.01 covers impacts on the natural environment (air, water and land); human health and safety; physical cultural resources; and trans boundary and global environment concerns.

Depending on the project, and nature of impacts a range of instruments can be used: EIA, environmental audit, hazard or risk assessment and environmental management plan (EMP). When a project is likely to have sectoral or regional impacts, sectoral or regional EA is required. The Borrower is responsible for carrying out the EA.

The proposed operation has prepared an ESMF, including an environmental and social screening process, for the planned investments.

### OP/BP 4.04 Natural Habitats

This policy recognizes that the conservation of natural habitats is essential to safeguard their unique biodiversity and to maintain environmental services and products for human society and for long-term sustainable development. The Bank therefore supports the protection, management, and restoration of natural habitats in its project financing, as well as policy dialogue and economic and sector work. The Bank supports, and expects borrowers to apply, a precautionary approach to natural resource management to ensure opportunities for environmentally sustainable development. Natural habitats are land and water areas where most of the original native plant and animal species are still present. Natural habitats comprise many types of terrestrial, freshwater, coastal, and marine ecosystems. They include areas lightly modified by human activities, but retaining their ecological functions and most native species.

This policy is triggered by any project (including any sub-project under a sector investment or financial intermediary) with the potential to cause significant conversion (loss) or degradation of natural habitats, whether directly (through construction) or indirectly (through human activities induced by the project).

The proposed operation will not fund any activities that would negatively affect natural habitats.

### OP/BP 4.36 Forests

The objective of this policy is to assist borrowers to harness the potential of forests to reduce poverty in a sustainable manner, integrate forests effectively into sustainable economic development and protect the vital local and global environmental services and values of forests. Where forest restoration and plantation development are necessary to meet these objectives, the Bank supports borrowers.

This policy is triggered whenever any Bank-financed investment project (i) has the potential to have impacts on the health and quality of forests or the rights and welfare of people and their level of dependence upon or interaction with forests; or (ii) aims to bring about changes in the
these objectives, the Bank assists borrowers with forest restoration activities that maintain or enhance biodiversity and ecosystem functionality. The Bank assists borrowers with the establishment of environmentally appropriate, socially beneficial and economically viable forest plantations to help meet growing demands for forest goods and services.

**OP 4.09 Pest Management**

The objective of this policy is to (i) promote the use of biological or environmental control and reduce reliance on synthetic chemical pesticides; and (ii) strengthen the capacity of the country’s regulatory framework and institutions to promote and support safe, effective and environmentally sound pest management. More specifically, the policy aims to (a) Ascertained that pest management activities in Bank-financed operations are based on integrated approaches and seek to reduce reliance on synthetic chemical pesticides (Integrated Pest Management (IPM) in agricultural projects and Integrated Vector Management (IVM) in public health projects. (b) Ensure that health and environmental hazards associated with pest management, especially the use of pesticides are minimized and can be properly managed by the user. (c) As necessary, support policy reform and institutional capacity development to (i) enhance implementation of IPM-based pest management and (ii) regulate and monitor the distribution and use of pesticides.

The policy is triggered if: (i) procurement of pesticides or pesticide application equipment is envisaged (either directly through the project, or indirectly through on-lending, co-financing, or government counterpart funding); (ii) the project may affect pest management in a way that harm could be done, even though the project is not envisaged to procure pesticides. This includes projects that may (i) lead to substantially increased pesticide use and subsequent increase in health and environmental risk; (ii) maintain or expand present pest management practices that are unsustainable, not based on an IPM approach, and/or pose significant health or environmental risks.

The proposed operation will not involve the use of herbicides, pesticides or other chemicals.

**OP/BP 4.11 Physical Cultural Resources**

The objective of this policy is to assist countries to avoid or mitigate adverse impacts of development projects on physical cultural resources. For purposes of this policy, “physical cultural resources” are defined as movable or immovable objects, sites, structures, groups of structures, natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Physical cultural resources may be located in urban or rural settings, and may be above ground, underground, or underwater. The cultural management, protection or utilization of natural forests or plantations.

The proposed operation will not fund any investments that will have negative impacts on forests.

This policy applies to all projects requiring a Category A or B Environmental Assessment under OP 4.01, projects located in, or in the vicinity of, recognized cultural heritage sites, and projects designed to support the management or conservation of physical cultural resources.

