THE KENYA POWER AND LIGHTING COMPANY LIMITED

RESETTLEMENT ACTION PLAN REPORT

PROPOSED KPLC KINDARUMA –MWINGI - GARISSA
132KV TRANSMISSION LINE

Report prepared and submitted by:

Norken (I) Ltd.
Engineering and Management Consultants
Norfolk Towers, Block G
P.O. Box 9882-00100
Nairobi, Kenya
Tel. 254 20 2248762
Fax 254 20 2248900
Email: environment@norken.co.ke

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Proponent:
THE KENYA POWER AND LIGHTING COMPANY LIMITED

Assignment:
RESETTLEMENT ACTION PLAN FOR THE PROPOSED KINDARUMA –MWINGI - GARISSA 132KV TRANSMISSION LINE

Name and Address of Consultant:
Norken Limited
P. O. Box 9882 - 00100
Nairobi, Kenya
Tel. 254 020 2248762

Signed: ____________________________ Date: _____________________
For: Norken Ltd

Name and Address of Proponent:
The Kenya Power and Lighting Company
Stima Plaza, Kolobot Road
P. O. Box 30099
00100 – NAIROBI.

Tel. 254 20 3201000
E-mail: Aambasi@kplc.co.ke

Signed: ____________________________ Date: _____________________
For: The Kenya Power and Lighting Company Ltd

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ENIRONMENTAL AND SOCIAL IMPACT ASSESSMENT STUDY FOR THE PROPOSED KINDARUMA –MWINGI - GARISSA 132KV TRANSMISSION LINE

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ACRONYMS, ABBREVIATIONS AND SYMBOLS

AIDS Immune Deficiency Syndrome
CRC Central Resettlement Committee
EIA Environmental Impact Assessment
EMP Environmental Management Plan
ERC Electricity Regulatory Commission
ESIA Environmental and Social Impact Assessment
ETB Energy Transmission Board
KETRACO Electricity Transmission Company of Kenya
GCI Galvanized Corrugated Iron
GLA Government Lands Act
GOK Government of Kenya
HIV Human Immune Virus
IFC International Finance Cooperation
<table>
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<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tr>
<td>IPPS</td>
<td>Independent Power Producers</td>
</tr>
<tr>
<td>KenGen</td>
<td>Kenya Electricity Generation Company</td>
</tr>
<tr>
<td>Km</td>
<td>Kilometer</td>
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<td>KPLC</td>
<td>Kenya Power and Lightning Company</td>
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<td>kV</td>
<td>Kilovolts</td>
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<tr>
<td>LARC</td>
<td>Local Area Resettlement Committees</td>
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<td>Resettlement Action Plan</td>
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<td>RLA</td>
<td>Registered Land Act</td>
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<tr>
<td>UETCL</td>
<td>Uganda Electricity Transmission Company</td>
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<tr>
<td>VAT</td>
<td>Value Added Tax</td>
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EXECUTIVE SUMMARY

Introduction
The Government of Kenya plans to increase access to electricity in Kenya tenfold from the current 4% in the rural areas to about 40% by 2020. To do this, the transmission lines network is being considered for upgrading and with it the communication system required for line protection and management purposes. The Kenya Power and Lighting Company Limited (KPLC) least cost power development plan identified various 132 KV developments for improving the performance of the national grid network to cater for the increasing load growth and meet the objectives of 2030. KPLC is planning to construct a new single circuit 132 kV transmission line between Kindaruma-Mwingi-Garissa. The proposed line will serve the greater districts of Mwingi in Eastern province, Tana River in Coast province, and Garissa in North eastern province and beyond.

Project Objectives
Currently electricity is accessible to less than 20% of the total population and approximately 5% of rural population. The Government’s goal is to accelerate access rate to 20% of rural population by 2010 and to at least 40% by 2020. To achieve this goal, Government has prepared the Energy Scale Up Program covering the period 2008 to 2017. This project is part of the KPLC energy access scale-up program, which has the following objectives:

• Extending the transmission and distribution lines and installation of new 132/33kV substations; as well as new and reinforced distribution lines with the aim of reducing technical losses and improving voltage conditions, thereby coping with additional demand.
• Increasing access to electricity to 20% by 2010 by accelerating connection rates;
• Voltage upgrading to increase supply capacity and reduce system losses;
• Provide alternative electricity supply paths to increase reliability and improve power quality in the regions.

Need for a Resettlement Action Plan
The proposed transmission line traverses a vast area comprising land owned by various public and private entities. There are a number of land uses along the line route, including sparsely and densely populated settlements along the line route. It is anticipated that the most significant adverse social/socio-economic impact will be the need for compensation and relocation of people affected by the project. The identified line route will lead to physical displacement of people, loss of shelter, assets, income sources and livelihood, and restriction of access to economic resources. World Bank OP 4.12 - Involuntary Resettlement is triggered by this project and therefore requires the preparation of individual Resettlement Plans that must be consistent with this RPF. An environmental and social impact assessment (ESIA) has also been undertaken for the proposed project, identifying the impacts associated with the project.

The majority of the people consulted along the project corridor have positive attitude toward the project and approved the proposed project for they recognize the importance of electricity in development. The local leaders and other opinion leaders also gave the project their support. The local population is willing to participate in ensuring success of the proposed project in a number of ways such as:

• Offering their land in exchange of “good” money
• Supplying both unskilled and skilled labour for the project
• Providing market for the electricity
• Reporting electric faults and vandalism
• Creating awareness among community members on dangers of electricity and tempering with electricity lines

The RAP outlines the guiding principles to be followed when involuntary land acquisition is undertaken, in order to minimise the adverse impacts to PAPs and enhance positive impacts. It applies to all displaced persons regardless of the total number affected, the severity of the impact and whether or not they have legal title to the land. The RAP also sets out the framework for institutional arrangements, schedules, and other indicative budgets to facilitate any resettlement process that will be necessitated as a result of this project.

**Objectives of the RAP**

Any project which includes the acquisition of land either of a temporary or permanent nature requires the development of a RAP in order to meet the following objectives:

- Provide a clear definition of the PAP by socio-economic and gender category; household or family; the cut-off dates for eligibility for compensation; the assets to be compensated at replacement cost.
- Provide a detailed socio-economic survey in order to identify entitlement, key issues faced in terms of land acquisition and compensation, as well as options and strategies for minimising impacts on current land use activities or cultural heritage.
- Provide specific rates for compensation of loss of assets at fair market and equitable value and the methodology of how these values are derived.
- Establish the land acquisition and compensation processes, options available, eligibility and entitlement and consultation and grievance referral and redress mechanisms.
- Take into account the requirements of the applicable laws of Kenya as well as requirements of the International Finance Corporation (IFC), African Development Bank (AFDB) and the policies and procedures of KPLC.

**Guiding Principles of the RAP**

The RAP for the proposed transmission line project follows these principles:

- **Principle 1**: Involuntary resettlement should be avoided, or minimised where unavoidable.
- **Principle 2**: Displaced persons should be meaningfully consulted, and participate in planning and implementation of resettlement programs.
- **Principle 3**: Pre-resettlement baseline data must be established.
- **Principle 4**: Resettled persons should be assisted with the move and provided with support during the transition period.
- **Principle 5**: A fair and equitable set of compensation options must be negotiated; displaced persons should be compensated for their losses at full replacement cost.
- **Principle 6**: Where resettlement is unavoidable, resettlement plans and activities should be executed as a development that ensures the Project Affected People (PAP) benefit.
- **Principle 7**: Vulnerable social groups must be catered for.
- **Principle 8**: Resettlement must be seen as an upfront project cost.
- **Principle 9**: An independent monitoring and grievance procedure must take place.
Legal Framework
Pertinent laws relating to the implementation of the RAP were identified and have been discussed in this report. These include local legislation as well as the World Bank Safeguard Policies that are triggered by the RAP implementation (OP 4.10 - Indigenous Peoples, and OP 4.12 - Involuntary Resettlement)

Data Collection Methodology
The Public consultation process involved visiting the areas along the 224 kilometer stretch along which the Wayleave for the transmission line will be sought. Public consultations were conducted from 13th to 18th October 2009 and again from 26th to 29th November 2009. The team used both qualitative and quantitative techniques to collect data and information on the social and economic status of the community; these activities included:

- A detailed desk study to establish and describe the socio-economic conditions within Masinga, Mwingi, Kyuso and Tana River districts.
- Key Informant Interviews and Semi-Structured Interviews were conducted with the DOs, Chiefs, Assistant Chiefs, Councilors and Village Elders.
- Open-ended questionnaires were administered to obtain views about the proposed project and its perceived impacts from households along the proposed transmission line.
- Public Barazas which were organised and chaired by the Chiefs and Assistant Chiefs.
- Transect walks, where possible were conducted to confirm the information from the discussion and observation were made on physical and environmental conditions.
- A check list of the information to collect from each category of the persons to be interviewed guided the collection of data throughout the field exercise.

RAP Study Team
The team comprised of the following:

- Sociologist/Socio-Economist.
- Surveyor
- Land Valuer
- Enumerators
- Electrical Engineer
- Ecologist/Natural Resource Expert

Project Impacts on the Recipient Environment
The project will have both positive and negative impacts to the environmental and social wellbeing of the residents within and far beyond the immediate vicinity. These impacts are outlined here as identified during the ESIA.

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<th>Impact</th>
<th>Positive (+)</th>
<th>Negative (-)</th>
<th>Direct (D)</th>
<th>Indirect (I)</th>
<th>Temporary (t)</th>
<th>Permanent (P)</th>
<th>Major (M)</th>
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<th>Occurrence</th>
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<td>Increased electricity connections</td>
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<td>Reduced power outages</td>
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<td>Improved security</td>
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<td>Provide lighting at household level</td>
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<td>Improved living standard/ reduce poverty</td>
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### Project Affected Persons

The stakeholders and project affected persons (PAPs) were identified and consulted with the objective of describing the existing socio-economic conditions within the proposed project area of influence and the immediate surroundings. The Project affected Persons can be grouped into four broad categories namely, those:

- Whose whole land, farms and housing structures will be fully acquired
- Whose land and farms will partially be acquired but housing structures remain
- Whose land and farms will partially be acquired including housing structures
- Who will be affected by the changed environment as they co-exist with the transmission line
- Whose businesses and livelihoods will be transformed

The socio-economic profile of the PAPs has been presented in detail in the report; it includes the PAPs location, villages, names of the household members, their sex and ages, their main occupations, the livestock kept and crops cultivated. The RAP is an outcome of various integrated formal and informal interviews with PAPs, development agencies, departmental heads, the general public and other stakeholders as well as observation. In total, 81 household interviews were conducted and 23 PAPs visited/assessed. In addition, 5 consultative Public Participation meetings were held at Thaana Nzau (Migwani), Mwingi (Mwingi Central), Ngiluni (Nguni), Madogo Social hall (Bangale and Madogo) and Garissa County Council hall (Garissa central). The RAP team’s visits, observations and discussions with various stakeholders revealed variances in the main economic activities which form the basis for residents’ livelihoods and income generation sources. In Yatta, Mwingi and Kyuso district, the main primary economic activity is crop growing while livestock keeping, trade, employment and fishing are secondary. In Tana River district, pastoralism is the predominant economic activity followed by trade and employment while crop and fishing is insignificant and only conducted along River Tana.

### Cultural Aspects of Relocation

In the project corridor, no community cultural value sites were identified. However, at individual level, the residents indicated to have strong and emotional attachments to land because of social and cultural reasons:

- The socio-cultural and organisational structures among families are based on clans which is further strengthened by membership in various self help...
Where land was inherited and considered as “ancestral land” as some believed that leaving the land might have negative repercussions on their families
Graves- whereby some members were not comfortable to relocate away from their departed ones.
The fear of relocating from “the known to the unknown” new sites and the trauma that would accompany such shifts

Valuation Process
In Kenya, compensation value requires that the value paid to include all the other miscellaneous expenses as well as the injurious affection due to the disturbance to them. In such circumstances, the value paid is higher than normal market. For the Kindaruma - Mwingi- Garissa transmission line transmission line, five methods were applied to come up with the estimate of the Resettlement value, namely:

• Comparison Method
• Investment Method.
• Cost approach method.
• Profit method.
• Residual method.

Land Acquisition
Preliminary assessment of the transmission line revealed that approximately 31no dwelling structures, 7no business structures, and 1no social site, were to be relocated to pave way for the project. to avoid or minimize relocation and therefore resettlement and disturbance, rerouting sections of the transmission line has been suggested for some of the section of the line route. Land will be acquired permanently and compensation will be made to each of the land owners who are within 30 meters corridor. For those beyond the 30 meters corridor strip of land, but within 20 meters on either side of the 30 meter strip, the Project Affected Persons (PAPs) will be paid a disturbance allowance. The disturbance allowance is to compensate for the time the owners will not use the land which is approximately one year, during construction when the contractor will require a 60 meter corridor.

RAP Cost Estimates
Under this Resettlement Action Plan, it is estimated that the land to be acquired will be a corridor measuring 224Kms (224,000 meters) by 30 meters. That sums to 672 hectares (6,720,000 square meters) or 1,661 acres. Considering the prevailing situations whereby land market along the corridor was not active, various valuation methods were applied and the value amounted to approximately Kshs.66m. The figure given does not include the issues of injurious affection and disturbance which will be included once the specific structures affected are identified. The cost of relocation and development of other facilities was not included because the timeframe and type of facilities to be provided were not indicated. It will therefore be necessary to implement the RAP based on the prevailing situation at the time of the start of the project to ascertain the exact cost including that of different types of facilities to be required/provided at that particular moment of time.

RAP Time Frame
The start date for implmentation of the RAP is not yet established. All the residents in the corridor including PAPs were eager to be given clear timeframe as well as be furnished with the duration (months) they will be served with notices to relocate. The RAP anticipates that the project implementation schedule will consist of three phases namely preparation, implementation and post
implementation. It mainly will include works such as clearing access roads, erecting posts and connecting transmission lines. The resettlement schedule for land acquisition, house demolition and relocation will be coordinated with KPLC. The key activities will include:

- Investigations on the prevailing socio-economic conditions, undertaking a Detailed final RAP, drawing a resettlement schedule and finalization of investment costs
- Constituting and operationalisation of all Resettlement administrative agencies including training of resettlement staff and purchasing equipment and vehicles
- Awareness campaigns
- Identification and agreement, with PAPs, on the resettlement sites
- Land allocation, construction of houses and public facilities
- Survey of the transmission line
- Development of complementary infrastructures
- Construction of the transmission line
- Post-construction period (e.g. monitoring of PAPs progress and functioning of the facility among others)

**Grievance Mechanisms**

Deliberations and suggestions reached at this level will then be sent to the Local Area Resettlement Committee and if not fully settled forwarded to the Central Resettlement Committee. During the consultative meetings, the main areas that were identified to raise disagreements included: values for land, building and plants. In the event there is dissatisfaction to a PAP, a step-by-step process for registering and addressing grievances has been suggested in this report. Disputes will be referred to a Central Resettlement Committee (CRC) thorough the provincial administration. The grievance will be investigated by the CRC and if not settled referred to the National Environmental Tribunal or Public Complaints Committee or the Commissioner of Lands/ agriculture as may be appropriate.

**Monitoring and Evaluation**

The vulnerable groups will be handled with care during the compensation exercise in order to ensure that their livelihoods are not worsened further. Monitoring will take place at two levels: Internal Monitoring; and External Monitoring. The Government is the owner of the project through the Energy Transmission Board, it will assume responsibility for providing the funding for monitoring to ensure that resettlement is properly implemented as stated in the World Bank OP 4.12 and in line with guidelines provided in this RAP and any of its updates modified before the project starts.
1.0 INTRODUCTION

1.1 PROJECT BACKGROUND

The Government of Kenya plans to increase access to electricity in Kenya tenfold from the current 4% in the rural areas to about 40% by 2020. To do this, the power transmission line network is being considered for upgrading and with it the communication system required for line protection and management purposes.

The generating system in Kenya consists of hydropower as well as thermal power plants, in total 1,197 MW installed capacity. The largest power plant is Gitaru hydropower plant with an installed capacity at 225 MW (as at the end of FY 2007). The transmission system voltage as of June 2007 consisted of 1,323 km 220 kV and 2,122 km 132 kV.

The KPLC least cost power development plan identified various 132 KV developments for improving the performance of the national grid network to cater for the increasing load growth and meet the objectives of 2030. To meet this objective KPLC intends to construct a single circuit 132KV transmission line from Kindaruma through Mwingi and Garissa. The proposed transmission line offers an opportunity to expand the dedicated telecommunications network so as to offer enhanced protection of the lines and upgrade the communication system.

The Kenya Power and Lighting Company Limited (KPLC), also referred to as the Proponent, is a limited liability company responsible for the transmission, distribution and retail of electricity throughout Kenya. The Proponent owns and operates the national transmission and distribution grid; as at June 2009 KPLC was retailing electricity to about than 1,262,309 customers throughout the nation.

The Proponent now proposes to construct and operate approximately 224 Km of single circuit 132 kV transmission line between Kindaruma Power Station and Garissa town, comprising the following components:

- 132 kV line Kindaruma - Mwingi, 32 km
- 132 kV line Mwingi - Garissa, 192 km
- 132/33 kV substation at Mwingi, 1 x 7.5 MVA
- 132/11 kV substation at Garissa, 1 x 15 MVA

1.1.1 Institutional Arrangements

Kenya’s Power Sector falls under the ministry of Energy, which offers the general oversight and policy direction. The Kenyan interconnected power transmission and distribution network is owned and operated by KPLC. The Energy Regulatory Commission (ERC) is an independent body responsible for the Regulatory function of the
energy sector. The Kenya Electricity Generation Company Limited (KenGen) is a wholly
government owned utility providing 85% of the electricity generated in Kenya.

KPLC is responsible for electricity transmission, distribution and supply to customers. KPLC purchases bulk power through power purchase agreements with KenGen, Independent Power Producers (IPPs) and the Uganda Electricity Transmission Company (UETCL). The interconnected system has an installed capacity of 1310MW comprising 737MW hydro, 115MW geothermal, 0.4 MW wind and 443 MW thermal and 30MW non-firm import from Uganda. The effective capacity or the interconnected system is about 1,134MW while the highest peak attained to date is 1071MW while KenGen has an installed interconnected capacity of 1,006MW while the IPPs have 295MW. The Contract with UETCL is for purchase of 30MW on a non-firm basis. Seven isolated mini-grids are supplied by small Power plants with a total of 9.4MW. Consumption in the year ending June 30, 2008 was 6.385 GWh.

1.2 PROJECT OBJECTIVES

Power generated by KENGEN, IPPs and other smaller plants is sold to KPLC in bulk under a Power Purchase Agreement for distribution. The current transmission capacity comprises of 1,323 Km of 220 kV and 2,035 Km of 132 kV main transmission lines and also about 600 Km of 66 kV sub-transmission lines. The proposed project is part of the Proponent’s energy access scale-up program, which has the following objectives:

- Extending the transmission and distribution lines and installation of new 132/33kV substations; as well as new and reinforced distribution lines with the aim of reducing technical losses and improving voltage conditions, thereby coping with additional demand.
- Increasing access to electricity to 20% by 2010 by accelerating connection rates;
- Voltage upgrading to increase supply capacity and reduce system losses;
- Provide alternative electricity supply paths to increase reliability and improve power quality in the regions.

1.3 PROJECT JUSTIFICATION

Currently electricity is accessible to less than 20% of the total population and approximately 5% of rural population. The Government’s goal is to accelerate access rate to 20% of rural population by 2010 and to at least 40% by 2020. To achieve this goal, Government has prepared the Energy Scale Up Program covering the period 2008 to 2017. This would be approached not only from improvement and expansion of the network, but also on raising the generation to match the demand.

The KPLC customer base is expected to grow by 150,000 connections every year creating an annual demand growth of about 150 MW. The national economic growth has also been on the upward trend - rising from 1.8% in 2003 to 5.8% in 2005. Significant effects of this growth are notable in agriculture, tourism and construction among others with a corresponding increase in power generation that rose from 4,852GWh in 2003
(with sales of 3,801GWh) to 5,195GWh in 2004 (sales of 4,090GWh). Maximum energy demand was projected at 5,641GWh in 2006 and 24,957GWh by the year 2026.

1.4 PROJECT DESIGN CONSIDERATIONS

Power transmission occurs via a system of aboveground power lines and towers located between a power plant and a substation. Transmission networks can cover thousands of kilometers and encompass tens of thousands of towers. For long distance transmission, electricity is usually transmitted at voltages between 110 and 1200 kV. Transmission towers or pylons are utilized to suspend high-voltage overhead power lines. These systems usually transmit three-phase electric power (the common method for transmission of high-voltage lines of over 50 kV) and, therefore, are designed to carry three (or multiples of three) conductors.