The proposed operation will not fund any investments that have negative impacts on physical
interest may be at the local, provincial or national level, or within the international community. cultural resources. In the event of encountering chance finds, KPLC will immediately contact the Ministry of Gender, Sports, Cultural and Social Services to seek assistance.

**OP/BP 4.10 Indigenous Peoples**

The objective of this policy is to (i) ensure that the development process fosters full respect for the dignity, human rights, and cultural uniqueness of indigenous peoples; (ii) ensure that adverse effects during the development process are avoided, or if not feasible, ensure that these are minimized, mitigated or compensated; and (iii) ensure that indigenous peoples receive culturally appropriate and gender and inter-generationally inclusive social and economic benefits.

The policy is triggered when the project affects the indigenous peoples (with characteristics described in OP 4.10 para 4) in the project area. Incase indigenous peoples will be in the sub project sites therefore an Indigenous Peoples Planning Framework (IPPF) will be prepared.

**OP/BP 4.12 Involuntary Resettlement**

The objective of this policy is to (i) avoid or minimize involuntary resettlement where feasible, exploring all viable alternative project designs; (ii) assist displaced persons in improving their former living standards, income earning capacity, and production levels, or at least in restoring them; (iii) encourage community participation in planning and implementing resettlement; and (iv) provide assistance to affected people regardless of the legality of land tenure.

This policy covers not only physical relocation, but any loss of land or other assets resulting in: (i) relocation or loss of shelter; (ii) loss of assets or access to assets; (iii) loss of income sources or means of livelihood, whether or not the affected people must move to another location. This policy also applies to the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons.

The proposed operation has a RPF which will serve as a guide in preparing RAPs as necessary.

**OP/BP 4.37 Safety of Dams**

The objectives of this policy are as follows: For new dams, to ensure that experienced and competent professionals design and supervise construction; the borrower adopts and implements dam safety measures for the dam and associated works. For existing dams, to ensure that any dam that can influence the performance of the project is identified, a dam safety assessment is carried out, and necessary additional dam safety measures and remedial work are implemented.

This policy is triggered when the Bank finances: (i) a project involving construction of a large dam (15 m or higher) or a high hazard dam; and (ii) a project which is dependent on an existing dam. For small dams, generic dam safety measures designed by qualified engineers are usually adequate.
| **OP 7.50 Projects in International Waters** | The objective of this policy is to ensure that Bank-financed projects affecting international waterways would not affect: (i) relations between the Bank and its borrowers and between states (whether members of the Bank or not); and (ii) the efficient utilization and protection of international waterways.

The policy applies to the following types of projects: (a) Hydroelectric, irrigation, flood control, navigation, drainage, water and sewerage, industrial and similar projects that involve the use or potential pollution of international waterways; and (b) Detailed design and engineering studies of projects under (a) above, include those carried out by the Bank as executing agency or in any other capacity. | This policy is triggered if (a) any river, canal, lake or similar body of water that forms a boundary between, or any river or body of surface water that flows through two or more states, whether Bank members or not; (b) any tributary or other body of surface water that is a component of any waterway described under (a); and (c) any bay, gulf strait, or channel bounded by two or more states, or if within one state recognized as a necessary channel of communication between the open sea and other states, and any river flowing into such waters.

The proposed operation will not fund any investments that would affect international waterways. |
|---|---|---|
| **OP 7.60 Projects in Disputed Areas** | The objective of this policy is to ensure that projects in disputed areas are dealt with at the earliest possible stage: (a) so as not to affect relations between the Bank and its member countries; (b) so as not to affect relations between the borrower and neighboring countries; and (c) so as not to prejudice the position of either the Bank or the countries concerned. | This policy is triggered if the proposed project will be in a “disputed area”. Questions to be answered include: Is the borrower involved in any disputes over an area with any of its neighbors. Is the project situated in a disputed area? Could any component financed or likely to be financed as part of the project be situated in a disputed area?

The proposed operation will not fund any investments in disputed areas. |

---

**Annex 4 Environmental Guidelines for Contractors**

**General Environmental Management Conditions**
General

1. In addition to these general conditions, the Contractor shall comply with any specific Environmental Management Plan (EMP) for the works he is responsible for. The Contractor shall inform himself about such an EMP, and prepare his work strategy and plan to fully take into account relevant provisions of that EMP. If the Contractor fails to implement the approved EMP after written instruction by the Supervising Engineer to fulfill his obligation within the requested time, the Owner reserves the right to arrange through the SE for execution of the missing action by a third party on account of the Contractor.