The design criteria as adopted for the conceptual design are initially based on KPLC current practice, based on studies of recently composed specifications and in-situ inspections of existing transmission lines. These specifications have been reviewed and evaluated against international recognised standards in order to verify the line and substation configurations as defined in the terms of references to further comply with the system analyses as carried out under this study. Main criteria when concluding on the adopted conceptual design has been to ensure that the various line and substation components are designed in a safe, cost effective and reliable manner.

1.4.1 Transmission Line Design (132 kV Lines)

The sub-sections below provide a brief description of the project’s material inputs. (The map of the transmission line route is found in Appendix II of this report).

1.4.1.1 Conductors

The conductors recommended for the various sub-project options are Aluminum Conductor Steel Reinforced (ACSR) “Wolf” and “Lynx” conductors which are in accordance with KPLC standards. The operational performance of the selected conductors, both electrically and mechanically has proven satisfactory under Kenyan conditions. If the detailed line survey for particular sections result in limitations to the right of way resulting in a compact line design, lighter all aluminium alloy conductors (AAAC) will be considered to minimize pole sizes.

1.4.1.2 Overhead Earth Wires (OPGW)

According to KPLC practice, a single overhead shield wire is recommended for 132 kV lines. The wire would provide a 25 degree shielding angle for the line circuit which is considered satisfactory considering the anisokeraunic level in the region ranging from 120 to 180 thunderstorm days per year.

1.4.1.3 Support Structures
Lattice steel self-supporting towers are recommended for all transmission lines. The recommendation result from an overall evaluation of lattice steel structures versus pole structures (single pole or H-frames) of wood, concrete or steel. Although wood and concrete structures could involve a 20-30% cost savings on structures compared to conventional lattice steel structures the performance of wooden poles has proved poor due to their short life time and subsequent poor reliability and very high operational and maintenance costs.

Solid concrete poles are manufactured locally but their reliability is low. The high weight (above 4 tons) of these poles also involves higher transport and erection costs as heavy lifting and erection equipment is required emphasising line sections with poor access conditions. Internationally manufactured hollow spun concrete poles or steel poles could prove competitive to lattice steel structures due to lower maintenance and way leave costs but the same considerations with respect to transport and erections costs would apply.

1.4.1.4 Conductor Configuration

KPLC current practise is to use a triangle conductor configuration on their single circuit lines with the two lower phases on the same horizontal plane. The configuration results in a slightly lower and lighter tower with a modest cost saving compared to the typical triangular configuration with the three phases on three levels.

1.4.1.5 Foundations

Based on the observation of the ground conditions during the line route surveys conventional pad & chimney foundations, and reinforced concrete pad & chimney foundations are recommended by the design engineer. On certain sections where poor soils or submerged conditions are identified a raft type design will be required. Hard rock foundations are not foreseen but weathered rock exists which might require heavy excavation equipment and supply of imported backfill for the pad & chimney foundations.

1.4.1.6 Grounding

All towers will be permanently grounded with an individual tower footing resistance aimed to be less than 20 Ohm. Over the first 1.5 km or 3 to 4 spans out of any substation, all towers, including the terminal towers, would be connected together by continuous counterpoise cable, which also should be connected to the substation-earthing grid. At tower sites in urban areas often frequented by people, additional protective earthing would be carried out aimed at less than 10 Ohm.

1.4.1.7 Insulator Strings

Composite silicone/polymer long rod insulators are to be used in the insulator strings for the support of the line conductors. Besides being competitive in price their low weight and compact configuration result in lower transport, installation and maintenance costs. The electromechanical ratings of the insulators to be installed are U70 and U120 according to IEC standard.
1.4.2 Project Activities

- The key activities in putting up the transmission line include digging of four holes, assembling of structures, concrete casting, and stringing of the conductor.
- Erection of the lattice structures (pylons) will involve delivery of complete structures, physical assembly at site and laying using cranes. The steel structures will be assembled on site. They will have rivets and will be bolted. Strong aluminium rollers will be used to hoist the structures and in exceptional situation helicopters can be used.
- The foundations of the lattice structures/pylons will be dug manually then casting concrete are used. The depth will be a minimum of 5m. The depth will be determined after geotechnical study is undertaken.
- Vegetation clearing will be done manually by use of pangas and slashers. Where there are big trees, portable power saw mills (petrol powered) will be used.
- The average height of the line will be between 30-40 m- this will depend on clearance from KCAA.
- Modes and quantity of transport vehicles employed in the project will be approximately 5no lorries and 4no 4x4 vehicles. Maintenance of these vehicles will be done through licensed garages found in the project area. There will be no on-site maintenance of vehicles.
- Powered equipment expected to be used in the construction include power saw mills, and compressor to break hard ground (if required).
- The mode of cooling that will be used in transformers will be transformer mineral oil.
- During the operation phase of the project way leaves will be maintained through manual vegetation clearing. Once the lattice towers are erected and structural integrity established, minimal maintenance is required. Routine aerial inspection and ground inspection will however be done annually.
- Approximately 10 unskilled labour, five artisans, 2 technicians and three engineers will be employed in the project.

1.4.3 Site Ownership

The proposed transmission line traverses a vast area comprising land owned by various public and private entities. There are a number of land uses along the line route, including sparsely and densely populated settlements along the line route. It is anticipated that the most significant adverse social/socio-economic impact will be the need for compensation and relocation of people affected by the project.
2.0 RESETTLEMENT ACTION PLAN

2.1 RAP JUSTIFICATION

The identified line route will lead to physical displacement of people, loss of shelter, assets, income sources and livelihood, and restriction of access to economic resources. World Bank OP 4.12 - Involuntary Resettlement is triggered by this project and therefore requires the preparation of individual Resettlement Plans that must be consistent with this RPF.

An environmental and social impact assessment (ESIA) has been undertaken for the proposed project. The ESIA study identified some of the social impacts associated with the project as being involuntary land acquisition and resettlement along the transmission line route. The initial social surveys involved eighteen sub-locations spread across six divisions along the project corridor as presented in Figure 1 below.

Sixty one household interviews were conducted along the project corridor and twenty one interviews amongst the end target beneficiaries in Garissa town. In-depth interviews were held with district heads of departments, provincial administration, NGOs, CBOs and Faith based Organisations. Consultative Public Participation in each of the project divisions whose venue included Thaana Nzau (Migwani), Mwingi (Mwingi Central), Ngiluni (Nguni), Madogo Social hall (Bangale and Madogo) and Garissa County Council hall (Garissa central).

Figure 1: Distribution of household interviews along the project corridor by division

Source: Field household interviews
The majority of the people consulted along the project corridor have positive attitude toward the project and approved the proposed project for they recognize the importance of electricity in development. The local leaders and other opinion leaders also gave the project their support. The local population is willing to participate in ensuring success of the proposed project in a number of ways such as:

- Offering their land in exchange of “good” money
- Supplying both unskilled and skilled labour for the project
- Providing market for the electricity
- Reporting electric faults and vandalism
- Creating awareness among community members on dangers of electricity and tempering with electricity lines

The key issues specifically raised by the stakeholders consulted include, among others:

- Timeframe of the project
- Compensation process and values of property
- Need for adequate awareness creation and social engineering before and during project construction
- Employment of the local youth
- Design route of the project to follow, as much as possible, uninhabited areas to ensure minimal disturbance, relocation, costs and electricity related accidents
- How communities will benefit from the project in other ways other than power supply
- Compensation procedures and legal redress procedures through the land tribunal
- For those who will be relocated, what security will the people have over the new property that they will move to as some influential people may claim the property and fence it off?
- The actual beneficiary to be compensated and documents required
- Actions to be taken if the transmission line crosses public facilities such as schools,

In view of the social concerns addressed, it follows that very effort must be made to avoid or minimize involuntary resettlement and, where this is not feasible, to assist displaced persons in improving or at least restoring their livelihoods and standards of living in real terms relative to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.

### 2.2 SCOPE OF THE RAP

Norken (I) Ltd, also referred to as the Consultant, has been contracted by KPLC to develop a Resettlement Action Plan (RAP) for the proposed 132kV transmission line. The RAP study identified those persons within the project area who may be displaced as a result of the project, and those persons who may have to relinquish their land to the project. It also provides a socio-economic profile on the Project Affected People (PAP),
and gives the cost of resettlement (including the resettlement activities as required by the World Bank’s OP 4.12.

The RAP outlines the guiding principles to be followed when involuntary land acquisition is undertaken, in order to minimise the adverse impacts to PAPs and enhance positive impacts. It applies to all displaced persons regardless of the total number affected, the severity of the impact and whether or not they have legal title to the land. The RAP also sets out the framework for institutional arrangements, schedules, and other indicative budgets to facilitate any resettlement process that will be necessitated as a result of this project.

2.3 RAP OBJECTIVES

The RAP aims to promote participation of displaced people in resettlement planning and implementation, and assists displaced persons in their efforts to improve or at least restore their incomes and standards of living after displacement. This is in compliance with the World Bank’s OP 4.12 which states that:

“Where large-scale of population displacement is unavoidable, a detailed resettlement plan, timetable, and budget are required. Resettlement plans should be built around a development strategy and package aimed at improving or at least restoring the economic base for those relocated. Experience indicates that cash compensation alone is normally inadequate. Voluntary settlement may form part of a resettlement plan, provided measures to address the special circumstances of involuntary resettlers are included. Preference should be given to land-based resettlement strategies for people dislocated from agricultural settings. If suitable land is unavailable, non land-based strategies built around opportunities for employment or self-employment may be used”.

Any project which includes the acquisition of land either of a temporary or permanent nature requires the development of a RAP in order to meet the following objectives:

- Provide a clear definition of the PAP by socio-economic and gender category; household or family; the cut-off dates for eligibility for compensation; the assets to be compensated at replacement cost.
- Provide a detailed socio-economic survey in order to identify entitlement, key issues faced in terms of land acquisition and compensation, as well as options and strategies for minimising impacts on current land use activities or cultural heritage.
- Provide specific rates for compensation of loss of assets at fair market and equitable value and the methodology of how these values are derived.
- Establish the land acquisition and compensation processes, options available, eligibility and entitlement and consultation and grievance referral and redress mechanisms.
- Take into account the requirements of the applicable laws of Kenya as well as requirements of the International Finance Corporation (IFC), African Development Bank (AFDB) and the policies and procedures of KPLC.
2.3.1 Guiding Principles for RAP Implementation

The RAP has been implemented using the following guiding principles:

- **Principle 1**: Involuntary resettlement should be avoided, or minimised where unavoidable. In this case, the Resettlement Action Plan (RAP) considered alternative options, in terms of their potential environmental impacts, capital and recurrent costs, suitability under local conditions, acceptability by neighbouring land users, among other pertinent factors; that enhance the project design thereby reducing the anticipated impacts. The RAP looks at options regarding alignment, routing, construction methods and materials used among other factors while retaining the basic project concept constant.

- **Principle 2**: Displaced persons should be meaningfully consulted, and participate in planning and implementation of resettlement programs. In order to ensure that genuine consultations and fair as well as equitable set of compensation options are fully incorporated, the RAP was conducted in a participatory process involving is an outcome of various integrated formal and informal interviews with PAPs, development agencies, departmental heads, the general public and other stakeholders as well as observation.

- **Principle 3**: Pre-resettlement baseline data must be established. An environmental and social impact assessment study has been carried out from which the baseline biophysical and socio-economic baseline of the project areas has been established. The RAP report presents the findings of the social, cultural and economic setting. (see section 3.3)

- **Principle 4**: Resettled persons should be assisted with the move and provided with support during the transition period. It will thus be necessary to develop a log frame for the project and agree with other stakeholders on the proposed timeframe. (Section 8.3 recommends a RAP implementation schedule).

- **Principle 5**: A fair and equitable set of compensation options must be negotiated; displaced persons should be compensated for their losses at full replacement cost. The RAP included a major component on valuation to determine the cost estimates of the RAP process, to include land acquisition and compensation for structures, crops, trees, etc. (See cost estimates in section 7.5).

- **Principle 6**: Where resettlement is unavoidable, resettlement plans and activities should be executed as a development that ensures the Project Affected People (PAP) benefit. An extensive public consultation process was included as part of the RAP study to provide an opportunity to all the communities in the areas where the proposed transmission line is expected to pass to raise issues and concerns pertaining to the project, and allow the identification of alternatives and recommendations.

- **Principle 7**: Vulnerable social groups must be catered for.
• Principle 8: Resettlement must be seen as an upfront project cost. The valuation determines the cost estimates and enables the Proponent to make arrangements for the inclusion of the Resettlement component in the project budget prior to implementation.

• Principle 9: An independent monitoring and grievance procedure must take place. The report presents a recommendation for the grievance procedure (see Figure 5) as well as the considerations for monitoring and evaluation (see Chapter 9.0)

2.4 PUBLIC CONSULTATION PROCESS

The Public consultation process involved visiting the areas along the 224 kilometer stretch along which the Wayleave for the transmission line will be sought. The stakeholders were identified and consulted with the objective of describing the existing socio-economic conditions within the proposed project area of influence and the immediate surroundings.

Public consultations were conducted from 13th to 18th October 2009 and again from 26th to 29th November 2009. The specific objectives of the consultation process were:

• To create awareness on the proposed project
• To ask the local residents especially the Interested and Affected Parties about the problems they anticipate with the project and how these can be overcome
• To consult and gather recommendations from the local administration e.g. DC, DOs, Chiefs, Assistant Chiefs, Councilors, Village Elders and communities that have a stake in the project
• To provide an opportunity to all the communities in the areas where the proposed transmission line is expected to pass to raise issues and concerns pertaining to the project, and allow the identification of alternatives and recommendations.

2.4.1 Data Collection Methodology

The social assessment team used both qualitative and quantitative techniques to collect data and information on the social and economic status of the community and area along the proposed 224 kilometer transmission line would pass. These included:

• A detailed desk study to establish and describe the socio-economic conditions within Masinga, Mwingi, Kyuso and Tana River districts. This secondary information was obtained from District Development Plans and the Poverty Reduction Strategy Papers. Most of these plans were drafts for the years 2008-2012.
• Key Informant Interviews and Semi-Structured Interviews were conducted with the DOs, Chiefs, Assistant Chiefs, Councilors and Village Elders.
• Open-ended questionnaires were administered to obtain views about the proposed project and its perceived impacts from households along the proposed transmission line. A cluster-random sampling approach was used along the proposed way leave
and also on whose homestead the 30 meters Wayleave would pass. For those households which were on the proposed transmission line and not reachable to be interviewed, the neighbours gave the team an estimated number of households, names and the villages.

- Public Barazas which were organised and chaired by the Chiefs and Assistant Chiefs.
- Transect walks, where possible were conducted to confirm the information from the discussion and observation were made on physical and environmental conditions.
- A check list of the information to collect from each category of the persons to be interviewed guided the collection of data throughout the field exercise. The data was analyzed manually, both at the field work stage as it was collected and at the end of the field work. **Annex 1** shows the set of data collection tools used for the field exercise.

### 2.5 RAP STUDY TEAM

The Consultant’s team is comprised of scientists with experience in developing resettlement action plans; the team had the following professionals:

i. Sociologist/Socio-Economist.
ii. Surveyor
iii. Land Valuer
iv. Enumerators
v. Electrical Engineer
vi. Ecologist/Natural Resource Expert
3.0 PROJECT SETTING

3.1 GENERAL

The electric power transmission system is often referred to as a grid. Redundant paths and lines are provided so that power can be routed from any generation facility to any customer area through a variety of routes, based on the economics of the transmission path and the cost of power. The redundant paths and lines also allow power flow to be rerouted during planned maintenance and outages due to weather or accidents. Power transmission occurs via a system of aboveground power lines and towers located between a power plant and a substation. Transmission networks can cover thousands of kilometers and encompass tens of thousands of towers. For long distance transmission, electricity is usually transmitted at voltages between 110 and 1200 kV. Transmission towers or pylons are utilized to suspend high-voltage overhead power lines. These systems usually transmit three-phase electric power and are therefore designed to carry three (or multiples of three) conductors.

3.2 PROJECT SETTING

The proposed Kindaruma-Mwingi-Garissa Power Transmission line will serve the greater districts of Mwingi in Eastern province, Tana River in Coast province, and Garissa in North eastern province and beyond.

3.2.1 132 kV-line Kindaruma – Mwingi, Length 32 km

This section of the proposed line of route starts at Kindaruma where there is a proposed substation and heads to Mwingi where there is another proposed substation on the outskirts of the town. The section has very few settlements that include rural villages which rely on subsistence farming and is characterized by crop failure and abandoned shambas. Charcoal burning is widespread. The dominant vegetation is dry bush with trees the most widespread vegetation is semi-arid deciduous thicket and bushland, particularly Acacia/Commiphora. The dominant soil groups are alfisols, ultisols, oxisols, and lithic soils.

As the proposed line nears Mwingi town it passes through a hilly terrain and then heads downwards to the site of proposed sub-station location near a dry river valley just next to the last bridge crossing near the Mwingi town. From Kindaruma sub-station (S/S) the line crosses the seasonally dry Kithyoko River near the Kwakyumbu Grazing Area, and also the seasonally dry Nzuli River. After the river crossing the route follows parallel to the river for approximately 2 km up to a sharp bend where it turns to the south east. From there it follows various tracks and roads down to the village Syailungu. From there it follows the main road further via Malembo, Kwanasi and Kwakwanya, and further across a saddle point at the southern end of the Klormo ridge, from where it turns west for the last 2 km up to Mwingi S/S which is proposed located 3 km south east of Mwingi near road C94 and river Tyaa.
3.2.2 132 kV-line Mwingi - Garissa, 192 km.

The line starts from the proposed Mwingi substation area approximately 2 km south west of Mwingi town.

From Mwingi S/S the line goes north east along the main road to Mwingi, crossing Tyaa River and the main road and up to angle point EW1 880 m from the S/S. The vegetation and soil condition along this section is generally bush, with black cotton soil and sand near the river, and red loam soil on the northern side of the road. There are no settlements within or close to the line.

In EW1 the line turns a little more east for 2.3 km up to EW2. The vegetation is mixed bush and cultivations. The soil conditions are red loam and loam soil partly containing gravel. The landscape is sloping undulating, and there are visible rock outcrops in the area near EW2. There are scattered settlements along the line, but none observed within the line corridor.

In EW2 the line turns due east towards EW3 6.7 km away, and crosses Road C93. The area along the road is relatively densely settled, and one house may be in the danger zone 200 m behind the road crossing. Also along this section there are visible rock formations. The landscape is undulating, sparsely settled with bush and cultivations of maize and mango trees, more or less evenly distributed along the section. The line is crossing at least one wide mango plantation with trees less than 2 m high. The soil conditions are red loam, and there are visible rocks in the area.

In EW3 the line turns left towards north east for the next 10 km up to EW4. On this section the terrain is a little more undulating with more visible rock than previously observed. There are scattered settlements all along the section, and after app.3 km from EW3 there is a rock chipping area where it seems to be a certain activity. About 2 km before EW4 the line passes the village Mutuangombe. Here the settlements and cultivations are denser, but no houses seem to be affected.

In EW4 the line turns more easterly for 4.6 km up to EW5. This point is in the vicinity of an old market place with some shops along the old road before it was altered. The area is flat with open bush on loam soil partly mixed with coarse sand. No visible rock. There are a few settlements in the area around EW4, but along the line there are few settlements before EW5 and the area around Enzui School.

From EW5 to EW6, a distance of 5.9 km the landscape is undulating with partly open bush and a few cultivations, mainly corn. The soil is loam and red loam, mixed with black cotton along Ndiani River. There are also visible rocks a few places. There are few settlements along the line.

EW6 to EW8, for 6.3 km is sparsely settled, though the line passes not far from one primary- and one secondary school at the middle of the section. Except for the first 2 km from EW6, the land is almost flat with open bush and cultivations. The soil is generally red loam with mostly black cotton along the middle third. At either end rock can be expected.
From EW8 to EW9, Kalanga Corner, for 2.7 km, the soil is more reddish and rocky. The land is slightly sloping, except for a few minor hills near the Kalanga hill. The vegetation is open bush and cultivations, with some BaoBab trees near Kalanga Corner.

From EW9 to EW10, for 8.8 km, there are 2 open settlements, Kakunike and Ngiluni at either end of the section. At Kakunike there are two small houses made of bricks and mud that are located very close to the proposed line. At Ngiluni a small is passed at a distance of app. 40 m. The land is mainly flat or slightly sloping, but a little undulating in the Kakunike end. There is generally open bush with just a few cultivations. The soil is sandy red loam at either end, with appearing rock near EW9, and mixed with more black cotton-like soil at the middle of the section.