2. Notwithstanding the Contractor’s obligation under the above clause, the Contractor shall implement all measures necessary to avoid undesirable adverse environmental and social impacts wherever possible, restore work sites to acceptable standards, and abide by any environmental performance Requirements specified in an EMP. In general these measures shall include but not be limited to:

   (b) Ensure that noise levels emanating from machinery, vehicles and noisy construction activities (e.g. excavation, blasting) are kept at a minimum for the safety, health and protection of workers within the vicinity of high noise levels and nearby communities.

   (c) Ensure that existing water flow regimes in rivers, streams and other natural or irrigation channels is maintained and/or re-established where they are disrupted due to works being carried out.

   (d) Upon discovery of ancient heritage, relics or anything that might or believed to be of archeological or historical importance during the execution of works, immediately report such findings to the Supervising Engineer so that the appropriate authorities may be expeditiously contacted for fulfillment of the measures aimed at protecting such historical or archaeological resources.

   (e) Discourage construction workers from engaging in the exploitation of natural resources such as hunting, fishing, and collection of forest products or any other activity that might have a negative impact on the social and economic welfare of the local communities.

   (f) Implement soil erosion control measures in order to avoid surface run off and prevents siltation, etc.

   (g) Ensure that garbage, sanitation and drinking water facilities are provided in construction workers camps.

   (h) Ensure that, in as much as possible, local materials are used to avoid importation of foreign material and long distance transportation.
(k) Ensure public safety, and meet traffic safety requirements for the operation of work to avoid accidents.

3. The Contractor shall adhere to the proposed activity implementation schedule and the monitoring plan/strategy to ensure effective feedback of monitoring information to project management so that Impact management can be implemented properly, and if necessary, adapt to changing and unforeseen conditions.

4. Besides the regular inspection of the sites by the Supervising Engineer for adherence to the Contract conditions and specifications, the Owner may appoint an Inspector to oversee the compliance With these environmental conditions and any proposed mitigation measures. State environmental Authorities may carry out similar inspection duties. In all cases, as directed by the Supervising Engineer, the Contractor shall comply with directives from such inspectors to implement measures Required to ensure the adequacy rehabilitation measures carried out on the bio-physical environment and compensation for socio-economic disruption resulting from implementation of any works.

**Work site/Campsite Waste Management**

6. All vessels (drums, containers, bags, etc.) containing oil/fuel/surfacing materials and other hazardous Chemicals shall be bonded in order to contain spillage. All waste containers, litter and any other waste Generated during the construction shall be collected and disposed off at designated disposal sites in Line with applicable government waste management regulations.

7. Used oil from maintenance shall be collected and disposed off appropriately at designated sites or be re-used or sold for re-use locally.

8. Entry of runoff to the site shall be restricted by constructing diversion channels or holding structures Such as banks, drains, dams, etc. to reduce the potential of soil erosion and water pollution.
New extraction sites:

10. Vegetation clearing shall be restricted to the area required for safe operation of construction work. Vegetation clearing shall not be done more than two months in advance of operations.

11. Stockpile areas shall be located in areas where trees can act as buffers to prevent dust pollution. Perimeter drains shall be built around stockpile areas. Sediment and other pollutant traps shall be located at drainage exits from workings.

12. The Contractor shall deposit any excess material in accordance with the principles of these general conditions, and any applicable EMP, in areas approved by local authorities and/or the Supervising Engineer.

13. Areas for depositing hazardous materials such as contaminated liquid and solid materials shall be approved by the Supervising Engineer and appropriate local and/or national authorities before the commencement of work. Use of existing, approved sites shall be preferred over the establishment of new sites.

Soil Erosion Prevention

14. To the extent practicable, the Contractor shall rehabilitate the site progressively so that the rate of rehabilitation is similar to the rate of construction.

15. Always remove and retain topsoil for subsequent rehabilitation. Soils shall not be stripped when they are wet as this can lead to soil compaction and loss of structure.

16. Re-vegetate stockpiles to protect the soil from erosion, discourage weeds and maintain an active population of beneficial soil microbes.

17. To the extent practicable, reinstate natural drainage patterns where they have been altered or impaired.

18. Identify potentially toxic overburden and screen with suitable material to prevent mobilization of toxins.

19. Ensure reshaped land is formed so as to be inherently stable, adequately drained and suitable for the desired long-term land use, and allow natural regeneration of vegetation.
20. Minimize the long-term visual impact by creating landforms that are compatible with the adjacent landscape.

21. Minimize erosion by wind and water both during and after the process of reinstatement.

22. Revegetate with plant species that will control erosion, provide vegetative diversity and, through succession, contribute to a resilient ecosystem. The choice of plant species for rehabilitation shall be done in consultation with local research institutions, forest department and the local people.

**Water Resources Management**

23. The Contractor shall at all costs avoid conflicting with water demands of local communities.

24. Abstraction of both surface and underground water shall only be done with the consultation of the local community and after obtaining a permit from the relevant Water Authority.

25. Abstraction of water from wetlands shall be avoided. Where necessary, authority has to be obtained from relevant authorities.

26. No construction water containing spoils or site effluent, especially cement and oil, shall be allowed to flow into natural water drainage courses.

28. Wash water from washing out of equipment shall not be discharged into water courses or road drains.

29. Site spoils and temporary stockpiles shall be located away from the drainage system, and surface run off shall be directed away from stockpiles to prevent erosion.

**Traffic Management**

30. Location of access roads/detours shall be done in consultation with the local community especially in important or sensitive environments. Access roads shall not traverse wetland areas.

31. Upon the completion of civil works, all access roads shall be ripped and rehabilitated.

32. Access roads shall be sprinkled with water at least five times a day in settled areas, and three times in unsettled areas, to suppress dust emissions.
Disposal of Unusable Elements

33. Unusable materials and construction elements such as electro-mechanical equipment, cables, accessories and demolished structures will be disposed of in a manner approved by the Supervising Energy Expert (SE). The Contractor has to agree with the SE which elements are to be surrendered to the Client’s premises, which will be recycled or reused, and which will be disposed of at approved landfill sites.

Health and Safety

34. In advance of the construction work, the Contractor shall mount an awareness and hygiene campaign. Workers and local residents shall be sensitized on health risks particularly of AIDS.

35. Adequate road signs to warn pedestrians and motorists of construction activities, diversions, etc. shall be provided at appropriate points.

36. Construction vehicles shall not exceed maximum speed limit of 40km per hour.

Repair of Private Property

37. Should the Contractor, deliberately or accidentally, damage private property, he shall repair the property to the owner’s satisfaction and at his own cost. For each repair, the Contractor shall obtain from the owner a certificate that the damage has been made good satisfactorily in order to indemnify the Client from subsequent claims.

38. In cases where compensation for inconveniences, damage of crops etc. are claimed by the owner, the Client has to be informed by the Contractor through the Supervising Engineer.

This compensation is in general settled under the responsibility of the Client before signing the Contract. In unforeseeable cases, the respective administrative entities of the Client will take care of compensation.

Contractor’s Environment, Health and Safety Management Plan (EHS-MP)

39. Within 6 weeks of signing the Contract, the Contractor shall prepare an EHS-MP to ensure the adequate management of the health, safety, environmental and social aspects of the works, including implementation of the requirements of these general
conditions and any specific requirements of an EMP for the works. The Contractor’s EHS-MP will serve two main purposes:

For the Contractor, for internal purposes, to ensure that all measures are in place for adequate EHS management, and as an operational manual for his staff.

For the Client, supported where necessary by a Supervising Engineer, to ensure that the Contractor is fully prepared for the adequate management of the EHS aspects of the project, and as a basis for monitoring of the Contractor’s EHS performance.

40. The Contractor’s EHS-MP shall provide at least: a description of procedures and methods for complying with these general environmental management conditions, and any specific conditions specified in an EMP; a description of specific mitigation measures that will be implemented in order to minimize adverse impacts; a description of all planned monitoring activities (e.g. sediment discharges from borrow areas) and the reporting thereof; and the internal organizational, management and reporting mechanisms put in place for such.

41. The Contractor’s EHS-MP will be reviewed and approved by the Client before start of the works.
   This review should demonstrate if the Contractor’s EHS-MP covers all of the identified impacts, and has defined appropriate measures to counteract any potential impacts.

**EHS Reporting**

42. The Contractor shall prepare bi-weekly progress reports to the Supervising Engineer on compliance with these general conditions, the project EMP if any, and his own EHS-MP. An example format for a Contractor EHS report is given below. It is expected that the Contractor’s reports will include information on:

   - EHS management actions/measures taken, including approvals sought from local or national authorities;
   - Problems encountered in relation to EHS aspects (incidents, including delays, cost consequences, etc. as a result thereof);
   - Lack of compliance with contract requirements on the part of the Contractor;
   - Changes of assumptions, conditions, measures, designs and actual works in relation to EHS aspects; and
   - Observations, concerns raised and/or decisions taken with regard to EHS management during site meetings.