EW10 to EW11, 6.4 km, is passing through a flat, bushy landscape of sandy red loam with gravel, and with a few settlements and cultivations. At EW11, close to the main road, there are a few houses and shops, a church, and a school on the opposite side of the road. EW11 to EW12, 4.8 km, is flat and bushy, sparsely settled and cultivated. The ground is sandy reddish soil with appearing rock near Ukasi. EW12 to EW13, 4.3 km, is flat with open bush and a few settlements and cultivations. The ground is sandy red loam soil, but at the middle of the section, near the river, there is some black cotton.

EW13 to EW14, 3.7 km, is slightly sloping, but practically flat. The ground is sandy red loam, bushy and sparsely settled along the line. At EW13 there are a couple of settlements between the road and line, and at EW14 the settlements and cultivations are all beyond the line.

The last 33km of the western section of the line form EW14 through -15, -16, -17 and -18 up to EW19 have no permanent settlements, there are relatively dense bush most of way. The terrain is flat, and, the ground conditions varies from red loam soil at the western end and changes through red soil to murram/laterite at the eastern end where several old and new murram pits have been observed close to the road. Minor sections with black cotton soil may be found along gullies and old wetland areas. Visible rock has not been observed. There are a few Nomad camps along the road from EW17 and eastwards, at the Garissa waterhole and the road to the radio station on Katumba hill. These camps, for the Borana tribe, are normally located within 150-200 m from the road, and the huts are normally built on framework of wooden sticks covered with straw, mud and rags, and the camps may consist of up to 50 huts. A few huts may be affected by the line.

At EW19, the eastern section starts. The terrain is generally flat, with dense bushy vegetation most of the way. The line follows the road in parallel within a distance of 100 m on straight lines, and will deviate plus and minus along road curves. Due to the population around Bangali market, the line here deviates up to one km to the north. At Bangali the area is flat, and a lot of murram pits along the road shows that there is red soil / murram all the way. There are no permanent settlements, but a few nomad camps along the road. The land is bushy, with relatively rough and dense bush. From EE13 at Bangali and the next 32 km up to angle point EE7, 2 km east of Tula River, the line follows the road on the southern side. The river crossing is laid with minimum distance to the bridge in order to secure a safest possible crossing. During the survey in March 2009 the river was dry, but when flooded the width in the actual area is up to 600 m.
Between Bangali and the River Arer River there is generally black cotton soil, partly mixed with gravel. The bush is rough and dense, but a little more open near Bangali. The area is flat with no permanent settlements, but a few Borana nomad camps. From Arer River and up to EE4 there is again red soil /murram. The land is flat, the bush is dense and no settlements on the northern side if the road. Up to Garissa the land is much eroded. The soil is mainly murrum/laterite soil, with open bush, shrub, scattered cultivations near the settled areas. Between EE4 and the substation area, there is mostly coarse sand. Erosion has made the landscape appear hilly and the vegetation comprises scattered bushes and shrubs. Near the proposed substation location, the line passes Madogo secondary school. Relatively densely populated the over a distance of 2-3 km from the river.

Refer to the map overleaf for the map of the proposed Kindaruma-Mwingi-Garissa power transmission line route.

*(Overleaf)*

**Figure 2: Physical outline of the Kindaruma-Mwingi-Garissa power transmission Line project**
3.3 DESCRIPTION OF SOCIO-CULTURAL/ECONOMIC ENVIRONMENT

3.3.1 Ethnic Groups

There are a number of major ethnic groups in the project districts. Each ethnic group has its unique culture, social organisation and traditions. The social and cultural aspects in the project area are closely intertwined with ethnic groupings. These are:

- Yatta and Mwingi districts are occupied by the Akamba who consists of various clans including Atwii, Aombe, Akitondo, Atangwa, Akikui and Atwii among others. These have elaborate cultural practices including strong kinship linkages with organizations spanning from localized merry-go-rounds to strong clan relations and burial societies as well as social interactions mainly during religious ceremonies. They speak Kikamba (Kekamba), Kiswahili and English.
- Tana River - Pokomo, Orma, Wardei, Somalis, Malakote, Munyoyaya, and Wata tribes among others. The Pokomos, Munyoyaya, Malakote and Mijikenda are engaged in farming activities while the Orma, Wardei and Somalis are mainly engaged in livestock keeping.

In addition to the above major groups, there are few scattered other ethnic groups mostly concentrated in urban areas and high agricultural potential areas. In Yatta and Mwingi, the main religion is Christianity while Muslims are the majority in Tana River district.

3.3.2 Indigenous Groups

With reference to World Bank Safeguard Policy OP 4.10, the term “Indigenous Peoples” is used in a generic sense to refer to a distinct, vulnerable, social and cultural group possessing the following characteristics in varying degrees:

- self-identification as members of a distinct indigenous cultural group and recognition of this identity by others;
- collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories;
- customary cultural, economic, social, or political institutions that are separate from those of the dominant society and culture; and
- an indigenous language, often different from the official language of the country or region.

World Bank safeguard policy OP 4.10 mentions the issues that may arise for indigenous peoples in the project areas. The Kindaruma-Mwingi-Garissa transmission line traverses areas that are mostly occupied by the indigenous people, with traditional land-based modes of production. The indigenous peoples include Kamba and Orma among others, and have specific cultures that are unique to themselves such as social groupings, structured land control patterns, and traditional practices.
3.3.3 Stakeholders in the Project Districts

There are many development stakeholders in the project districts including government, NGOs, FBOs and CBOs among others. The table below contains a list of development stakeholders in the districts traversed by the project.

Table 1: Stakeholders in the project districts

<table>
<thead>
<tr>
<th>District</th>
<th>Name of stakeholder</th>
<th>Sectors involved/activities undertaken</th>
<th>Operational areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yatta, Mwingi, Kyuso and Tana River</td>
<td>CDF</td>
<td>All sectors of development</td>
<td>Across all districts</td>
</tr>
<tr>
<td></td>
<td>Red cross</td>
<td>Relief</td>
<td></td>
</tr>
<tr>
<td></td>
<td>K.F.W.T</td>
<td>Microfinance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Asal Based Livestock and Rural Livelihood support Programme (ALLPRO)</td>
<td>Livestock</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Equity Bank</td>
<td>Microfinance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NALEP SIDA</td>
<td>Agriculture</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Faulu Kenya</td>
<td>Microfinance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UNICEF</td>
<td>Water and sanitation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ALRMP II</td>
<td>All sectors</td>
<td></td>
</tr>
<tr>
<td>Yatta</td>
<td>Plan International</td>
<td>Club Support</td>
<td>Throughout the district</td>
</tr>
<tr>
<td></td>
<td>Mulumbuku women group</td>
<td>Merry go round</td>
<td>Kyondoni sub-location</td>
</tr>
<tr>
<td></td>
<td>Kaseve communication group</td>
<td>Merry go round</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dampsite group</td>
<td>Terracing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kikuuni Development group</td>
<td>Reforestation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kaamuka communication group</td>
<td>Earth dam</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kyondoni welfare association</td>
<td>Support widows/widowers</td>
<td></td>
</tr>
<tr>
<td>Mwingi/Kyuso</td>
<td>Genesis CDA</td>
<td>Child support</td>
<td>Throughout the district</td>
</tr>
<tr>
<td></td>
<td>Action Aid</td>
<td>Relief</td>
<td></td>
</tr>
<tr>
<td></td>
<td>German Agro action</td>
<td>Earth dams</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adra</td>
<td>Relief, water and sanitation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dorcas Aid</td>
<td>Child sponsorship</td>
<td>Kiomo location</td>
</tr>
<tr>
<td></td>
<td>Kivunduu dam group</td>
<td>Earth dam</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ushirika group</td>
<td>Funeral challenges</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kiomo widows S.H.G</td>
<td>Terracing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Catholic Woman association</td>
<td>Merry go round</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Community Resource Persons</td>
<td>Child support</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kiomo Youth Group</td>
<td>Planting trees, roads clearance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wikwatyo</td>
<td>Merry go round</td>
<td>Ukasi Location</td>
</tr>
<tr>
<td></td>
<td>Muakombaini Women</td>
<td>Merry go round</td>
<td></td>
</tr>
</tbody>
</table>
## 3.3.4 Districts’ Profile

As previously mentioned, the proposed Kindaruma-Mwingi-Garissa Power Transmission line will serve the greater districts of Mwingi in Eastern province, Tana River in Coast province, and Garissa in North eastern province and beyond. However, the transmission line stretches from Kindaruma Electricity Power Station in Kyondoni Sub-location (in Masinga district within the former Yatta District) through Mwingi district to Madogo sub-location in Tana River district.

<table>
<thead>
<tr>
<th>District</th>
<th>Name of stakeholder</th>
<th>Sectors involved/activities undertaken</th>
<th>Operational areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kiseuni community group</td>
<td>Terracing: livestock</td>
<td></td>
<td>Mbuvu location</td>
</tr>
<tr>
<td>Kathethya</td>
<td>Earth dam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Itana Witikwe</td>
<td>Funeral assistance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nzakani S.H.G</td>
<td>Earth dam: cultivation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kavuko Women group</td>
<td>Merry go round</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can Do</td>
<td>Merry go round</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIMAS</td>
<td>Microfinance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miracle S.N.G</td>
<td>Merry go round</td>
<td></td>
<td>Mwasyuma Sub-location</td>
</tr>
<tr>
<td>Nguni livestock traders</td>
<td>Marketing livestock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kwanduutu Livialiani</td>
<td>Sand harvesting</td>
<td></td>
<td>Endui Location</td>
</tr>
<tr>
<td>KWamaki</td>
<td>Road clearance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kyeni kya Katinga</td>
<td>Earth dam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uyanundu / Kwanduuthi welfare</td>
<td>Funeral assistance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kinyambu community group</td>
<td>Earth dam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Katuluni S.H. G</td>
<td>Buying cows</td>
<td></td>
<td>Kivou sub-location</td>
</tr>
<tr>
<td>Katuluni/Kasyaloa</td>
<td>Earth dam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wazya wa mwaitu</td>
<td>Widow support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KAdet LAD</td>
<td>Micro-finance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tana river District</td>
<td>Njaa Marufuku Kenya project</td>
<td>Agriculture</td>
<td>District wide</td>
</tr>
<tr>
<td></td>
<td>Men group</td>
<td>Education</td>
<td>Madogo location</td>
</tr>
<tr>
<td></td>
<td>Kenya women group</td>
<td>Merry-go-round and micro-finance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Boli self-help group</td>
<td>Merry-go-round</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Angamiza Ukimwi group</td>
<td>Fighting against HIV/AIDS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Madogo CBO group</td>
<td>Merry-go-round and micro-finance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Madogo anti Aids group</td>
<td>Fighting against HIV/AIDS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bangale youth group</td>
<td>Livestock marketing</td>
<td>Bangali location</td>
</tr>
<tr>
<td></td>
<td>Karagara milk group</td>
<td>Selling meat and milk</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Boda Boda group</td>
<td>FGM awareness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Uhurobo group</td>
<td>Girl child education</td>
<td></td>
</tr>
</tbody>
</table>
These have therefore been considered in the assessment of the socio-economic impact of the project. Though in the recent past, the project districts have been subdivided further, data contained in the social assessment considers the greater districts of Yatta (where the new Masinga district was a division), Mwingi (incorporating the current Migwani and Mwingi and Kyuso districts) and Tana River excluding Tana Delta.

The profile of the three greater districts traversed by the project is discussed in the following paragraphs:

- Yatta district, in Eastern province, was created in March 2007 from the larger Machakos District. The district borders Mbeere district to the North, Kitui district to the East, Thika district to the West and Maragwa district to the south West. The total area of the district is 2469 Km². The district comprises four administrative divisions, which are further subdivided into 17 locations and 51 sub-locations.

- Mwingi District is one of the districts in Eastern Province of Kenya. The District borders Kitui District to the South, Yatta District to the West, Mbeere to the North and Tana River District to the East. The district lies between latitude 0° 03' and 1° 12’ South and longitudes 37° 47’ degrees 38° 57’ East and has a total area of 5,215.40 km². Mwingi district was curved from Kitui district in 1992 and is divided into 5 divisions, namely Migwani, Central, Ngumi, Nuu and Mui.

- Kyuso district is one of the twenty-eight districts in Eastern Province. It borders Mwingi District to the South, Mbeere District to the West, Tharaka District to the North West and Tana River District to the East. The district lies between latitude 0° 03’ and 1° 12’ South and longitudes 37° 47’ degrees 38° 57’ East. The district was curved out of Mwingi district in May 2007. The district has an area of 4,814.90 Km² and is divided into 5 administrative divisions (Mumoni, Ngomeni, Kyuso and Tseikuru), 16 locations and 53 sub-locations.

- Tana River District is one of the thirteen districts that constitute Coast province and has a total area of 22,452.9 km². Tana River district was split into two districts in October 2007 to form Tana River and Tana Delta. The proposed project however traverses Tana River district. The current Tana River district borders Mutomo District to the West, Mwingi District to the Northwest, Garissa and Fafi to the North East, Ijara District to the East, Tharaka and Isiolo District to the North and Tana Delta District to the South.

The table below presents the administrative units in project districts and their size in sq km.

<table>
<thead>
<tr>
<th>District</th>
<th>Division</th>
<th>Land Area (sq km)</th>
<th>No of Locations</th>
<th>No of Sub locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yatta</td>
<td>Masinga</td>
<td>1094.1</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Ndithini</td>
<td>316.0</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Yatta</td>
<td>568</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Katangi</td>
<td>491.0</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Mwingi</td>
<td>Central</td>
<td>1,204.50</td>
<td>8</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>Migwani</td>
<td>565.60</td>
<td>6</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Ngumi</td>
<td>1,751.10</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Nuu</td>
<td>1,324.40</td>
<td>3</td>
<td>7</td>
</tr>
</tbody>
</table>
Administratively, the transmission line is earmarked to traverse various units as sequentially from Kindaruma through Mwingi to Madogo presented in the table below:

### Table 3: Administrative units traversed by the project

<table>
<thead>
<tr>
<th>Province</th>
<th>District</th>
<th>Division</th>
<th>Location</th>
<th>Sub-location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern</td>
<td>Yatta</td>
<td>Masinga 1</td>
<td>Kivaa</td>
<td>Kyondoni</td>
</tr>
<tr>
<td></td>
<td>Mwingi</td>
<td>Migwani</td>
<td>Thana</td>
<td>Thana</td>
</tr>
<tr>
<td></td>
<td>Central</td>
<td>Kiomo</td>
<td>Kairungu and Kiomo</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mwingi</td>
<td>Kyanika, Kivou, Enziu and Kathoka</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Endui</td>
<td>Kathoka and Katitika</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nguni</td>
<td>Kalitini</td>
<td>Vumbu</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nguni</td>
<td>Mathyakani and Mwasuma</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ukasi</td>
<td>Mbuvu and Ukasi</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kyuso</td>
<td>Ngomeni</td>
<td>Ngomeni</td>
<td>Ikime</td>
</tr>
<tr>
<td>Coast</td>
<td>Tana River</td>
<td>Bangale</td>
<td>Bangale</td>
<td>Bangale</td>
</tr>
<tr>
<td></td>
<td>Madogo</td>
<td>Madogo</td>
<td>Madogo</td>
<td></td>
</tr>
</tbody>
</table>

Source: District Commissioners – Masinga, Mwingi and Tana River

3.3.5 Political Units

The districts have four constituencies including Yatta and Masinga constituencies in Yatta district, and have a total of twenty one electoral wards. Yatta district, Mwingi North and South constituencies in Mwingi and Kyuso districts and Bura in Tana River district. The districts have a total of four local authorities and 79 wards as follows:

- Yatta district - Matuu Town and Masaku county councils
- Mwingi and Kyuso districts - Mwingi Town and Mwingi county councils all with 25 wards. Thirteen (13) electoral wards fall in Mwingi whilst the remaining 12 are in Kyuso district.
- Tana River district - Tana River County Council with 19 wards

3.3.6 Population

---

1 Currently in Masinga district
2 The County Council of Mwingi also serves the recently created Kyuso district
In 1999, the project districts had a total population of 747,656 and are projected to have reached 958,469 in 2008 and 1,075,864 by 2012. The average annual growth rates in these districts was 2.75% with Tana River having the highest growth rate of 3.4% and Mwingi/Kyuso having the lowest with 2.4%. The various district annual growth rates and population projections are presented in the table below:

**Table 4: Population of the Project Districts**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yatta</td>
<td>2.8%</td>
<td>232,591</td>
<td>314,606</td>
<td>344,067</td>
</tr>
<tr>
<td>Mwingi</td>
<td>2.4 %</td>
<td>196,842</td>
<td>254,638</td>
<td>291,184</td>
</tr>
<tr>
<td>Kyuso</td>
<td>2.4 %</td>
<td>105,982</td>
<td>131,524</td>
<td>144,555</td>
</tr>
<tr>
<td>Tana River</td>
<td>3.4%</td>
<td>113,066</td>
<td>145,344</td>
<td>161,556</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2.75%</strong></td>
<td><strong>747,656</strong></td>
<td><strong>958,469</strong></td>
<td><strong>1,075,864</strong></td>
</tr>
</tbody>
</table>

Source: District Development Plans

Overall, the average population density along the 16 project sub-locations is 44.3 persons per 1km². The total population of all sub-location traversed by the project is 68,929. Within these sub-locations, Kyanika (within Mwingi town) has the highest population density of 196 persons per km² followed by Kivou while Bangale has the lowest of 1 km² person per km².

The baseline survey showed high density population in the sub-locations of Kyanika and Kivou sub-locations as well as the urban markets of Mwingi, Nguni, Ngiluni and Bangale, consequently there is need to systematically evaluate the transmission route along these areas. The table below presents a summary of population densities and totals along the said sub-locations:

**Table 5: Population of the various sub-locations traversed by the project**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Kyondoni</td>
<td>42</td>
<td>2,216</td>
<td>2,936</td>
</tr>
<tr>
<td>Thaana</td>
<td>35</td>
<td>2,121</td>
<td>2,630</td>
</tr>
<tr>
<td>Kairungu</td>
<td>85</td>
<td>3,939</td>
<td>4,887</td>
</tr>
<tr>
<td>Kiomo</td>
<td>28</td>
<td>5,218</td>
<td>6,474</td>
</tr>
<tr>
<td>Kyanika</td>
<td>196</td>
<td>4,781</td>
<td>5,932</td>
</tr>
<tr>
<td>Kivou</td>
<td>100</td>
<td>3,435</td>
<td>4,270</td>
</tr>
<tr>
<td>Enziu</td>
<td>54</td>
<td>5,339</td>
<td>6,624</td>
</tr>
<tr>
<td>Kathoka</td>
<td>34</td>
<td>3,283</td>
<td>4,073</td>
</tr>
<tr>
<td>Katitika</td>
<td>45</td>
<td>2,078</td>
<td>2,577</td>
</tr>
<tr>
<td>Mbuvu</td>
<td>19</td>
<td>4,390</td>
<td>5,447</td>
</tr>
<tr>
<td>Mathyakani</td>
<td>35</td>
<td>2,002</td>
<td>2,483</td>
</tr>
<tr>
<td>Mwasuma</td>
<td>10</td>
<td>3,894</td>
<td>4,831</td>
</tr>
<tr>
<td>Ukasi</td>
<td>7</td>
<td>2,841</td>
<td>3,524</td>
</tr>
<tr>
<td>Ikime</td>
<td>4</td>
<td>1,350</td>
<td></td>
</tr>
<tr>
<td>Bangale</td>
<td>1</td>
<td>3,709</td>
<td>4,775</td>
</tr>
<tr>
<td>Madogo</td>
<td>14</td>
<td>5,808</td>
<td>7,466</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>44.3</strong></td>
<td><strong>56,404</strong></td>
<td><strong>68,929</strong></td>
</tr>
</tbody>
</table>

Source: District Statistical Offices
3.3.7 Settlement Patterns and Housing

Mwingi, Kyuso and Yatta districts were first settled in 1920s as population increased in other areas notably Machakos, Kangundo, Embu and Kirinyaga among others. However, since then, there has been continued immigration and settlement. Settlement patterns have no defined sequence as one settles next to the father's homestead, on inherited land or a distance on purchased/inherited land parcels. However, majority of households are located near major towns and markets with others sparsely scattered in the interior.

The housing tenure in the project area consists of owner occupier. However there are other housing tenures including rental and employer provided housing. Most of the houses in project area are bungalow houses dominate. There are limited flats, maisonnettes and shanties concentrated mainly in the urban centers. The main dwelling houses have 1-10 rooms with majority containing two to three rooms only. The houses are built of various materials depending on the sections including:

- Wall – majority of the houses are built of mixture of mud/wood while there is minimal use of stone, brick/block, mud/wood, mud/cement, corrugated iron sheets, grass/straw and cow dung.
- Floor – Earth is the commonest flooring material while other materials notably cement, wood and tiles respectively account for an insignificant number of house floors.
- Roof – Corrugated Iron sheets dominate as the main roofing material followed by grass/straw, cow dung, tin and makuti respectively.