43. It is advisable that reporting of significant EHS incidents be done “as soon as practicable”. Such incident reporting shall therefore be done
individually. Also, it is advisable that the Contractor keep his own records on health, safety and welfare of persons, and damage to property.

44. It is advisable to include such records, as well as copies of incident reports, as appendixes to the bi-weekly reports. Example formats for an incident notification and detailed report are given below. Details of EHS performance will be reported to the Client through the Supervising Engineer reports to the Client.

Training of Contractor’s Personnel

45. The Contractor shall provide sufficient training to his own personnel to ensure that they are all aware of the relevant aspects of these general conditions, any project EMP, and his own EHS-MP, and are able to fulfill their expected roles and functions. Specific training should be provided to those employees that have particular responsibilities associated with the implementation of the EHS-MP.

General topics should be:
EHS in general (working procedures);
Emergency procedures; and
social and cultural aspects (awareness rising on social issues).

Cost of Compliance

46. It is expected that compliance with these conditions is already part of standard good workmanship and state of art as generally required under this Contract. The item “Compliance with Environmental Management Conditions” in the Bill of Quantities covers these costs. No other payments will be made to the Contractor for compliance with any request to avoid and/or mitigate an avoidable EHS impact.
Example Format: EHS Report

Contract: Period of reporting:

EHS management actions/measures:
Summarize EHS management actions/measures taken during period of reporting, including planning and management activities (e.g. risk and impact assessments), EHS training, specific design and work measures taken, etc.

EHS incidents:
Report on any problems encountered in relation to EHS aspects, including its consequences (delays, costs) and corrective measures taken. Include relevant incident reports.

EHS compliance:
Report on compliance with Contract EHS conditions, including any cases of non-compliance.

Changes:
Report on any changes of assumptions, conditions, measures, designs and actual works in relation to EHS aspects.

Concerns and observations:
Report on any observations, concerns raised and/or decisions taken with regard to EHS management during site meetings and visits.

Signature (Name, Title Date):
Contractor Representative
Example Format: EHS Incident Notification

Provide within 24 hrs to the Supervising Engineer

Originators Reference No: Date of Incident: Time:

Location of incident:

Name of Person(s) involved:

Employing Company:

Type of Incident:

Description of Incident:

Where, when, what, how, who, operation in progress at the time (only factual)

Immediate Action:

Immediate remedial action and actions taken to prevent reoccurrence or escalation

Signature (Name, Title, Date):

Contractor Representative

Example Format: Detailed EHS Incident Report

The Incident Notification should be follow-up by a Detailed EHS Incident Report Containing the following information where applicable

1. Incident Summary

2. Specific Details

Date

Time

Place

Weather/Visibility

Road conditions
3. Persons Involved

Name/s
Age/s
Experience
Date joined Company
Last Medical Check
Current Medical Treatment
Evidence of Drugs/Alcohol
Last Safety Meeting attended
Infringements/Incidents record

4. Equipment Involved

5. Description of Incident

6. Findings of Investigation Team Interim/Final

Investigation Team Members
Persons Interviewed
Recommendations & Remedial Actions
Investigation Methodology

7. Signature (Name, Title, Date):

8. Attachments
Photographs
Witness Statements and Incident Notification Report
Annex 5 Generic EA Terms of Reference

I. Introduction and context

This section will be completed at the appropriate time, and will provide the necessary information with respect to the context and methodological approaches to be undertaken.