The Settlements in Tana River district are influenced by water, land potentiality and security. In Tana River district, residents live in villages called manyattas each comprising approximately 500 households. Most of the villages are found near watering points (rivers, dams, wells and boreholes) especially along the River Tana where farming is favourable. In terms of security, most communities in the Tana River district live together or close to government institutions (divisional, locational and sub-locations headquarters) because of security concerns.

The most common types of housing in rural areas are the Manyatta (traditional houses made of mud and cow dung held together by a frame made of branches) comprising 55.9%, followed by Swahili Houses 1%, and Shanties 0.7%. In urban areas, low quality semi-permanent houses are the commonest and account for 42.4%. 93.5% of households have earth as the main floor material and 6.5% cemented. 54.4% of households are either grass thatched or makuti with only 20.6% having corrugated iron sheets as the main roofing material. 53.6% of households use grass/straw as the main wall material, 32.7% use mud/wood, 7.6% use cemented mud and 4.5% use stone and bricks.

3.3.8 Labour Force

Labour force includes the population aged 15-64 years. This is the age group that has the potential to work and generate income. In the project districts, there is adequate labour
force (especially unskilled and semi-skilled) which currently stands at 341259 and is projected to reach 384586 by 2012 as presented in the table below:

**Figure 3: Labour force in the project districts**

<table>
<thead>
<tr>
<th>Year</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-2008</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-2012</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: Yatta, Mwingi and Tana River District Development Plans 2008-2012*

Majority of this labour force are the unskilled manpower, who can significantly contribute and participate in the proposed transmission line construction. Thus casual-unskilled labor force is available in the area, according to the study. Majority of the youth are standard eight and form four graduates with very few university and college graduates. However, the population around Mwingi town could supply skilled labour in form of electrician, management and clinical personnel. Women are also willing to provide food stuff to the workers e.g. cooked Githeri, Tea, Fruits, and Maandazi etc.

The cost of labour in the area ranges between four hundred (400) and seven hundred (700) shillings per day for the unskilled labor force while the skilled can go with approximately 1000-3000 shillings daily.

Based on the public consultations undertaken during this study, the youth have expressed high expectations of employment from this project while the parents are also happy that the project is coming at the best timing due to prolonged droughts, famine, high prices of food stuff in the market, etc. The expected income would supplement the household finances.

### 3.3.9 Land Ownership and Use

Land ownership in the project districts vary. In Mwingi and Kyuso districts, many of the residents do not have title deeds for their land as it has not been adjudicated. In Mwingi alone, only about 5% of land owners in the district possess title deeds with the total number of registered titles being 16,377. In Kyuso, only one privately owned parcel of
land is fully registered - the Mbeu Group Ranch - comprising of 1,377 hectares, and has a
title deed. In Tana River district where 90% of the land is either trust land (20%) or
government land (70%) the total acreage of land adjudicated is zero. This has led to land
conflicts. Irrespective of this status, the local clans control the area they perceive to be
theirs in accordance with the accepted traditions and norm.

Household interview analysis during the social impact assessment revealed that four
types of land acquisition exists along the project corridor including inheritance, purchase
and lease. Majority of the land owners do not have title deed for only 2% in Mwingi and
Kyuso had, while none had title deeds in Tana River district. The average land size per
household is 12 acres in Yatta, Mwingi and Kyuso districts. Land in Yatta, Mwingi and
Kyuso districts is used for crop growing of mostly maize, beans green gram, cowpeas,
pigeon peas, sorghum and finger millet. Other crops grown include vegetables and fruits
especially mangoes. In addition, the land is used for pasture and beekeeping as well as
construction of buildings, borehole and earth dams.

Majority of population do not value their acreage but use estimation to determine the cost
of land. After much probing during the study, we found out that some areas could sell the
land at KSh 100,000 per acre (especially near major towns like Mwingi) while others sell
between KSh 20,000-40,000 per acre.

3.3.10  Education

Literacy levels in the project area average 49.3%. Yatta district has the highest literacy
rate of 65% compared to Mwingi and Kyuso which have 45.1% and Tana River with the
lowest of 33.7%. In Tana River district, the major causes of the low literacy levels
include traditional practices such as pastoralism that force the boy child to spend most of
his time moving with livestock in search of pasture and water; girls on the other hand
undergo initiation and are often married off at an early age. The table below summarises
the total number of education institutions in the project districts by type.

<table>
<thead>
<tr>
<th>District</th>
<th>Pre-school (ECD)</th>
<th>Primary schools</th>
<th>Secondary schools</th>
<th>Tertiary institutions</th>
<th>Adult literacy classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yatta</td>
<td>298</td>
<td>253</td>
<td>47</td>
<td>5</td>
<td>29</td>
</tr>
<tr>
<td>Mwingi</td>
<td>345</td>
<td>237</td>
<td>38</td>
<td>22</td>
<td>83</td>
</tr>
<tr>
<td>Kyuso</td>
<td>207</td>
<td>133</td>
<td>18</td>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td>Tana River</td>
<td>140</td>
<td>73</td>
<td>5</td>
<td>3</td>
<td>64</td>
</tr>
<tr>
<td>Total</td>
<td>575</td>
<td>494</td>
<td>398</td>
<td>12</td>
<td>175</td>
</tr>
</tbody>
</table>

Source: Draft District Development Plans (Yatta and Mbeere districts), 2008-2012.

There are several Primary Schools scattered along the project corridor from Kyondoni to
Madogo. These include Thaana, Kiamo, Nguni, Ukasi, Bangale primary and secondary
schools. Public consultations undertaken during this study revealed that the community
have expectations of receiving electricity connections in their education institutions, with
consequent improvement in academic performance in these institutions and improved
literacy levels.
3.3.11 Health

The project districts have a total of 177 health facilities ranging from district hospitals to private clinics. During construction, commissioning and operation of the proposed transmission line, these facilities will be useful in case of labour force that fall sick or any person who encounters an accident. Connecting these health facilities to efficient power supply will lead to enhanced health response by making it possible to eventually power specialised medical equipment. The various health facilities found in the project districts are tabulated below:

<table>
<thead>
<tr>
<th>District</th>
<th>Number of health facilities</th>
<th>District Hospitals</th>
<th>Sub-District Hospitals</th>
<th>Health Centres (GoK)</th>
<th>dispensaries (GoK)</th>
<th>dispensaries (Private)</th>
<th>Dispensaries (FBO)</th>
<th>Nursing Homes (Private)</th>
<th>Private clinics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yatta</td>
<td>1</td>
<td>4</td>
<td>29</td>
<td>-</td>
<td>6</td>
<td>-</td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mwingi</td>
<td>1</td>
<td>1</td>
<td>7</td>
<td>36</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Kyuso</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>18</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Tana River</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>22</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>2</td>
<td>15</td>
<td>105</td>
<td>5</td>
<td>13</td>
<td>5</td>
<td>28</td>
<td></td>
</tr>
</tbody>
</table>

Source: District development plans, Yatta, Mwingi, Kyuso and Tana River, 2008-2012

Specifically along the project corridor, the main health facilities include: Matuu and Mwingi District Hospital general hospitals, Nguni and Madogo Health Centers and a number of scattered dispensaries and medical clinics (Privately owned) such as Mumbuni Maternity Center in Mwingi town. The services offered in these facilities include general treatments especially in the dispensaries, family planning services (pills and injection), V.C.T, maternity, in-patient care, dental care, E.N.T, laboratory test, pharmacy, theatre operations and paediatric clinic.

The common diseases noted in the area include: Malaria, Colds and coughs, Tuberculosis, HIV/AIDS, Amoeba, Measles, Pneumonia, Typhoid and Diarrhoea. The measures being taken to curb the above diseases include – use of mosquito nets, boiling of drinking water, general cleanliness, visiting health facilities and getting drugs and using them according to the doctors’ prescriptions, good sanitation e.g. construction and use of pit latrines. The study noted increased cases of Malaria, tuberculosis and HIV/AIDS. Thus the construction of the transmission line should be accompanied by awareness creation and provision of preventive anti malaria drugs as well as behaviour change in their local lives.

3.3.12 Poverty

Poverty in the project area is perceived as the inability of an individual or a household to access basic needs i.e. food, shelter, clothing, health and education. It manifests itself in low income, deprivation, isolation, alienation, insecurity and dependency among other forms. The causes of poverty in the project districts are many and include power relationships that deny life skills, assets and resources to people as well as in access to
and control over productive resources. The average poverty incidence in the project districts is 66% with Tana River having the highest incidence of poverty (76.9%) while Mwingi had the lowest (58.4%). The key poverty indicators in the project districts are presented in the following table:

### Table 8: Poverty Indicators in the project districts

<table>
<thead>
<tr>
<th>Key indicator</th>
<th>Yatta</th>
<th>Mwingi</th>
<th>Kyuso</th>
<th>Tana River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolute poverty</td>
<td>66%</td>
<td>58.4%</td>
<td>62.6%</td>
<td>76.9%</td>
</tr>
<tr>
<td>Contribution to national poverty</td>
<td>4.1%</td>
<td>1.4%</td>
<td>1.4%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Urban poor</td>
<td>60%</td>
<td>63%</td>
<td>no data</td>
<td>76.9</td>
</tr>
<tr>
<td>Rural poor</td>
<td>72%</td>
<td>60%</td>
<td>no data</td>
<td>no data</td>
</tr>
</tbody>
</table>

*Source: District development plans, Yatta, Mwingi, Kyuso and Tana River, 2008-2012*

The high levels of poverty in the project district reveal that majority of the population is unable to afford their minimum basic needs such as food, clothing and shelter. The causes of poverty in the area include unreliable rainfall, high levels of illiteracy, poor crop and animal husbandry practices, poor infrastructure, lack of credit facilities, poor marketing systems and infrastructure, natural disasters like floods, drought, livestock diseases, insecurity, wildlife menace, environmental degradation and inadequate industrial power supply.

### 3.3.13 Insecurity and Conflict

In Yatta, Mwingi and Kyuso districts, insecurity mainly occurs in form of burglary and petty thefts. Other conflicts include human-wildlife conflicts.

In Tana River district, conflicts mainly arise from competing land use namely - farming and pastoralism, coupled with land adjudication issues especially where land is subdivided and allocated to individuals (mainly settled farmers) as private property. Private land ownership does not bode well with the pastoralists since they it limits their movement and hence the reason they continue to oppose the policy. Most of the cases of insecurity are related to ethnic clashes and few cases of banditry. These conflicts have led to livestock theft, loss of lives and destruction (e.g. through burning) of schools, houses and property in general.

### 3.3.14 Livelihood

The project districts livelihoods include Agro-Pastoral, Urban and Mixed farming. The main sources of income in the project area are agriculture (Masinga and Mwingi) and livestock production (Tana River and Garissa districts).

### 3.3.15 Crop Growing

The main agricultural crops in the project districts are Cow Peas, Green grams, Pigeon peas, Cassava, Maize, Beans, Sorghum and Millet. In terms of food, the project districts
are food insecure areas with all ranking from high to moderate levels in terms of food security.

3.3.16 Livestock Keeping

The Kamba traditionally are a pastoralist community but this is slowly changing with more people relying on agro-pastoralism. Livestock rearing nonetheless remains an important production system in the districts and dominates in Tana river district. Key livestock species are cattle and sheep and goats.

3.3.17 Tourism, Forests and Wildlife

The project districts have no major forests save for Mumoni Hills in Mwingi district. However, there are a number of conservation areas that have abundant wildlife and touristic potential including Mwingi National Reserve and Kora national park in Tana River district.

3.3.18 Gender

Gender, the social construction of roles and responsibilities between men and women, affects the socio-economic and political conditions and position of men and women in the project area. These roles have been defined by tradition and cultural attitudes where in most cases, the male dominates. There are more women than men in terms of population. Women have low literacy level than men and work for 12-15 hours a week, spending correspondingly less time on leisure and sleep.

3.3.19 HIV/AIDS

HIV/AIDS has become a major problem in the project districts where the prevalence rate is 4% in Yatta, 3.5% in Mwingi/Kyuso and 2% in Tana River. The districts have a total of 15 VCTs. The results of HIV/AIDS in this area have been disastrous and include:

- Increased number of orphans who lack proper care increasing burden at the family level and stress for the extended families
- Loss of productive manpower as most people affected are in the productive age between 25-45 years, hence declining economic output due to reduced workforce, family income, food and other basic necessities.
4.0 LEGAL FRAMEWORK

4.1 SUMMARY OF RELEVANT ACTS

Kenya has several statutes that handle the issue of land and land acquisition, among the salient ones are:

- Land Acquisition Cap 295
- The Wayleaves Act Cap 292
- Government Lands Act Cap 280
- Registered Land Act Cap 300
- Trust Land Act Cap 291
- Land Titles Act Cap 282
- Registration of Titles Act Cap 281
- Land (Group Representatives) Act Cap 287
- Land control Act 302
- Agriculture Act 318
- Environmental Management Co-ordination Act

4.1.1 Land Acquisition Act Cap 295

The Act applies where public interest overrides private interest as indicated in section 75 of the Constitution of Kenya. The initiatives and procedures of acquisition is set out in the Act and the following highlights are salient:

- Section 6(1), the Minister has to be satisfied that the land required is for public purpose by a public body before he directs the commissioner of lands to acquire it compulsorily
- Section 6(2), the commissioner of lands then publishes the notice of acquisition
- Section 9(1), the commissioner holds an inquiry for hearing of claims by persons interested in the land
- Section 8, the Act recommends that full compensation to be paid promptly to all persons interested in the land.

This 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 things such as survey upon necessary authorization will be undertaken in accordance with section 5 of the Act.
The Proponent will not use compulsory acquisition; rather the PAPs will be engaged in consultations and negotiation before arriving at the final line trace.

4.1.2 The Way leaves Act Cap 292

The Act provides for certain undertakings to be constructed e.g. transmission lines, pipelines, canals, pathways etc., through, over or under any lands. Section 3 of the Act states that the Government may carry any works through, over or under any land whatsoever provided it shall not interfere with any existing building or structures of an ongoing activity.

Where any developments are affected, the Act recommends for compensation. Section 6 (1), “the Government shall make good all compensation to the owner of any tree or crops destroyed or damaged”. The Act further explains the process of resolving conflicts that arise in determining the compensation value.

This project is under the provision of the Act. The transmission line corridor will require the acquisition of Wayleaves within the affected areas. The proponent will comply with the provisions of this Act in the process of acquiring such Wayleaves. In accordance with the Act (section 4), notice will be given before carrying out works with full description of the intended works and targeted place for inspection. Any damages caused by the works would then be compensated to the owner as per section.

4.1.3 Government Lands Act Cap 280

Under this act the president through the commissioner of lands, allocates any unalienated land to any person he so wishes. Such a land once allocated is held as a grant from the government on payment of such rents to the government as the government wishes.

4.1.4 Registered Land Act Cap 300

This Act provides for the absolute proprietorship over land (exclusive rights). Under this act any person may acquire absolute ownership to any land once he or she has been registered as the absolute owner. On registration such a person acquires freehold interests on the land. Freehold implies absolute ownership.

The project traverses some areas with Registered Land (eg. Kyuso). The Proponent shall comply with the provisions of the Act in the acquisition of Registered Land.

4.1.5 Trust Land Act Cap 288

All land, which is not registered under any Act of parliament, is vested in local authorities as Trust. In these Trust Lands a person may acquire leasehold interest for a specific number of years. The local authorities retain the powers to repossess such land for their own use should the need arise.
The land between Mwingi and Garissa is in most cases Trust Land which in case of acquisition needs to be acquired under Section 7 of the Act which defines how setting apart of Trust Land is carried out.

4.1.6 Land Control Act 302

This act restricts transfer of land and as such has some bearing on the flexibility with which affected farmers can acquire replacement land. The most pertinent section of this act is Section (9) that states the economic size for agriculture. It controls the subdivisions of the agricultural land.

The provisions of this Act will need to be observed in the provision of land for resettlement of PAPs; the allocated land should be able to support the resettled groups in carrying out their livelihood in a manner equivalent to or more improved than during the pre-settlement period.

4.1.7 Environmental Management Co-ordination Act

Provides for the establishment of appropriate legal and institutional framework for the management of the environment and related matters. 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 an EIA license as appropriate. The approval process time frame for Project Reports is 45 days and for full EIA Study is 90 days.

This Project falls within Schedule 2 of EMCA 1999 and therefore requires an EIA. The Proponent has commissioned the environmental and social impact assessment study in compliance with the Act. The Proponent shall be required to commit to implementing the environmental management plan laid out in the report and any other conditions laid out by NEMA in order to ensure environmental and social sustainability of the project.

4.1.8 Energy Act, 2006

This act consolidated the laws relating to energy, provide for the establishment, powers and functions of the energy regulation commission and the rural electrification authority; and for connection purposes. Section 54 of the act provides how land can be acquired if the minister in consultation will the energy commission is satisfied that the land is needed for public benefit.

4.2 LAND LEGAL ISSUES

Interests in land broadly fall into two groups. Rights that are held through traditional African systems and rights that derive from the English system introduced and maintained through laws enacted first by colonial and later by the national parliament. The former is known as customary tenure bound through traditional rules (customary law). The latter body of law is referred to as
statutory tenure, secured and expressed through national law, in various Acts of Parliament as set out above.

4.2.1 Customary Land Tenure

This refers to unwritten land ownership practices by certain communities under customary law. Kenya being a diverse country in terms of its ethnic composition has multiple customary tenure systems, which vary mainly due to different agricultural practices, climatic conditions and cultural practices. However most customary tenure systems exhibit a number of similar characteristics as follows:

- First, individuals or groups by virtue of their membership in some social unit of production or political community have guaranteed rights of access to land and other natural resources (Ogendo, 1979). Individuals or families thus claim property rights by virtue of their affiliation to the group.
- Secondly, rights of control are rested in the political authority of the unit or community. This control is derived from sovereignty over the area in which the relevant resources are located. Control is for the purpose of guaranteeing access to the resources and is redistributive both spatially and intergenerational. Its administrative component entails the power to allocate land and other resources within the group, regulate their use and defend them against outsiders (Ogolla and Mugabe, 1996).
- Thirdly, rights analogous to private property accrue to individuals out of their investment of labour in harnessing, utilizing and maintaining the resource. Thus the present cultivator of some piece of land has the greatest rights to it. These rights transcend mere usufruct and encompass transmission and in some communities transfer (Elias, 1956).
- Lastly, resources that do not require extensive investment of labour or which by their nature have to be shared, for example, common pasturage, are controlled and managed by the relevant political authority. Every individual member of the political community has guaranteed equal rights of access thereto. The regulatory mechanisms imposed by the political units such as exclusion of outsiders, seasonal variations in land use and social pressure ensured sustainable resource utilization.

This mode of ownership in Kenya is currently governed by the Trust Land Act by which all land in the rural areas which is neither government land nor individually owned is vested in the county council in trust for the residents living there.

4.2.2 Statutory Tenures

4.2.2.1 Freehold Tenure

This tenure confers the greatest interest in land called absolute right of ownership or possession of land for an indefinite period of time, or in perpetuity. The Registered Land Act (RLA) Cap 300 of the Laws of Kenya governs freehold land. The Act provides that the registration of a person as the proprietor of the land vests in that person the absolute ownership of that land together with all rights, privileges relating thereto. With regard to the areas with lower agricultural potential, mostly arid and semi arid parts of the country where the dominant land use was pastoralism, a different registration system was instituted in 1968. This is the regime of Land (Group
Representatives) Act. Here the registration of group ranches was viewed as a compromise between individual ownership and the need for access to wider resources in dry lands. Under this system ‘communal lands’ are divided into smaller ‘ranches,’ which are then registered in the names of group representatives (three to ten members) elected by the members of the group (Wanjala 2000). Every member of the group has rights in the ownership of the group land in undivided shares. The members are entitled to reside therein free of charge with their family and dependants and make exclusive use for the grouped ranches resources.

4.2.2.2 Leasehold Tenure

Leasehold is an interest in land for a definite term of years and may be granted by a freeholder, usually subject to the payment of a fee or rent and is subject to certain conditions which must be observed. For government land the government also grants leases, the local authorities for trust land and by individuals or organisations owning freehold land. The maximum term of government leases granted in Kenya is 999 year for agricultural land and 99 years for urban plots. There are few cases of 33 years leases granted by government in respect of urban trust lands. The local authorities have granted leases for 50 and 30 years as appropriate.

4.2.3 Public Tenure

This is land owned by the Government for own purpose and which includes unutilised or unalienated government land reserved for future use by the Government itself or may be available to the general public for various uses. The land is administered under the Government Lands Act Cap 280. These lands are vested in the president who has, normally through the Commissioner of Lands, powers to allocate or make grants of any estates, interests or rights in or over unalienated government land. Categories of government land include forest reserves, other government reserves, alienated and unalienated government land, national parks, townships and other urban centres and open water bodies (GOK, 1996). The Government Lands Act does not contain any notion of trusteeship by government of the land on behalf of the people of Kenya. Indeed the government at times acts as a private owner and allocates parcels to those in its favour.

4.2.4 Other Interests

These include:

- Reservations of other government or trust land to government ministries, departments or parastatals for their use.
- Minor interest such as easements, Wayleave or temporary occupation licenses.
- Non-formalised defacto tenure by which people, individually or in groups invade and occupy other peoples government land particularly in the major urban centres of Nairobi, Mombasa and Kisumu.

The issue of land ownership has been at the centre stage of local politics in Kenya for a long while. With regard to the Eastern (Ukambani) and North Eastern, land rights do not generate many conflicts as experienced in other areas of the country. This is because the population density within these areas is low and the weather conditions are harsh especially during the dry seasons. The land is normally idle and under utilised as the
supply is more than the demand especially on the North Eastern province side. The land in these regions is under trust land although in Mwingi district some areas have titles while adjudication is ongoing in others. The titles are freehold except within the urban centres where leasehold titles can be found.

4.3 SAFEGUARD POLICIES TRIGGERED BY THE PROPOSED TRANSMISSION LINE PROJECT

4.3.1.1 OP 4.10 - Indigenous Peoples

Indigenous Peoples are identified as possessing the following characteristics in varying degrees: self-identification and recognition of this identity by others; collective attachment to geographically distinct habitats or ancestral territories and to the natural resources in these habitats and territories; presence of distinct customary cultural, economic, social or political institutions; and indigenous language.

The World Bank policy on indigenous peoples underscores the need for Borrowers and Bank staff to identify indigenous peoples, consult with them, ensure that they participate in, and benefit from Bank-funded operations in a culturally appropriate way - and that adverse impacts on them are avoided, or where not feasible, minimized or mitigated.

The Kindaruma-Mwingi-Garissa transmission line traverses areas that are mostly occupied by communities with traditional land-based modes of production (such as pastoral land use) particularly in Tana River district. The indigenous communities in these areas comprise mainly of the Akamba and Orma, among others. They have specific cultures that are unique to them and which may be negatively affected by the proposed project; these include Myethya (self-help) groupings among the Akamba, and structured land control patterns and traditional practices among the Orma. The proponent, through the RAP study shall put in place an action plan for the legal recognition of customary rights to lands and territories that Indigenous Peoples traditionally own, or customarily use or occupy, and for the acquisition of such lands.

Table 9: OP 4.10 Indigenous Peoples (September 1991)

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Operational Principles</th>
</tr>
</thead>
<tbody>
<tr>
<td>To design and implement projects in a way that fosters full respect for Indigenous Peoples’ dignity, human rights, and cultural uniqueness and so that they: (a) receive culturally compatible social and economic benefits; and (b) do not suffer adverse effects during the development process.</td>
<td>1. Screen early to determine whether Indigenous Peoples are present in, or have collective attachment to, the project area.</td>
</tr>
<tr>
<td></td>
<td>2. Undertake free, prior and informed consultation with affected Indigenous Peoples to ascertain their broad community support for projects affecting them and to solicit their participation: (a) in designing, implementing, and monitoring measures to avoid adverse impacts, or, when avoidance is not feasible, to minimize, mitigate, or compensate for such effects; and (b) in tailoring benefits in a culturally appropriate manner.</td>
</tr>
<tr>
<td></td>
<td>3. Undertake social assessment or use similar methods to assess potential project impacts, both positive and adverse, on Indigenous Peoples. Give full consideration to options preferred by the affected Indigenous Peoples in the provision of benefits and design of mitigation measures. Identify social and economic benefits for</td>
</tr>
<tr>
<td>Objectives</td>
<td>Operational Principles</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Indigenous Peoples that are culturally appropriate, and gender and inter-generationally inclusive and develop measures to avoid, minimize and/or mitigate adverse impacts on Indigenous Peoples.</td>
<td>4. Where restriction of access of Indigenous Peoples to parks and protected areas is not avoidable, ensure that the affected Indigenous Peoples’ communities participate in the design, implementation, monitoring and evaluation of management plans for such parks and protected areas.</td>
</tr>
<tr>
<td>5. Put in place an action plan for the legal recognition of customary rights to lands and territories, when the project involves: (a) activities that are contingent on establishing legally recognized rights to lands and territories that Indigenous Peoples traditionally owned, or customarily used or occupied; or (b) the acquisition of such lands.</td>
<td>6. Do not undertake commercial development of cultural resources or knowledge of Indigenous Peoples without obtaining their prior agreement to such development.</td>
</tr>
<tr>
<td>7. Prepare an Indigenous Peoples Plan that is based on the social assessment and draws on indigenous knowledge, in consultation with the affected Indigenous Peoples’ communities and using qualified professionals. Normally, this plan would include a framework for continued consultation with the affected communities during project implementation; specify measures to ensure that Indigenous Peoples receive culturally appropriate benefits, and identify measures to avoid, minimize, mitigate or compensate for any adverse effects; and include grievance procedures, monitoring and evaluation arrangements, and the budget for implementing the planned measures.</td>
<td>8. Disclose the draft Indigenous Peoples Plan, including documentation of the consultation process, in a timely manner before appraisal formally begins, in an accessible place and in a form and language that are understandable to key stakeholders.</td>
</tr>
</tbody>
</table>

4.3.1.2 **OP 4.12 - Involuntary Resettlement**

This policy is triggered in situations involving involuntary taking of land and involuntary restrictions of access to legally designated parks and protected areas. The policy aims to avoid involuntary resettlement to the extent feasible, or to minimize and mitigate its adverse social and economic impacts. It promotes participation of displaced people in resettlement planning and implementation, and its key economic objective is to assist displaced persons in their efforts to improve or at least restore their incomes and standards of living after displacement. The policy prescribes compensation and other resettlement measures to achieve its objectives and requires that borrowers prepare adequate resettlement planning instruments prior to Bank appraisal of proposed projects.
The proposed project triggers this policy in that it shall require [involuntary] acquisition of land and restrictions of access to legally protected areas within the transmission line Wayleave.

Table 10: OP/BP 4.12 Involuntary Resettlement (December 2001)

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Operational Principles</th>
</tr>
</thead>
<tbody>
<tr>
<td>To avoid or minimize involuntary resettlement and, where this is not feasible, to assist displaced persons in improving or at least restoring their livelihoods and standards of living in real terms relative to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.</td>
<td>1. Assess all viable alternative project designs to avoid, where feasible, or minimize involuntary resettlement.</td>
</tr>
<tr>
<td></td>
<td>2. Through census and socio-economic surveys of the affected population, identify, assess, and address the potential economic and social impacts of the project that are caused by involuntary taking of land (e.g., 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 person must move to another location) or involuntary restriction of access to legally designated parks and protected areas.</td>
</tr>
<tr>
<td></td>
<td>3. Identify and address impacts also if they result from other activities that are (a) directly and significantly related to the proposed project, (b) necessary to achieve its objectives, and (c) carried out or planned to be carried out contemporaneously with the project.</td>
</tr>
<tr>
<td></td>
<td>4. Consult project-affected persons, host communities and local nongovernmental organizations, as appropriate. Provide them opportunities to participate in the planning, implementation, and monitoring of the resettlement program, especially in the process of developing and implementing the procedures for determining eligibility for compensation benefits and development assistance (as documented in a resettlement plan), and for establishing appropriate and accessible grievance mechanisms. Pay particular attention to the needs of vulnerable groups among those displaced, especially those below the poverty line, the landless, the elderly, women and children, indigenous Peoples, ethnic minorities, or other displaced persons who may not be protected through national land compensation legislation.</td>
</tr>
<tr>
<td></td>
<td>5. Inform displaced persons of their rights, consult them on options, and provide them with technically and economically feasible resettlement alternatives and needed assistance, including (a) prompt compensation at full replacement cost for loss of assets attributable to the project; (b) if there is relocation, assistance during relocation, and residential housing, or housing sites, or agricultural sites of equivalent productive potential, as required; (c) transitional support and development assistance, such as land preparation, credit facilities, training or job opportunities as required, in addition to compensation measures; (d) cash compensation for land when the impact of land acquisition on livelihoods is minor; and (e) provision of civic infrastructure and community services as required.</td>
</tr>
<tr>
<td></td>
<td>6. Give preference to land-based resettlement strategies for displaced persons whose livelihoods are land-based.</td>
</tr>
<tr>
<td></td>
<td>7. For those without formal legal rights to lands or claims to such land that could be recognized under the laws of the country, provide resettlement assistance in lieu of compensation for land to help improve or at least restore their livelihoods.</td>
</tr>
</tbody>
</table>
|                                                                           | 8. Disclose draft resettlement plans, including documentation of the consultation process, in a timely manner, before appraisal formally begins, in an accessible place and in a form and language that are
<table>
<thead>
<tr>
<th>Objectives</th>
<th>Operational Principles</th>
</tr>
</thead>
<tbody>
<tr>
<td>understandable to key stakeholders.</td>
<td>9. Apply the principles described in the involuntary resettlement section of this Table, as applicable and relevant, to subprojects requiring land acquisition.</td>
</tr>
<tr>
<td>10. Design, document, and disclose before appraisal of projects involving involuntary restriction of access to legally designated parks and protected areas, a participatory process for: (a) preparing and implementing project components; (b) establishing eligibility criteria; (c) agreeing on mitigation measures that help improve or restore livelihoods in a manner that maintains the sustainability of the park or protected area; (d) resolving conflicts; and (e) monitoring implementation.</td>
<td></td>
</tr>
<tr>
<td>11. Implement all relevant resettlement plans before project completion and provide resettlement entitlements before displacement or restriction of access. For projects involving restrictions of access, impose the restrictions in accordance with the timetable in the plan of actions.</td>
<td></td>
</tr>
<tr>
<td>12. Assess whether the objectives of the resettlement instrument have been achieved, upon completion of the project, taking account of the baseline conditions and the results of resettlement monitoring.</td>
<td></td>
</tr>
</tbody>
</table>
5.0 PROJECT IMPACTS ON THE RECIPIENT ENVIRONMENT

The proposed Kindaruma-Mwingi-Garissa Power Transmission line will have both positive and negative impacts to the environmental and social wellbeing of the residents within and far beyond the immediate vicinity. These impacts are outlined here as identified during the ESIA. The table below provides a snapshot view of the anticipated impacts (both positive and negative) of the proposed project on the environment:

Table 11: Impact Assessment Matrix

<table>
<thead>
<tr>
<th>Impact</th>
<th>Positive (+)</th>
<th>Negative (-)</th>
<th>Direct (D)</th>
<th>Indirect (I)</th>
<th>Temporary (t)</th>
<th>Permanent (P)</th>
<th>Major (M)</th>
<th>Minor (m)</th>
<th>Occurrence</th>
<th>Construct.</th>
<th>Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job creation</td>
<td>+</td>
<td></td>
<td>D</td>
<td>I</td>
<td>t</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Boost economy</td>
<td>+</td>
<td></td>
<td>D</td>
<td>P</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Increased electricity connections</td>
<td>+</td>
<td></td>
<td>D</td>
<td>P</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Reduced power outages</td>
<td>+</td>
<td></td>
<td>D</td>
<td>P</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Improved security</td>
<td>+</td>
<td></td>
<td>I</td>
<td>P</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Provide lighting at household level</td>
<td>+</td>
<td></td>
<td>I</td>
<td>P</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Improved living standard/ reduce poverty</td>
<td>+</td>
<td></td>
<td>I</td>
<td>P</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Improved income generating activities / Industry growth</td>
<td>+</td>
<td></td>
<td>I</td>
<td>P</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Increase market for electronic goods</td>
<td>+</td>
<td></td>
<td>I</td>
<td>P</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Terrestrial Habitat Alteration</td>
<td>-</td>
<td></td>
<td>D</td>
<td>P</td>
<td>m</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Aquatic habitat alteration</td>
<td>-</td>
<td></td>
<td>I</td>
<td>t</td>
<td>m</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Soil erosion</td>
<td>-</td>
<td></td>
<td>D</td>
<td>t</td>
<td>m</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Air Pollution (dust, fuel emissions)</td>
<td>-</td>
<td></td>
<td>I</td>
<td>t</td>
<td>m</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Pollution of watercourses</td>
<td>-</td>
<td></td>
<td>I</td>
<td>t</td>
<td>m</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Generation of Solid Waste</td>
<td>-</td>
<td></td>
<td>D</td>
<td>t</td>
<td>m</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Risk of fire</td>
<td>-</td>
<td></td>
<td>I</td>
<td>t</td>
<td>m</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Noise pollution</td>
<td>-</td>
<td></td>
<td>D</td>
<td>P</td>
<td>m</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>EMF Exposure</td>
<td>-</td>
<td></td>
<td>D</td>
<td>P</td>
<td>m</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Risk of electrocution from live power lines</td>
<td>-</td>
<td></td>
<td>D</td>
<td>P</td>
<td>M</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Risk from working at heights</td>
<td>-</td>
<td></td>
<td>D</td>
<td>P</td>
<td>M</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Social/cultural disruption</td>
<td>-/+</td>
<td></td>
<td>I</td>
<td>t</td>
<td>m</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Land Acquisition and involuntary Resettlement</td>
<td>-</td>
<td></td>
<td>D</td>
<td>P</td>
<td>M</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>
5.1.1 Potential Positive Impacts

- Possibility of connecting more households and institutions to the national grid;
- The major impacts of the transmission line will be reduced poverty and improved living standards within and beyond the district served. These will result from employment creation (direct and indirect) and increased investments especially in value addition processing of primary products.
- Improved incomes and poverty reduction will also occur through provision of opportunities to invest in heavy industries and facilitate direct and indirect employment
- Job creation for both skilled and unskilled labour for vegetation clearing, menial works, drivers and machine operators. The total number of local jobs created by this project as will depend on availability of labour and policies of the contractor and KPLC while casual wages range from KSh. 250 to 800 per day
- Boost the economy through investment and expansion of businesses and income generation opportunities. This will increase productivity and competition
- Increase in agricultural production through irrigation especially where farmers along Tana River (Garissa and Tana River districts) will install electricity for water pumping. In this case, electricity will provide a substitute for fuel generators which are expensive to maintain.
- Connect more households and institutions with electricity thereby providing household level lightning system. This will in effect create market for electronic goods
- Reduce power problems/outages especially Garissa town which relies on a diesel generator, and Mwingi town which taps power from the Kitui line
- Improve security in the beneficiary communities through better lighting.

The potentially adverse impacts have been discussed in greater detail the following section:

5.1.2 Terrestrial Habitat Alteration

5.1.2.1 Construction

The construction of transmission line rights-of-way will result in alteration and disruption to terrestrial habitat, including impacts to avian species and an increased risk of forest fires. Right-of-way construction activities will transform habitats, depending on the characteristics of existing vegetation, topographic features, and installed height of the transmission lines. Examples of habitat alteration from these activities includes fragmentation of forested habitat; loss of wildlife habitat, including for nesting; establishment of non-native invasive plant species; and visual and auditory disturbance due to the presence of machinery, construction workers, transmission towers, and associated equipment.
The construction phase is also expected to be associated with woody species removal along the proposed way-leave area resulting in destruction of species habitat or its simplification. Vegetation clearing will be done manually by use of pangas and slashers. Where there are big trees, portable power saw mills (petrol powered) will be used.

Clearing of vegetation is expected to expose the soil and modify habitat. However, due to the short width of the way-leave, the impacts are expected to be insignificant.

5.1.2.2 Operation and Maintenance

Unchecked growth of tall trees and accumulation of vegetation within rights-of-way may result in a number of impacts, including power outages through contact of branches and trees with transmission lines and towers; ignition of forest and brush fires; corrosion of steel equipment; blocking of equipment access; and interference with critical grounding equipment.

Regular maintenance of rights-of-way to control vegetation will involve manual hand clearing and the use of mechanical methods, such as mowing or pruning equipment that may disrupt wildlife and their habitats.

5.1.3 Alteration of Aquatic Habitats

5.1.3.1 Construction

The route of the proposed transmission line crosses several rivers and streams, such as R. Kithyoko, R. Nzuli, R. Tyaa, R. Ndiani, R. Tula, and R. Arer. Soil erosion from construction activities may result in siltation of watercourses. This impact is however expected to be minimal and the removal of riparian vegetation temporary. At each tower site there will be four holes dug to a depth of approximately 5m; no major earthworks will be involved in this project.

5.1.4 Wildlife Species

5.1.4.1 Construction

The construction phase is not expected to have significant negative impact on wildlife owing to the short width of the way-leave and also due to low wildlife density in the area. Most of the wildlife in the general area is well protected in near-by conservation areas under the management of Kenya Wildlife Service and the County Councils. The behaviour of wildlife species in this area precludes any significant negative impacts although some species may be affected during the construction phase.

5.1.5 Soil

5.1.5.1 Construction
During the construction phase, the contractor is expected to loosen the soil along the way-leave for the pylons which may lead to soil erosion. Similarly, the way-leave will serve temporarily as a road to transport material between construction sites. The exposed soil will be prone to wind and water erosion during the construction phase. The soil problems may be exacerbated by topography of some areas, especially across riverine and dry river-beds, mainly during the wet season.

5.1.6  Air

5.1.6.1  Construction

During construction, dust (from excavations and earth moving vehicles as well as materials delivery), particulate matter from dry materials (sand, cement, gravel, murram, etc.), and emissions (smoke, hydrocarbons and nitrogenous gases among others from machinery exhausts) will be expected to increase. Poorly maintained vehicles emit noxious fumes (carbon dioxide, carbon monoxide, nitrogen oxides, and sulphur oxides). The principal pollutants generated by combustion engines are CO₂, CO, NOₓ, and VOCs.

The Proponent will only use 5 lorries and 4 4x4 vehicles during the project. The impact will be minor because of the few vehicles in the project, however even the few vehicles have the capacity to kick up dust pollution in areas like between Mwingi and Kitui where there is high density settlements particularly around section B2-1 to B2-2A where the line will pass close to houses (in some cases the proposed route is within a 10m distance) and the road surface is murram which is in just a fair condition. Even though the impact may be minor, there are chances that the residence of the settlements in this area may complain about nuisance dust particles and upper respiratory infections cannot be ruled out.

The lattice structures shall be dug manually and so will be the concrete casting for their bases. If the casting of concrete for the bases of the lattice structures will be manual, then there will be definite exposure to cement dust which contains typically tricalcium silicate – 50% w/w, dicalcium silicate – 25% w/w, tricalcium aluminate – 12% w/w, tetracalcium aluminoferite – 8% w/w and gypsum – 3.5% w/w that is likely to cause irritation of skin (burns and dermatitis), eyes and throat irritation.

5.1.7  Water Quality

5.1.7.1  Construction and Operation

The proposed project will not affect local water resources during both construction and operation phases of the project. During construction, water demand will be minimal.

5.1.8  Hazardous Substances

5.1.8.1  Construction
Use of engines (construction vehicles) and other equipment on site has the potential to lead to spillage of petroleum products. It is however worth noting that the risks of a major oil spillages occurring are minimal because only a few construction vehicles (3-5no trucks and 4no 4WD vehicles) will be needed in the construction of the transmission line. Further, the maintenance of these vehicles will be undertaken at authorised garages and not on site. The impacts during construction are not expected to be significant.

5.1.8.2 Operation

Hazardous materials in this sector include insulating oils / gases (e.g. Polychlorinated Biphenyls [PCB] and sulfur hexafluoride [SF6], and fuels. The proposed project will not use any PCBs in the transformers, capacitors, or any other equipment. No impact from hazardous material during operations is therefore expected.

5.1.9 Fire Risk

5.1.9.1 Operations

During operations, voltage power can cause a fire risk in the event of electrical faults with equipment. Bat and bird collisions with power lines may result in power outages and fires. Also, if underlying growth is left unchecked, or slash from routine maintenance is left to accumulate within right of way boundaries, sufficient fuel can accumulate and as such promote forest fires.

5.1.10 Noise

5.1.10.1 Construction

Sources of noise would be the construction vehicles and machinery, as well as noise from the work force itself. In the area between Mwingi and Garissa the ground conditions are rocky. The client has also confirmed that they shall use compressors to break hard ground which is expected in the area between Mwingi and Garissa. The use of the compressor will create exposure to harmful vibrations and noise pollution with the likelihood of noise induced hearing-loss for the operatives (10 unskilled labourers) and nuisance for the sparse settlements in this area. In areas where vegetation clearing will involve the use of power saws, workers will be exposed to impact from noise and vibrations.