II. Objectives of the study

This section will (i) outline the objectives and particular activities of the planned activity; and (ii) indicate which activities are likely to have environmental and social impacts that will require appropriate mitigation. (Adapted to specific activities)

III. Terms of Reference

The consultant will perform the following tasks:

(a) Carry out a description of the biophysical characteristics of the environment in which the planned activity will take place, and highlight the major constraints that need to be taken into account during construction as well as during operation of the facility;

(b) Carry out a description of the socio-economic environment of the planned investment, and highlight the major constraints that need to be taken into account during construction as well as during operation of the facility;

(c) Assess the potential environmental and social impacts due to construction or rehabilitation activities, and recommend mitigation measures as appropriate, including cost estimates;

(d) Assess the potential environmental and social impacts due to the provision of water supply and sanitation facilities that might be needed for the planned facility and make appropriate recommendations;

(e) Assess the need for liquid and solid waste collection, disposal and management in the facility, and make recommendations accordingly;

(f) Discuss alternative project designs and make recommendations;

(g) Assess alternative project designs and make recommendations;

(h) Carry out a review of the respective national environmental policies, legislation, regulatory and administrative frameworks in conjunction with the World Bank’s ten safeguard policies, indicate which of these policies is triggered by the planned activity, identify any gaps that might exist, and make
recommendations as to how potential gaps should be bridged in the context of the planned activity;

(i) Review the Conventions and Protocols to which the country is a signatory;

(j) Assess the country’s environmental assessment and management capacity, as well as the capacity to implement the proposed mitigation measures, and make appropriate recommendations, including potential capacity building and training needs, and their costs;

(k) Prepare an Environmental and Social Management Plan (ESMP) for the planned activity. The ESMP should outline (a) potential environmental and social impacts resulting from the activity; (b) proposed mitigation measures; (c) institutional responsibilities for implementation of the mitigation measures; (d) monitoring indicators; (e) institutional responsibilities for monitoring the implementation of the mitigation measures; (f) cost estimates for these activities; and (g) time horizons for implementing the ESMP.

(l) Public consultations. EIA results and proposed mitigating measures will then be shared with the potentially affected population, NGOs, local authorities and the private sector working in the area where the activity will take place. Minutes of this consultation will form an integral part of the report.

IV. Report Plan

- Cover page
- Table of Contents
- List of acronyms
- Executive summary (as necessary, in English and French)
- Introduction
- Description of the proposed activity
- Description of the environment of the area where the activity will take place
- Description of the policy, institutional and regulatory framework.
- Methods and techniques used during evaluation and impact analysis of the proposed activity.
- Description of potential alternatives to the proposed project design.
- Description of environmental and social impacts of the proposed activity.
- Discussion of consultations with relevant stakeholders, including potentially affected persons.
- Environmental Management Plan for the proposed activity.
- Monitoring indicators for the proposed activity.
- Recommendations
- References.
- List of individuals/ institutions contacted.
- Summary table of the Environmental Management Plan (EMP).
Annex 6 Environmental and Social Management Plan (ESMP)
<table>
<thead>
<tr>
<th>Project Activities</th>
<th>Potential Environmental &amp; Social Impacts</th>
<th>Proposed Mitigation Measures</th>
<th>Responsibility for implementing mitigation measures</th>
<th>Responsibility for Monitoring implementation of mitigation measures</th>
<th>Time Horizon</th>
<th>Cost Estimates (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nairobi Area</td>
<td>Construction of new substations; Construction of new access roads; Use of quarries and borrow pits? Establishment of camp sites?</td>
<td>Loss of vegetation, noise, dust, soil erosion, Construction waste, Generation of wastewater, Increase of water use; Loss of livelihoods; Spoil materials due to construction material excavation</td>
<td>Apply Environmental Guidelines for Contractors</td>
<td>Contractors.</td>
<td>KPLC-PIT and Environment unit and Regional staff</td>
<td>Throughout construction period</td>
</tr>
<tr>
<td>Rehabilitation of existing substations; Access roads;</td>
<td>Interruption of services</td>
<td>Inform public of planned works and their potential environmental and social impacts</td>
<td>KPLC – PIT.</td>
<td>KPLC-PIT and Environment unit and Regional staff</td>
<td>Throughout construction period</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Loss of livelihoods and/or land for the sub projects</td>
<td>Implement RPF</td>
<td>KPLC – PIT.</td>
<td>KPLC-PIT and Environment unit and Regional staff</td>
<td>Throughout construction period of the sub project components</td>
<td>KES 1 M</td>
</tr>
<tr>
<td></td>
<td>Increase of noise, dust, soil erosion, Construction waste,</td>
<td>Apply Environmental Guidelines for Contractors;</td>
<td>Contractors.</td>
<td>KPLC-PIT and Environment unit and Regional staff</td>
<td>Throughout construction period</td>
<td>Incl. in Contract</td>
</tr>
</tbody>
</table>
Note: The costs include that to be used to purchase land for the new substations and the estimated costs for payment for structures, trees and crops as detailed in the RAP.