5.1.10.2 Operation

The acoustic noise produced by transmission lines is greater with high voltage power lines; High-voltage power lines (400-800kV) generate discharges producing what is known as a “corona effect” which in turn gives rise to crackling and frying noises that may even be audible in dry weather.

The proposed project involves the installation of 132kV and noise impact is expected to be of low significance.
5.1.11 Aircraft Navigation Safety

5.1.11.1 Construction and Operation

In Kenya, KCAA gives approval for tower heights to ensure safety of aircraft. Power transmission towers, if located near an airport or known flight paths, can impact aircraft safety directly through collision or indirectly through radar interference. The tower heights for the tower structures to be erected are approximately 30-40m.

5.1.12 Electromagnetic Fields (EMFs)

5.1.12.1 Operation

During the process of stakeholder participation in an earlier scoping exercise, concern about the impact of EMF on human health from the transmission line was raised. Scientific research on the effects of EMFs on public health has not demonstrated clearly the existence of a significant risk, nor has it proven the complete absence of risk. The finding and conclusions are that the field strength on a 132 kV line at the distance of exposure (heights of 40-40m is less than what one would ordinarily be exposed to in a domestic setup.

5.1.13 Maintenance of Power Line Rights-of-way

5.1.13.1 Construction and Operation

The rights-of-way require annual maintenance to remove bush and tree growth beneath power lines so that towers and lines can be maintained. No phytocides will be used for clearing of vegetation and instead both manual (machetes and slashers) and power saws will be used. The impacts of these operations are the likelihood of developing ‘white hand’ syndrome, vibration effects on musculoskeletal system, noise induced hearing-loss and exposure to benzene and other polyaromatic hydrocarbons (PAH) that are known to increase the risk of developing leukemia (Chain saw operators inhale air containing between 0.1 and 2.4 mg/m3 of these gases - NIOSH recommends an exposure standard of 0.3 mg/m3). These impacts can be mitigated by limiting the manual clearing of vegetation and providing hand protection, ensuring the compressors are well serviced and that the bit does not transmit harmful vibrations back to the handler and providing respiratory protective devices.

5.1.14 Electrocution from Live Power Lines

5.1.14.1 Construction and Operation

- Workers may be exposed to occupational hazards from contact with live power lines during construction, maintenance, and operation activities. Other potential impacts during operation may include accidental electrocution of construction or maintenance staff on the site while working on electrical installations.
• Pylon/distribution pole or cable failure is the most catastrophic event that could occur in the operation of an electricity transmission system. It involves a sudden break in the structure and the rapid, uncontrolled exposure to medium to high currents leading to electrocution or loss of property through fires ignited by the fallen cables.

• Hazards most directly related to power transmission and distribution lines and facilities occur as a result of electrocution from direct contact with high-voltage electricity or from contact with tools, vehicles, ladders, or other devices that are in contact with high-voltage electricity.

5.1.15 Working at Heights

5.1.15.1 Construction and Operation

• Workers may be exposed to occupational hazards when working at elevation during construction, maintenance, and operation activities.

5.1.16 Physical Hazards

5.1.16.1 Construction and Operation

• The main aspects to be considered in site preparation activities include clearing of bushes (mechanically or using phytocides) for access through which materials will be transported and also through which cables will be strung, blasting of rocks to create or repair roads as well as foundations for the lattice structures (pylons) and construction of storage facilities.

• Generally, injuries/fatalities may arise due to activities such as blasting and the use of heavy equipment. These risks are compounded in areas of confinement (e.g., tunnels, trenches), due to physical constraints, reduced visibility, and the potential for rock falls/trench slides, etc.

• Generally speaking this is a function of work at height. Potential injuries may result from slips and falls from heights typically above 6-20 meters. Such falls may cause fractures of bone structures leading to eventual loss of ability to walk or in extreme cases a fatality. Scratches, bruises and puncture of skin tissue are also not uncommon during such tasks. There is also increased danger from overhead falling objects to pedestrians accessing the area underneath the project area.
6.0 PROJECT IMPACT ON HUMAN SETTLEMENTS

6.1 PROJECT AFFECTED PERSONS (PAPS)

The socio-economic survey process involved traversing the transmission line corridor along the 224 kilometer stretch where the way leave for the transmission line will be concessioned.

The stakeholders and project affected persons (PAPs) were identified and consulted with the objective of describing the existing socio-economic conditions within the proposed project area of influence and the immediate surroundings. The Project affected Persons can be grouped into four broad categories namely, those:

- Whose whole land, farms and housing structures will be fully acquired
- Whose land and farms will partially be acquired but housing structures remain
- Whose land and farms will partially be acquired including housing structures
- Who will be affected by the changed environment as they co-exist with the transmission line
- Whose businesses and livelihoods will be transformed

6.1.1 Linear Resettlement

Linear resettlement describes projects having linear patterns of land acquisition (highways, railways, canals, and power transmission lines). In sparsely populated rural areas, a linear project such as an electric transmission line may have minimal impact on any single landholder. Compensation is characterized by a large number of small payments for the temporary loss of assets such as standing crops. If well designed, linear projects can easily avoid or minimize the demolition of permanent structures. Linear resettlement contrasts with site specific resettlement because of the problems that frequently arise when resettlement actions have to be coordinated across multiple administrative jurisdictions and/or different cultural and linguistic areas.

Kindaruma-Mwingi-Garissa transmission line is very similar to the linear developments explained above. Persons affected did not want to be resettled in a common area, instead they asked to be compensated in monetary form so that they could get land in their preferred areas and carry out the developments. Alternatively, they wanted to show the government their areas of choice and let it develop for them.
<table>
<thead>
<tr>
<th>District</th>
<th>Location</th>
<th>Sub-location</th>
<th>Village</th>
<th>Names of Household members</th>
<th>Relationship to household head</th>
<th>Age</th>
<th>Sex</th>
<th>Main occupation</th>
<th>Livestock kept</th>
<th>Crops grown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yatta</td>
<td>Kivaa</td>
<td>Kyondoni</td>
<td>Kaluungo</td>
<td>1. Joseph Mwnagangi</td>
<td>Household head</td>
<td>23</td>
<td>✓</td>
<td>Casual labourer</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Muthoki Mwangangi</td>
<td>Spouse</td>
<td>22</td>
<td>✓</td>
<td>Farmer</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Daughter unknown)</td>
<td>Daughter</td>
<td>14</td>
<td>✓</td>
<td>Child</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Kwa Kyumbo</td>
<td></td>
<td></td>
<td></td>
<td>2. Kanini Matata</td>
<td>Household head</td>
<td>41</td>
<td>✓</td>
<td>Farmer &amp; informal business</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Angela Matata</td>
<td>Daughter</td>
<td>21</td>
<td>✓</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mwingi</td>
<td>Kiomo</td>
<td>Kairungu</td>
<td>Kianziani</td>
<td>3. Juliana Mwangangi</td>
<td>Household head</td>
<td>40</td>
<td>✓</td>
<td>Farmer</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Carolyne Mwangangi</td>
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- Cow Peas
- Millet
- Sorghum
- Green Grams
- Pegion
- Peas
- Miraar
- (around)
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Norken International Limited
Engineering and Management Consultants
November 2009
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6.1.2 Summary Outcome of Consultations with the PAPs, Public and Other Stakeholders

The RAP is an outcome of various integrated formal and informal interviews with PAPs, development agencies, departmental heads, the general public and other stakeholders as well as observation. In total, 81 household interviews were conducted and 23 PAPs visited/assessed. In addition, 5 consultative Public Participation meetings were held at Thaana Nzau (Migwani), Mwingi (Mwingi Central), Ngiluni (Nguni), Madogo Social hall (Bangale and Madogo) and Garissa County Council hall (Garissa central).

The integrated wide consultations with the stakeholders revealed various project key issues during construction, commissioning and operations. These consultations revealed that majority of local population and leaders along the project corridor have positive attitude towards the project and approved it on basis of the foreseen benefits including development. The residents are willing to participate by offering their land in exchange of “good” money, supplying both unskilled and skilled labour for the project, providing market for the electricity, reporting electric faults and vandalism and relating awareness among community members on dangers of electricity and tempering with electricity lines. The concerns raised during these meetings included:

- Modalities for land acquisition, compensation including values of property and resettlement
- Project time frame and advance notices especially to the PAPs with majority desiring to know when it will start because they see an opportunity to gain financially due to the current harsh economic situations while others want to prepare for the project consequences
- Need for adequate awareness creation and social engineering before and during project construction
- Employment of the local youth and therefore no need for “Importation” of unskilled and semi-skilled labour
- Putting appropriate signs “Danger” on each electric installation for information to residents
- Design route of the project to follow, as much as possible, uninhabited areas to ensure minimal disturbance, relocation, costs and electricity related accidents
- How communities will benefit other than power and if one can tap power directly from the line
- That an independent compensation committee to spearhead the grievance and verification exercise for each community should be formed.
- The security the PAPs will have over the new property that they will move to as some influential people may claim the property and fence it off
- Actions to be taken if the transmission line crosses public facilities such as schools,
- Why organised groups who applied for connection have not been provided with electricity and ways this project can consider reducing the cost of bringing power to such groups of people.
- The dangers of having the power line pass near home or on your land and compensations if injured during neo be communicated
• What happens to the existing generator (Kengen) at Garissa as it has polluted the area; there is carbon sedimentation on the nearby building
• Need to put measures put in place to control flooding as a result of water released from Kindaruma dam
• The project effects on the environment and alternative power planned for provision before the proposed transmission line is completed
• Public involvement in acquisition and resettlement process was emphasized
• The general concern of delayed compensation highlighted
• Undervaluing of the structures, land and crops which was seen to be one of the recipes for grievances during implementation of the project was discussed
• The PAP cautioned government against inadequate notices for quitting before project commencement. They recommended to be given 6-12 months notice
• PAPs gave their views on the preferred mode of compensation (cash/property) and insisted that they would prefer to settle within their vicinity

6.2 INCOME RESTORATION

The RAP team’s visits, observations and discussions with various stakeholders revealed variances in the main economic activities which form the basis for residents’ livelihoods and income generation sources. In Yatta, Mwingi and Kyuso district, the main primary economic activity is crop growing while livestock keeping, trade, employment and fishing are secondary. In Tana River district, pastoralism is the predominant economic activity followed by trade and employment while crop and fishing is insignificant and only conducted along River Tana.

Each of these livelihoods and economic activities will be affected as a result of implementation of the proposed project both during and after relocation when the PAPs incomes may be substantially reduced.

The RAP must enhance restoration of the residents’ economic and income bases, mostly by promoting diversification and adoption of alternative economic activities. To realize this objective, there is need for the proposed project to incorporate other activities beyond normal compensation. These activities proposed to ensure minimal shock as well as fast recovery of losses and eventual realization of stability of incomes and livelihoods can be summarized as follows:

• Allocate the necessary amount of land
• Improve the land where PAPs are resettled including carrying out soil improvement, providing irrigation facilities and popularizing improved farming methods
• Provide adequate integrated social facilities and infrastructures notably schools, water points and health facilities
• Allocate the appropriate amount of land; it is important that the per capita farmland holding is either higher or equivalent to vacated portions of land in both size and productivity levels.
• Improvement of the PAPs host land: The Resettlement Receiving Areas should be improved in line with peasantry economic modes of farming production so as to facilitate the settlers, who are mainly peasant, to adopt themselves to their new environment within the shortest time possible. Further, the land improvement should ensure that the per unit production in the receiving land is higher or equivalent to that before resettlement. This will ensure that the resettlers’ production and standard is higher or equivalent to the original pre-resettlement level within the shortest time possible.

Ensuring that the settlers resume production and land is transformed will include the following key activities:

• Identification and discussions on the host sites coupled with initial visit by the PAPs on the earmarked resettlement site by household representatives
• Signing of agreements and allocation of land by the government before resettlement. Thus the process of land allocation should be completed before relocation.
• Construction of the Resettlement sites and their related public and infrastructure facilities as well as provision and/or strengthening of social facilities
• Introduction of the PAPs to the characteristics and appropriate production as well as profitable economic activities in the host sites
• Before resettlement, social adjustment is a priority for both the host community and Resettlers as a result of the anticipated psychological constraints that come with changes.
• Resettle the homestead, not a household, as a unit to one site to ensure continued social support
• As much as possible, where a PAP has his portion of land remaining, he should be allowed to move his homestead there rather than relocating to “foreign” land. If the relocation takes place, the resettlers should be taken to the nearest possible land within their original homes
• Resettlement sites should as much as possible have the same characteristics as the former sites.
• Vulnerable Groups including the poor, sick, orphaned and vulnerable children need to be given priority in employment opportunities arising from the project. Further during construction, there is need to identify appropriate micro-programs that could be provided under the Project such as revolving fund financial incentives and assistance for housing construction among others.
• Public information and awareness creation to enlighten the residents on the importance as well as the need for attitudinal change towards the projects impacts. During the rapid interaction, residents raised fears over impacts of the transmission line such as ‘silent’ electrocution during sleep. Campaigns on the true and false impacts as well as living side by side with the power lines should be entrenched as part of the project construction
7.0 PROJECT COMPONENTS REQUIRING LAND ACQUISITION AND RESETTLEMENT

The project components that would require land acquisition and resettlement under this consideration include the transmission line whose width is 30 meters and a length of 224 Kilometers.

7.1 KINDARUMA – MWINGI 132 KV LINE LENGTH 32 KM

This section of the proposed transmission line starts at Kindaruma Electricity Power Station (B1-0) in Kyondoni Sub-location (Masinga district), crosses the seasonally dry Kithyoko River near B1-3 before entering Thaana sub-location. The line then crosses the seasonally dry Nzuli River into Kairugu sub-location proceeds to Kiomo sub-location. From Kindaruma to 2Km after crossing Nzuli River, except in few areas, the transmission line pass through a wilderness of thick shrub bushes and cleared well terraced farms.

However, within Kairugu and Kiomo sub-locations, the line follows the main road further via Malembo, Kwamasi and Kwakwanya, and further across a saddle point at the southern end of the Kiomo ridge, from where it turns west for the last 2 km up to Mwingi.

The section consists of rural villages which rely on subsistence farming. The average household size is 6 with sub-location population density per km² ranging from 28 in Kairugu, Thaana 35, Kyondoni 42 and Kiomo (neighbouring Mwingi town) 85.

7.2 132 KV-LINE MWINGI - GARISSA, 192 KM.

This section of the proposed transmission line starts at EW1 a few meters to the North East of Tyaa river bridge. At EW2 the line turns due east towards EW3 6.7 km away and crosses Mwingi-Tseikuru C93 road at Mwingi Cottage Hotel. From this point, the line follows road tracks for over seven kilometers before following the Mwingi-Garissa road alignment to Madogo in Tana River district.

This section portrays three settlement patterns:

- The urban sites including Mwingi town and Mutyangombe, Nguni, Ngiluni, Ukasi, Bangale and Madogo markets
- The permanently settled areas between Mwingi and Ukasi
- The uninhabited areas from Ukasi to Madogo
7.3 HISTORICAL AND CULTURAL SITES

In the project corridor, no community cultural value sites were identified. However, at individual level, the residents indicated to have strong and emotional attachments to land because of social and cultural reasons.

These strong and emotional attachments emanate from the following key factors:

- The strong socio-cultural and organisational structures among families is based on clans (e.g. Kanyaa, Kitondo, Muini, Muoini, Mutei, Mutwa and Muusini among the Kamba) which is further strengthened by membership in various self help groups (Aanzauni Ndini Union; Kenya Finance Women Group and Kathonzeni/Kaunge among others)
- Where land was inherited and considered as “ancestral land” as some believed that leaving the land might have negative repercussions on their families emanating from those who handed down the land to them
- Graves - whereby some members were not comfortable to relocate away from their departed ones for whom, in most cases, they have built good structures and affixed crosses at the top end of the graves. This was voiced more strongly in Mwingi district especially where a recent burial took place.
- The fear of relocating from “the known to the unknown” new sites and the trauma that would accompany such shifts especially for construction of new structures and clearance of farms

As such, the resettlement action plan focused on two key issues:

- Mitigation measures that would reduce resettlement as well as ensuring that relevant issues arising from the project implementation are addressed
- Strategies to enhance participation of all stakeholders with special attention to those who may lose land, social linkages, property and livelihood so as to actively involve them in sharing their views and concerns on the foreseen negative social impacts of the project as well as suggesting solutions to the identified negative impacts amicably before, during and after construction of the project

7.4 VALUATION METHODOLOGY

Valuation was conducted in line with Principle 8 of the International Resettlement Standards which states that “Resettlement must be seen as an upfront project cost”.

Valuation can simply be defined as the art or science of establishing the value (worth) of a particular interest in property for a specific purpose and at a particular moment in time; taking into considerations all the features of the property and also considering all the underlying factors of the market.

All valuation techniques rely on the collection and analysis of data such as social, Economic, Government and Environmental attributes. Specific data include local market
conditions and details of property transactions such as location, physical and functional form and legal characteristics. The value of the property is affected by the rights of enjoyment or compensation when such benefit may be alienated.

In Kenya, compensation value requires that the value paid to include all the other miscellaneous expenses as well as the injurious affection due to the disturbance to them. Thus in such circumstances, the value paid is higher than normal market. Thus the factors that affect the value are those that affect the rights on land, thus location, legal rights and permitted use.

Basically there are five methods of valuation namely:

- **Comparison Method**: while it is true that no two properties can be the same, this method compares like properties. It is the most reliable and requires an active market while adjustments are made to fit specific properties. The limitation faced by this method is lack of data and sometimes misleading data. Comparables may be biased where the seller may sell more or less depending on the needs at the time. Elsewhere the data given may not be correct because of personal secrecy. Thus in long learn, valuers have been able to come up with values per square foot/meter that can be used in various regions and give a reasonable value. Adjustments are made depending on various factors.

- **Investment Method**: on the other hand is based on the expected future returns and its applicable where active investment market is available. Just like comparison method, investment method is limited due to lack of varied data.

- **Cost approach method**: this is where the property value is assessed based on the cost of buying the site and constructing the building. It is based on the reproduction/replacement value.

- **Profit method**: this method is used in absence of sufficient rental or sales evidence and where the hypothetical purchaser would base his/her offer of profit from the business conducted from the property.

- **Residual method**: this is applied to property with development potential either undeveloped or partially developed.

The above methods together with the above factors lead to the value of the property. It is important to note that the above methods can apply to the same property if the data was available.

They however give varied values; experience and the knowledge of the existing property market are necessities for any property valuer to come up with appropriate value and not just the quantification and method of calculation.

For Kindaruma - Mwingi- Garissa transmission line transmission line, the five methods were applied to come up with the estimate of the Resettlement value.

7.4.1 **Basis for Valuation**
7.4.1.1 Way leave

The value of interest in land can be affected by a Wayleave in a number of ways:

- The depreciation on the value of land due to the way leave
- Damage due to the construction operation or the laying of pipes/ cables must entails disturbance of the surface of the soil together will the crops growing thereon
- Injurious affection and disturbance to adjoining land above or below the way leave but to adjoining land.

The amount of award for compensation depends on:

- Length of the way leave
- Width of the way leave
- Depth of the pipe/cable

7.5 COSTS AND BUDGETS

7.5.1 Land Acquisition Estimates

Under this Resettlement Action Plan, it is estimated that the land to be acquired will be a corridor measuring 224Kms (224,000 meters) by 30 meters. That sums to 672 hectares (6,720,000 square meters) or 1,661 acres.

Considering the prevailing situations whereby land market along the corridor was not active, various valuation methods were applied and the value amounted to approximately Kshs.66m.

The value given is based on calculation of compensation figures based on reference to the diminution in the market value of the land. The effects of severance and injurious affection plus any disturbance element will be included once the affected structures become clear.

Table 13: Land Acquisition Estimates

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</tbody>
</table>

The following table details how the cost estimates indicated above were arrived at, by providing an overview of the specific items affected.

Table 14: Entitlement Matrix *(to be completed with the Final Draft)*
### 7.5.1.1 Summary

As discussed above, the costs of land, crops and structures is estimated to be 66 M. The figure given does not include the issues of injurious affection and disturbance which will be included once the specific structures affected are identified. The cost of relocation and development of other facilities was not included because the timeframe and type of facilities to be provided were not indicated. It will therefore be necessary to implement the RAP based on the prevailing situation at the time of the start of the project to ascertain the exact cost including that of different types of facilities to be required/provided at that particular moment of time.

<table>
<thead>
<tr>
<th>Name Of Household Head/Owner</th>
<th>Structures</th>
<th>Type</th>
<th>Estimated Value</th>
<th>Type Of Crops</th>
<th>Type Of Land Tenure</th>
</tr>
</thead>
</table>
8.0 RAP IMPLEMENTATION

8.1 GENERAL

This RAP aimed at assessing the potential positive and negative social impacts of the proposed 224km 132 kV single circuit line from Kindaruma to Garissa as per the designed alignment vis-à-vis alternative realignment that could in effect minimize the resettlement and resultant impacts.

In this case, the Resettlement Action Plan (RAP) considered alternative options, in terms of their potential environmental impacts, capital and recurrent costs, suitability under local conditions, acceptability by neighbouring land users, among other pertinent factors; that enhance the project design thereby reducing the anticipated impacts. As such the RAP dwelt on options regarding alignment, routing, construction methods and materials used among other factors while retaining the basic project concept constant.

The key impacts addressed in this RAP include various social issues related to land acquisition including loss or disturbance of economic activities and livelihoods as well as land acquisition and resettlement resulting from project implementation.

8.1.1 Minimising Resettlement

Preliminary assessment of the transmission line revealed that approximately 31 no dwelling structures, 7 no business structures, and 1 no social site, were to be relocated to pave way for the project.

The Feasibility Study, Environmental and Social Impact Assessment Study, and the RAP have since established that the line follows relatively best alternative given prevailing ground conditions. However, to avoid or minimize relocation and therefore resettlement and disturbance, rerouting sections of the transmission line has been suggested for some of the sections of the line route. The affected sections are tabulated here below:

<table>
<thead>
<tr>
<th>Table 15: Sections for rerouting of the transmission line and justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original routing Section</td>
</tr>
<tr>
<td>--------------------------</td>
</tr>
<tr>
<td>80 meters from the road at Kairungu market -</td>
</tr>
<tr>
<td>Between B1-7 and EW1, the line crosses Nairobi- Mwingi route twice</td>
</tr>
<tr>
<td>From Mwingi-Tseikuru road crossing for app. 1 km East along a cattle track</td>
</tr>
</tbody>
</table>
Overall, the results of these efforts will significantly reduce disturbance and resettlements and therefore lower the costs for the proposed project. Other results include:

- More people will be positive about the project.
- Resettlement will be reduced by over 12% and social integration maintained.
- Residents’ livelihoods, especially in high potential pocket areas will be left undisturbed.

Further efforts will be necessary to ensure minimal resettlement during project implementation including:

- Location of camps with preference for hire of existing rental houses which also may boost the economy of the area. This should go hand in hand with hiring of local residents who would reside in their homes.
- Roads for earth moving equipments should be along the earmarked transmission lines and/or existing tracks to limit disturbances and destruction of the environment.

**8.2 INSTITUTIONAL ARRANGEMENTS FOR IMPLEMENTATION OF THE RAP**

The earmarked project is owned by the Government of Kenya through the Electricity Transmission Company of Kenya (KETRACO) and will be operated and maintained by The Kenya Power and Lighting Company. As the project involves land acquisition, resettlement and hence a need to compensate affected people for the loss of their land and improvements to the land at a set rate.

In terms of compensation and resettlement, the overall responsibility, lies with the project sponsor, the Government of Kenya. The Ministry of Lands, Housing and Urban
Development, notably the Chief Government Valuer, is a key player whose responsibilities will be guiding the valuation and ascertaining the compensation rates. The Commissioner for lands in collaboration with the District Land Boards, and Land Tribunal will closely participate in the RAP process and ensure timely execution of the whole process.

The socio-economic characteristics of all project affected persons (PAPs), valuation of assets to be compensated and preparation of an updated complete list at the time the project sets on falls with the government of Kenya.

Land will be acquired permanently and compensation will be made to each of the land owners who are within 30 meters corridor. For those beyond the 30 meters corridor strip of land, but within 20 meters on either side of the 30 meter strip, the Project Affected Persons (PAPs) will be paid a disturbance allowance. The disturbance allowance is to compensate for the time the owners will not use the land which is approximately one year, during construction when the contractor will require a 60 meter corridor.

The 30 meter strip will be acquired permanently while the 20 meters on either side reverts to the community for cultivation of short annual crops but with restriction to exclude trees and houses. The PAPs will also be compensated for perennial crops and trees they have cultivated on the land using government rates of compensation.

Considering the compensation required, the RAP suggests two levels of resettlement institutions:

- The Central Resettlement Committee (CRC) at Mwingi town from where all activities will be contacted. This is because over 80% of the compensation and resettlement will be done within Mwingi/Masinga districts as opposed to Tana River district where land is trust under the County Council.
- Local Area Resettlement Committees (LARC) with each having a distinct resettlement committee. The aim is to enhance accessibility and local understanding of issues. In total, there will be five LARCs including:
  - Kyusiani centre to cover Thaana and Kyodoni sub-locations
  - Kiomo centre to cover Kairungu and Kiomo sub-locations
  - Mwingi town to cover Kyanika, Kivou, Enziu, Kathoka, Kathoka and Katitika sub-locations
  - Nguni centre to cover Mbuvu, Mathyakani, Mwasuma, Ukasi and Ikime sub-locations
  - Madogo town to cover Bangale and Madogo sub-locations

The outlook of the proposed RAP institutional arrangement is presented in Figure 4 below:
8.2.1 RAP Implementation Team

The following is the composition of key players that are recommended for the formation of the RAP Implementation Committee/Team:

*(the list will be provided in the Final Draft)*

8.3 IMPLEMENTATION SCHEDULE

8.3.1 Timeframe

The project implementation timeframe is not definite as the start date was not indicated in the TOR. However, all the residents in the corridor including PAPs were eager to be given clear timeframe as well as be furnished with the duration (months) they will be served with notices to relocate.

The RAP anticipates that the project implementation schedule will consist of three phases namely preparation, implementation and post implementation. It mainly will include works such as clearing access roads, erecting posts and connecting transmission lines. The resettlement schedule for land acquisition, house demolition and relocation will be coordinated with KPLC.
The construction schedule and key activities anticipated prior to, during and after are outlined in the following table:

### Table 16: Construction schedule and key activities

<table>
<thead>
<tr>
<th>Activities</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investigations on the prevailing socio-economic conditions, undertaking a Detailed final RAP, drawing a resettlement schedule and finalization of investment costs</td>
<td>First 4 months</td>
</tr>
<tr>
<td>Constituting and operationalisation of all Resettlement administrative agencies including training of resettlement staff and purchasing equipment and vehicles</td>
<td>Month 5</td>
</tr>
<tr>
<td>Awareness campaigns</td>
<td>Continuous</td>
</tr>
<tr>
<td>Identification and agreement, with PAPs, on the resettlement sites</td>
<td>Month 5-9</td>
</tr>
<tr>
<td>Land allocation, construction of houses and public facilities</td>
<td>Month 13</td>
</tr>
<tr>
<td>Survey of the transmission line</td>
<td>Month 5-8</td>
</tr>
<tr>
<td>Development of complementary infrastructures</td>
<td>Month 12-15</td>
</tr>
<tr>
<td>Construction of the transmission line</td>
<td>Month 15 onwards</td>
</tr>
<tr>
<td>Post-construction period (e.g. monitoring of PAPs progress and functioning of the facility among others)</td>
<td>Within the lifespan of the project</td>
</tr>
</tbody>
</table>

### 8.4 GRIEVANCES REDRESS MECHANISMS

During these meetings, the PAPs raised the following concerns:

- Undervaluation of structures, land and crops as well as complete neglect to value natural trees used for bee keeping. This is one of the recipes for grievances during implementation of the project
- Fear for delay in compensation
- Inadequate notices for quitting before project commencement
- “Importation” of unskilled and semi-skilled labour

Grievance redress mechanisms are essential tools for allowing affected people to voice concerns about the resettlement and compensation process as they arise and, if necessary, for corrective action to be taken timely. Such mechanisms are fundamental to achieving transparency in the acquisition and resettlement processes.

Land acquisition, resettlement as well as disturbance of livelihoods and compensation for each of these are the main area of focus for the RAP. This necessitates the setting up of an independent compensation committee to address the grievance and verification
exercise for the discontented members. This committee is grassrooted at respective local area and will comprise of representatives of the project affected persons, provincial administration, local government and opinion leaders in the village.

Deliberations and suggestions reached at this level will then be sent to the Local Area Resettlement Committee and if not fully settled forwarded to the Central Resettlement Committee.

During the consultative meetings, the main areas that were identified to raise disagreements included: values for land, building and plants. In the event there is dissatisfaction to a PAP, the following step-by-step process for registering and addressing grievances is suggested. Disputes will be referred to CRC thorough the provincial administration. The grievance will be investigated by the CRC and if not settled referred to the National Environmental Tribunal or Public Complaints Committee or the Commissioner of Lands/agriculture as may be appropriate. In this process, the grievances will be handled within the institutional provisions as presented below:

**Figure 5: Grievance Redress Procedure**

- Affected party declares a grievance and forwards it to CRC
- CRC hears grievance and rules. CRC has 3 weeks from submission to respond
  - Grievance resolved → No Further action
- Commissioner of land, Tribunal, Court, etc
  - Grievance resolved → No Further action
- Legal Action

*Source: Field discussions*
9.0 MONITORING AND EVALUATION

9.1 GENERAL CONSIDERATIONS

The Government of Kenya is responsible for the compensation payment through the Central Resettlement Committee, which will be responsible for resettlement. Since the Government is the owner of the project through the ETB, it will assume responsibility for providing the funding for monitoring to ensure that resettlement is properly implemented as stated in the World Bank OP 4.12 and in line with guidelines provided in this RAP and any of its updates modified before the project starts. Further, it will ensure that grievances are promptly addressed.

The vulnerable groups will be handled with care during the compensation exercise in order to ensure that their livelihoods are not worsened further. Monitoring will take place at two levels.

9.1.1 Internal Monitoring

Internal monitoring is conducted by a suitably qualified person within ETB/CRC. An independent compensation committee to spearhead the grievance and verification exercise for each local area should be formed. Further, the community level administration will also conduct their own monitoring and/or in collaboration with ETB/CRC.

9.1.2 External Monitoring

External monitoring will be conducted through a contracted independent body. The external Monitoring Team should visit the project area at least thrice per year. The monitoring team should ensure that:

- Replacement housing for those who have had to move is of an adequate standard.
- Monies paid to households who have lost crops and other forms of livelihood production have received fair compensation
- Where land has been permanently acquired for the transmission line, households affected have been afforded suitable land replacement.

The Monitoring Team must write its reports before the end of each visit and submit them to the Project Manager and CRC. This team will be funded under the Resettlement Budget.

The Monitoring Team’s report will be structured according to accepted variables as set out in the following Table.
### Table 17: Monitoring Indicators

<table>
<thead>
<tr>
<th>Subject</th>
<th>Indicator</th>
<th>Variable</th>
<th></th>
</tr>
</thead>
</table>
| Land | Acquisition of land | - Area of cultivation land acquired for the transmission line  
- Area of communal/government/private land acquired for transmission line developments |   |
| Buildings/Structures | Acquisition of buildings | - Number, type and size of private buildings acquired  
- Number, type and size of community buildings acquired  
- Number, type and size of government buildings acquired |   |
|  | Acquisition of other structures | - Number, type and size of other private structures acquired  
- Number, type and size of other community structures acquired |   |
| Trees and Crops | Acquisition of trees | - Number and type of private trees acquired |   |
|  | Destruction of crops | - Crops destroyed by area, type and ownership |   |
| Compensation, Re-establishment and Rehabilitation | Compensation and re-establishment of affected owners/individuals | - Number of homesteads affected (buildings, land, trees, crops)  
- Number of owners compensated by type of loss  
- Amount compensated by type and owner  
- Number of replacement houses constructed  
- Size, construction, durability and environmental suitability of replacement houses  
- Possession of latrines  
- Water supply access  
- Number of replacement businesses constructed |   |
|  | Re-establishment of community resources | - Number of community buildings replaced  
- Number, type of plants lost  
- Number of seedlings supplied by type  
- Number of trees planted |   |
| Hazards and Disturbances | Introduction of nuisance factors | - Number of homesteads affected by hazards and disturbances from construction (noise levels, blasting, increased traffic levels) |   |
| Social/Demographic | Changes to homestead structure | - Homestead size (births, deaths, migration in and out)  
- Age distribution  
- Gender distribution  
- Marital status  
- Relationship to homestead head  
- Status of “vulnerable” homesteads |   |
|  | Population migration | - Residential status of homestead members  
- Movement in and out of the homestead (place and residence of homestead members) |   |
|  | Changes to access | - Distance/travel time to nearest school, health centre, church, shop, village |   |
|  | Changes to health status | - Nutritional status of resettled homestead members  
- Number of people with disease, by type (STDs, diarrhoea, malaria, ARI, immunizable disease)  
- Mortality rates  
- Access to health care services (distance to nearest facility, cost of services, quality of services)  
- Utilization of health care services  
- Disease prevention strategies  
- Extent of educational programmes  
- Latrine provision at schools (school child population per VIP on site) |   |
|  | Changes to educational status | - Literacy and educational attainment of homestead members  
- School attendance rates (age, gender)  
- Number, type of educational establishments |   |
<table>
<thead>
<tr>
<th>Subject</th>
<th>Indicator</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changes to status of women</td>
<td>- Participation in training programmes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Use of credit facilities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Landholding status</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Participation in the project-related activities and enterprises</td>
<td></td>
</tr>
<tr>
<td>Homestead earning capacity</td>
<td>- Ownership of capital assets</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Ownership of equipment and machinery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Landholding size, area cultivated and production volume/value, by crop (cash and subsistence crops)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Landholding status (tenure)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Redistribution of cultivation land</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Changes to livestock ownership: pre- and post disturbance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Value of livestock sales, and imputed value of barter transactions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Consumption of own livestock production</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Employment status of economically active members</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Skills of homestead members</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Earnings/income by source, separating compensation payments</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Changes to income-earning activities (agriculture) – pre- and post disturbance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Changes to income-earning activities (off-farm) – pre- and post disturbance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Amount and balance of income and expenditure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Possession of consumer durables</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Realisation of homestead income restoration plans (components implemented, net income achieved)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Possession of bank and savings accounts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Access to income-generating natural resource base (wood, grass, sand, stones)</td>
<td></td>
</tr>
<tr>
<td>Changes in social organisation</td>
<td>- Organisational membership of homestead members</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Leadership positions held by homestead members</td>
<td></td>
</tr>
<tr>
<td>Population influx</td>
<td>- Growth in number and size of settlements, formal and informal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Growth in market areas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Influx of people from outside the project area</td>
<td></td>
</tr>
<tr>
<td>Consultation</td>
<td>Consultation programme operation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Number of local committees established</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Number and dates of local committee meetings</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Type of issues raised at local committees meetings</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Involvement of local committees and NGOs in participating in the project's planning and development</td>
<td></td>
</tr>
<tr>
<td>Information dissemination</td>
<td>- Number, position, staffing of Information Centres</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Staffing, equipment, documentation of Information Centres</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Activities of Information Centres</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Number of people accessing Information Centres</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Information requests, issues raised at Information Centres</td>
<td></td>
</tr>
<tr>
<td>Grievances resolved</td>
<td>- Number of grievances registered, by type</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Number of grievances resolved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Number of cases referred to court</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>Operation of training programme</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Number of local committee members trained</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Number of affected population trained in Project-related training courses</td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td>Staffing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Number of implementing agencies by function</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Number of GoK ministry officials available by function</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Number of office and field equipment, by type</td>
<td></td>
</tr>
<tr>
<td>Subject</td>
<td>Indicator</td>
<td>Variable</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>--------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Procedures in operation</td>
<td></td>
<td>- Census and asset verification/quantification procedures in place</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Effectiveness of compensation delivery system</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Number of land transfers effected</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Co-ordination between local community structures, NGOs and GoK officials</td>
</tr>
</tbody>
</table>

**Norken International Limited**

Engineering and Management Consultants

November 2009
REFERENCES

2. Frederic Giovannetti; Bujagali Interconnection Project Resettlement and Community Development Action Plan, December 2006
3. Greg Huggins; Tiomin – Kwale Resettlement Plan, 2005
8. The World Bank; Involuntary Resettlement Sourcebook, Planning and Implementation in Development Projects, 2004
ANNEX 1: HOUSEHOLD INTERVIEW CHECKLIST

Introduction
The Government of Kenya, through Kenya Power and Lightning Company (KP&LCo./the Kenya Electricity Transmission Company (TETRACO) conducting a study with a view to construct the Kindaruma-Mwingi-Garissa power transmission line. In this view, a resettlement Action Plan is being conducted to determine the residents’ preferences and estimate costs for the relocation/compensation of persons who will be affected.

You are therefore requested to provide the following information to assist the decisions to be made on this project by filling the following information:

Identification information required from the Project Affected Persons of (PAPs)
Please fill the following information correctly
1. Your full names
2. Name of your village
3. Name of your Sub-Location
4. Name of your Location
5. What is your Tribe and clan (Mbari)
6. What is your religion?
7. List the names of each of your members who have build a house as follows:

<table>
<thead>
<tr>
<th>Name of house owner</th>
<th>Sex</th>
<th>Ages (years)</th>
<th>Have you build own house</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Name of the wife/husband</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Names, sex and age of each of the household off springs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2.</td>
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<td>3.</td>
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<td>4.</td>
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<td>5.</td>
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<td>6.</td>
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<td>7.</td>
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<td>8.</td>
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<td>9.</td>
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<td>10.</td>
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<td>11.</td>
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<td>12.</td>
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<td>13.</td>
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<td>14.</td>
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<td>15.</td>
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<tr>
<td>16.</td>
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<td></td>
</tr>
<tr>
<td>17.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. How do you earn your income (livelihood)

9. How many of each type of animal do you own?

<table>
<thead>
<tr>
<th>Animal</th>
<th>Number owned</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Farm Animals

<table>
<thead>
<tr>
<th>Animal</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td></td>
</tr>
<tr>
<td>Goats</td>
<td></td>
</tr>
<tr>
<td>Sheep</td>
<td></td>
</tr>
<tr>
<td>Donkey</td>
<td></td>
</tr>
<tr>
<td>Chicken</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
</tr>
</tbody>
</table>

10. **What crops do you grow and how much of it do you harvest in a season**

<table>
<thead>
<tr>
<th>Type of crop</th>
<th>Amount (bags)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. **Land ownership**

   a. Type of ownership
   b. Date of occupation
   c. Crops/structures
   d. Preferred site for relocation
   e. How much (kshs) would you sell an acre of your land

12. **Name the local community group where you’re a member**

13. **If your land was to be acquired/taken from you:**

   i. What mode of compensation would you want (please tick)
      
      a. Cash _____
      b. Another similar property _____
      c. Both _____

   ii. What other support would you want to be given
      
      a.
      b. _________________________________
      c. _________________________________

14. **Give other comments of your choice**

15. **Identification Card Number** Signature Date

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**Thanks and be blessed**
Annex 2: MINUTES FOR STAKEHOLDERS MEETINGS

A. THAANA NZAU MARKET

Venue: Thaana Nzau Market – Thaana Location (Mgwani Division – Mwingi District)
Date: 14/10/09
Time: 4 – 6 Pm

This meeting was chaired by the Chief, Thaana location. It was attended by the area Assistant Chief and a host of community members from the three sub-locations of Kyondoni (Masinga district), Thaana and Kairungu (Kiomo location). The proceedings of this meeting were as follows:

1. A pastor opened the meeting with a word of prayer
2. The area chief introduced the consultant team, the people of the local community and where they have come from as well as the village elders.

The proceedings were opened by the Chief who welcomed all the participants and reminded the audience about the importance of educating children under the free primary education. The Assistant Engineer invited the Chief to address the meeting.

3. The consultants, one by one, were introduced to the public by Julius Ngundo (sociologist) following which he:
   - Explained to the people the intention of holding the CPP in the area as to: ensure the residents are informed about the project, allow residents an opportunity to give their views concerning the project as well as positive and negative impacts that they anticipate from the project implementation.
   - Gave a brief on the Environmental Co-ordination Act (1999) NEMA, and need for undertaking the ESIA process.
   - Introduced the proposed Kindarum-Mwingi-Garissa power transmission line including the line of the consultant’s team, the project proposed by KPLC,
   - Gave examples of some of the foreseen project potential impacts (both positive and negative)

Following this presentation, the sociologist invited the area chief to chair and facilitate the public meeting to air their views including clarification, ask questions and making comments.

4. Issues raised during this meeting followed a question (Q) answer (A) process and were as follows:
   4.1 Boniface Muiu - clarification regarding the requirement of x40 width corridor
      Ali Yarrow (KPLC) - explained that 132 KV power line needs a clearance of about 15m on either side of the centre line.

   4.2 What amount/area of land will the transmission/towers need?
      Yarrow: the explained that it will require 3mx3m for the foundation. Each being 10 feet apart.

   4.3 What depth will the towers go below the ground level?
      Ali Yarrow: -2m depending on the soil type.

   4.4 Boniface: what other benefit other than power will the people get from this project? As a community, water is the most important resource, how can the community benefit?
      Julius: KPLC has CSR. They consider ways of benefitting the community by bringing power. Other ways of involving the community will be explained by KPLC.
      Yarrow explained that when KPLC is operating in the area, they can be approached to assist in community projects in collaboration/association with members of the community (e.g. building schools, clinics, water projects, etc) points which were further emphasised by the chief. He explained that the foreseen benefits will include
      i. Improved national grid network.
      ii. Stability of power in Mwingi will improve and hence fewer chances of power outages.
iii. People in Mwingi will benefit indirectly from power availability through increase in industrial/economic activities in the town thereby enhancing its growth and development.

4.5 At the time of bush clearing and surveying for the transmission line, will there be compensation? Mr Muriithi (consultant valuer) explained that there are compensation laws and regulations that must be followed to control the amount of money given as compensation - The land acquisition Act. However, compulsory acquisition is done (e.g. when people have built on a road/road reserve). However, the way leave Act will be used in the case of the transmission line. This act states that the owner of land is compensated for loss of land/land use in the appropriate way. Compensation also includes structures, trees and crops affected by the acquisition. No one should be afraid because the law will be followed and prices of properties acquired will be determined by the government, using the Regulations of this Act.

4.6 The chief further explained the issue of compensations using local (Kikamba) language. He also identified three volunteers to whom he assigned to list down each of meeting attendant. He explained the self-commenting CPP form and how it should be filed and distributed the same to willing members.

4.7 If there should be a dispute between the land owner and the KPLC compensation process, what happens? Muriithi: there is a legal procedure to be followed. The land owners can say that the compensation amount is not sufficient but they must provide enough proof/evidence to support their allegations. The compensation Tribunal looks into such matters where there is conflict.

4.8 Chrispinos Kauma: will the payment to the landlord be done before the transmission line is built or afterwards? Muriithi: the surveyor will have to first have determined what amount of land will be affected and the valuer has to have first determined the value of the affected property.

4.9 Jonathan Ngutu: if someone has only 1 acre, someone else has 10 acre, if both of these people have a tower(s) on their property, will they receive different compensation? Further, if a person has only 1 acre with a tower on it, will they need to move away because the remaining useable land will end up being too small? Muriithi: the value of the compensation will depend on the number of towers (each=3mx3m) that will be erected on their land.

4.10 Where a structure is affected, e.g. a house and the owner has to move, is it the owner or KPLC who will build a new replacement house? If found necessary for a transmission line to go over a house, the owner will only be given money for building, the owner must take care of the re-building himself.

4.11 Mwinzi: will title deeds be asked for where the compensation is taking place? Muriithi – it is accepted that some properties do not have titles. In such cases, the Adjudication Act is used to determine ownership of land so that the right person is compensated. Where there is a land dispute between people, the compensation money is not released until such a case is resolved in a court of law.

4.12 What about cases where the land has been leased? Chief- it will be paid to the land owner himself, not the tenant.

4.13 Jacob Musyoka: if the transmission line crosses a school, what will happen in as far as acquisition is concerned? Muriithi: the line will avoid, as much as possible, such areas such as schools, markets, densely populated areas. KPLC has a long history of installing transmission line and they usually avoid socially sensitive areas.
Julius explained that people who want to put down their comments in writing can do so using the forms provided and these will be annexed to the ESIA report that will be submitted to NEMA.

4.14 General: when is the project expected to start?
Ali Yarrow: the first stages of the study have been done (feasibility) the ESIA and RAP are now being undertaken to determine the potential impacts and the project acceptability. The next step after the ESIA report is accepted is to move to the survey phase of the project. After that the work of construction will be tendered publicly. The actual project construction may take approximately 2-3 years.

4.15 The Chief made comments regarding indigenous trees

4.16 How many meters from the line should people move?
Ali – safe clearance is 15m on either side of the transmission line. The Wayleave needed is 30m wide. But it is better to move further away in case of any accidents e.g. if a line falls down or something appears during maintenance.

Conclusions:
Julius closed the discussions with thanks for the attendance and a recap of some of the issues discussed earlier. The chief invited a member of the community to give a vote of thanks.

In his vote of thanks Boniface Mwilu, from Thaana sub-location explained they had hoped the line would serve them at their location but they understand it will be at Mwingi and they will be patient waiting for it to be brought even closer. They wish KPLC will bring Rural Electrification to Thaana.

The chief in his final words explained that if power was brought closer to the people, it would really boost farming (by irrigation) and facilitate growth and development in the area. The provincial administration and the local people are supportive of the project. It is a good project and was well appreciated.
B. CPP MEETING IN MWINGI
Date: 15/10/09
Venue: Relief Food Distribution site
Time: 3.45pm - 5.15pm

This meeting was chaired by the Chief, Thaana location. It was attended by the area Assistant Chief and a host of community members from the three sub-locations of Kyondoni (Masinga district), Thaana and Kairungu (Kiomo location). The proceedings of this meeting were as follows:

1. A pastor opened the meeting with a word of prayer followed by the area chief who introduced the consultant team, the people of the local community and areas they represented.

2. Julius introduced himself and the rest of the consultants team. He gave the people a brief description of the proposed KPLC project and the purpose of the public consultation process that:

   - Norken is in the organisation carrying out an ESIA study of the proposed Transmission Line. He then introduced each member of the team and their responsibility.
   - It is important to involve the local leaders, councillors, and others in the consultations. The people were told that they will have an opportunity to ask questions. They will also have an opportunity to fill in questionnaires if they wish to, so that they can give their comments regarding the project.
   - Using a skeleton/map of the proposed route of the Transmission Line, he clarified that those affected by the construction of the TL will be compensated for loss of the property/land use.
   - Some people may end up having transmission tower(s) erected on their land. In this case, an amount of land will be required.
   - During construction local people will get employment and other income generating activities. After the power line is operational, other benefits will include economic growth and development. Investors will be encouraged to come invest in Mwingi.
   - Further to clarify on the project, Ali (KPLC) explained the project to the community, giving them the purpose of the CPP meeting in developing the project proposed. He said that it is the people who can determine whether or not a project is acceptable to the community in general.

3. Following this presentation, the sociologist invited the area assistant chief to chair and facilitate the public meeting to air their views on the proposed project (both negative and positive).

4. Issues raised during this meeting followed a question (Q) answer (A) process and were as follows:

Q1. Jasper Mwinzi (Kyalika sub-location): the project is good. These may also be done negative impacts. Will the line pass the location and not directly benefit the community? (Will it pass over their land and not serve their homesteads directly?)
   A: Ali: the project is being done in phases. The first phase is ongoing. In future if it is stepped down in Mwingi, the first beneficiaries will be those living near town.

Q2. Muuonz Muynoki (Kalani sub-location). How can one apply to be a beneficiary of the electricity?
   A: Ali: there is an application process. There are different categories for different users.

Q3.a) Councillor Mvunga: There is Rural Electrification and national grid,
   A: Ali: explained that this is a project of KPLC which deals only with transmission. The work of construction is managed by either contractors.

Q3.b) The power that will be brought to Mwingi, will it be under the Rural electrification programme, MP, constituency, CDF, etc?
   A: Ali: the power project is being undertaken by KPLC. The current power in Mwingi has a capacity that connect some of the people – there is a KPLC office in Mwingi that one has to apply if you are within 600m of the existing transformers. The power project will improve stability in the area.
reduce power-outages. The project will provide an alternative route/power source to the existing line. It will boost local business and industries might begin to be put in Mwingi. It might take about 2-3 years before the project is complete, but people.

Q4. Councillor Colleta: currently we are using Kindaruma line. If you are further than 600m from the transformer you cannot be connected. The new line will be from Kindaruma to Mwingi. How will it benefit her and how much will it cost to connect?

A The line will pass near MCH, it will not pass near the road but rather through properties further in land. Within 600m, if you need power it is easy. If further than 600m, it must be put for a transformer and step down to be extended to you. People may combine effort and numbers to make a case for KPLC to install a transformer a step down for the line to be extended beyond 600m.

Q5. Joseph Mailu; There are existing groups which have applied for power to be brought closer but the quotations were too high. Is there a way this project can consider reducing the cost of bringing power to such groups of people.

A: Ali: The group may follow up on receiving assistance through the Rural Electrification Programme.

Q6. Is there a linkage between KPLC and the new company?

A: These are two different companies therefore their instructions/requirements may differ greatly. The groups (community) may approach all available options.

Q7. Where are you from?

A: The team is represented by KPLC and Norken Representatives and we are here to discuss the proposed KPLC TL project from Kindaruma-Mwingi-Garissa.

Q8. Martha: if the dealings on land ownership (sale of land) is incomplete, and the land is affected by the TL, who will be compensated?

A: Muriithi: There are several laws dealing with land ownership. The wayleaves Act and Land Registration Act will be used. The existing/registered owner will be considered for compensation. If there is an Agreement between the land owner and a buyer, they must agree between themselves, who will receive the compensation.

Q9. Joseph: If your land is small and you are affected by the TL, e.g. 5 acres will you be required to relocate from your land?

A: There is a wayleave of 15m on either side of the centre line – this is the land on which no one will be allowed to live under/ near.

Q10. What amount of land does a transmission their require?

A: Muriithi: the corridor needs 30m wide, the tower needs about 3x3m. This area of land will be determined and considered for compensation. The limitation is that one cannot build under the power line within 30m width.

Q11. Muunzi Munyoki: when the new TL passes Mwingi, the community should be given a chance to benefit by pulling the power closer to their settlements. Fari notice should be given for the people to prepare themselves to make an application. Will the people get fair notice?

A: Ali: Yes

Q12. Mary: if the land is very small and the TL corridor takes up a significant portion, the remaining land will not be economical. Will KPLC pay for the entire piece of land in this case?

A: Muriithi: there is a measurement done to determine the economical viability of the remaining land/use of land. All this is considered during the compensation process.
Q13. Mwende: when the TL pass on your land, what can you use the land for and what can you not use if for.

A: Once KPLC acquires land from you, ideally one is not supposed to carry out any activities on that acquire portion of land. One may plant crops but not trees that can grow tall and affect the line. One cannot build any structures below the line.

5 Conclusion
In conclusion, the meeting approved the propose project and councillor Colleta invited any final questions or comments.

Julius gave a final summary on the project and the CPP process. He then thanked them for their participation.

Councillor Muringo: gave a note of thanks. He also asked whether there will be site offices and if these will be left for the community on commissioning. Ali answered that contractors will be lured to construct, these contractors will identify their own site offices and own arrangements for their site offices.

Councillor Colleta: gave another vote of thanks. The people in the reserves have been suffering from lack of power. If the power line is extended to the reserves, they will be very grateful.

The meeting ended with prayers at 5.15pm.
C. CPP MEETING AT NGILUNI MARKET
Date: 16/10/2009
Venue: Ngiluni Market Centre
Attendance: Chief, Asst. Chiefs, community = 70 persons, Elders.
Time: 2.50pm – 4.45 pm

This meeting was chaired by the Chief, Mbuvu location. It was attended by the area Assistant Chief and a host of community members. The proceedings of this meeting were as follows:

1. A pastor opened the meeting with a word of prayer
2. The Chief greeted the people and gave a brief introduction on the purpose of the meeting and the visiting consultants before inviting the Asst. Chief to address the community. On his part, the assistant chief greeted and welcomed the participants for the meeting.

Further, he also welcomed the consultants and thanked everyone for attending. He explained that most people are in their farms planting but at least a good number of the people have managed to attend. There followed a discussion over when to share the seedling supplied under the assistance programme.

3. The area chief then welcomed Julius to facilitate the meeting

4. Julius greeted the community and thanked them for attending the meeting. He introduced the consultants and gave each an opportunity to introduce him/herself including their role in this project study.

Julius explained the project, the proposal route for the Transmission Line (TL), the objectives of the KPLC project and the objectives of the public consultation process. He also explained about the ESIA process.

Julius used a sketch map of the project route, showing the main towns which will be affected by the project. He explained that the TL might pass through some people's land and that some of the transmission towers may be installed on their property.

He explained some of the benefits of the project – such as growth of industries, investment in the area, employment, stability in power supply in the area, and other indirect benefits such as irrigation with electric power, lighting for schools, etc.

He talked about some of the negative impacts expected from the project e.g. danger to safety; HIV AIDS from construction workers – including social disruption & cultural erosion; loss of land/land use on the TL corridor. He explained that KPLC would compensate for loss of land in the affected areas, based on the existing regulations for land acquisition.

Following this presentation, the sociologist invited the area chief to chair and facilitate the public meeting to air their views including clarification, ask questions and making comments on the project and/or express their views regarding the project – both positive and negative.

5. Issues raised during this meeting followed a question (Q) answer (A) process and were as follows:

Q1. Muthoka (Kitula sub-location): is this a new line or is it similar to the one at Kangonde? What is the spacing between the towers?
   A. Ali: The new line is 132 KV, the spacing between the towers is approx 300m.

Q2. Philip Munyau: Can one be allowed to use the TL corridor where the TL is passing overhead? Will the acquired piece of land be fully owned by KPLC or will they only be leasing the land from owner?
   A. Muriithi: explained that land Acquisition Act and the way leaves Act to the people. The way leaves Act will apply for this project, the power line will pass over the land, however the portion of land...
acquired by KPLC will be owned by KPLC. Because of this, KPLC may regulate how this acquired land should be/not be used. The remaining portions of land will continue to belong to the original owner.

Q3. Matie: - is the acquisition through purchase or leasing?
A  Julius: - The land affected will be purchased not leased from the centre conductor and 15m on either side, totalling 30m wide corridor.

Q4. For employment opportunities, where can the local community members apply for job opportunities?
A  Julius: - people can approach the chief, who can liaise with the contractor to ensure that unskilled labour is obtained from the local area only.

Q5. Daniel Ngethe: concerning payment of acquired land, KPLC should ensure that only the legitimate land owner should receive payment and not the children/extended family.
A  Murithi: - where the land does not have titles, the compensation will be made to the head of the family or whoever the head decides the right person should be.

Q6. Benjamin: - what are the disadvantages of having the power line on your land.
A  Ali: - Power lines have a safety clearance, due to the high power voltage there must be a minimum distance for clearance. The towers are >15m high so as to enhance safety. Unless someone climbs the tower and nears the power line (minimum 1.2m) the line will be safe, otherwise it can cause burns.

Q7. Muema: When is the project likely to begin/end?
A  Ali: - the project is in its early stages, studies are being conducted. The line will cover about 200km and may take 3 years from 2010 before it is complete.
Ali also mentioned that it will be illegal for anyone to tamper with the towers or the TL.

Q8. Wambua: - if one of the casual labourers is injured during the construction, how will the casual be compensated?
A  Ali: - the Workmen’s Compensation Act requires contractors to insure … labourers. The insurance covers occupational hazards such as this.

Julius explained that there are some forms which the people can use to write down their comments if they wish to do so. He also requested them to put down their names and signatures on a form that is being circulated.

He thanked the people for their patience and for participating in the meeting. He asked them to talk to others not present about the project.

Comment from one of the members of the community: - all the casuals must be recruited from the local community.

4.15 Julius closed the discussion. Filling in forms was ongoing.

4.45 The Chief closed the meeting officially at 4.45pm as he gave a vote of thanks.
CPP MEETING AT GARISSA

Date: 17/10/09
Venue: Garissa County Council
Time: 9.50 am-12.10
Attended by Chief, Community leaders over 100 people.

9.50 Meeting began with prayer

9.54 Chief greeted the community and gave a brief introduction of the meeting agenda, the proposed project and the purpose of the CPP meeting as being part of the ESIA study.

9.57 Julius introduced the consultants team. He gave a brief explanation on the ESIA study that is being conducted for the proposed KPLC transmission line from Kindaruma – Mwingi-Garissa.

10.0 Ali gave a detailed description of the project in the local language.

10.04 Julius explained the consultation process and that in the case of Garissa, we are interested in providing information to the community about the project, secondly we are interested in knowing whether they are willing to accept the projects or not. Julius also explained different examples of benefits and also negative impacts that may arise from such a project.

10.11 Participants attendance list and CPP forms were circulated as questions/comments were given.

01 Ahmed Wahle: for a long time Garissa community has been asking to be connected to the national grid. If the line benefits Garissa, they will benefit greatly because currently they are having difficulty with power failure, environmental hazards, and health and safety issues – on account of the existing generator that serves the town. This generator has polluted the environment as evidenced by the black smoke/emission. This new line will change the Garissa community. The CSR for KPLC must be improved; they should also get involved in community projects in garissa e.g. school projects etc.

02 There has never been another meeting before about power. The process pay for power all the time but it is always about. There is no need for this power line. Those with permanent house structures do not even get enough power for their homes.

03 Ahmed: He is happy about the project. Garissa is a big town but there is not enough power and lighting. He therefore supports the project of bringing the grid to Garissa. The project is good. The TL should not cross over people’s homes, or near tall trees. Lines should be appropriately placed in the town for people’s safety.

04 District Environmental Committee member: if the project comes, it is likely to have some benefits as well as adverse impacts people need power indeed, however the generation of the power may result in environmental degradation. If the sub-station will be located in Madogo, there may not be any major negative impacts in Garissa.

05 We support this project but, the people need to also know what the safety issues will be. KPLC need to ensure that people are educated on the safety issues connected with this project. They should include all the safety measures or this TL so as to protect the community. There are many pastoralists, how will KPLC prevent e.g. children from climbing towers?

06 O. Mulai: - What compensation package is there? With the ongoing drought, what measures are there to ensure the power from Kindaruma is sustainable? Lastly, what jobs will be available for the people of Garissa as a result of this power line?

07 The existing generator (KPLC) has polluted the area; there is carbon sedimentation on the nearby buildings. People have complained but KPLC has not done anything. Other negative impacts include; - trees will be cut along the TL corridor. There will be social disruption due to migrant workers. There will be safety/health hazards due to the dangers of power liens including death.
08 Mohammed Bin Haji; - we support the project because in Garissa we do not have sufficient power. A full ESIA study must be carried out. Diseases are expected due to this TL, KPLC should know how to compensate. They want the sub station to be located outside the town in a place that is less populated.

09 K. Ismail: - I lost land in Kindaruma due to the KPLC project. KPLC must come to Garissa that must happen. However there may be adverse impacts like fatal accidents (live wires) e.g. a girl died last night, during the rains a pole fell down in a puddle of rain water and a little girl stepped the water and was electrocuted by the live wire.

Julius; - explained that the project will reach Madogo and Garissa will be the beneficiaries. As for employment, the contractor will employ people from the local communities affected. Since the sub station is in Madogo, mostly casual labour will be from that area. The people of Garissa will mainly benefit from the project as opposed to being adversely affected by it.

Ali; - explained on given concerning KPLC SR and Safety in the local language for the benefit of the people who are not fluent with Swahili or English.

Muriithi; - talked about the compensation process in general. Just for their information and better understanding.

10 There have been times when the government has sent people to talk to people about different problems; who is represented in this project for power? If this meeting cannot bear real results, them it is useless to discuss problems in such a forum. We will never get good results unless we get true nationalist who want good for the people.

11 Ali D; - what benefits can anyone speak of about KPLC? They have only brought difficulties. They have destroyed properly. We want lighting yes but the adverse impacts will be more.

12 There will be notice pollution, dense from live wires, there is nepotism in power distribution – influential people get power all the time while others are being rationed. The people want lower prices for power consumption. When the people have problems where can they go for help?

Ali explained that with the completion of the new TL, the old generator will be decommissioned, issues of noise and air pollution will cease. He also explained the process of making complaints to KPLC. On tariffs he explained why the prices are the way they are and that it is not possible to reduce consumption prices for Garissa alone.

13 For pastoralists, when the livestock is slaughtered, they suffer due to blackouts that result in spoilage of meat. Therefore the improvement.

14 Amina: - we only want power. It has been very unstable/unreliable either KPLC should provide stable power or they should move away from Garissa completely. They bill the people for power yet it is extremely unreliable.

15 KPLC will not benefit Garissa. They only bring difficulties. There has been poor relations between KPLC and the Garissa community.

16 We want the national grid to be brought to Garissa because the people have struggled for too long. KENGEN has been unable to maintain the generator.

17 How will such a project affect the environment?

Pauline explained about how a TL project may affect terrestrial habitats and bring about health and safety hazards.

18 Does Kindaruma have a measure for confronting flooding?

Muriithi – KENGEN are different from KPLC. Since there is no KENGEN representative that question could not be answered comprehensively.

12.0 Chief finalised the meeting by giving a summary of the discussion. He said that the national grid will improve life in Garissa. The environmental impacts will be considered in the ESIA report.

12.01 Ali gave a note of thanks in the local language.

12.02 Meeting ended
CPP Meeting at Madogo
Date: 7/10/09
Venue: DO’s Office Madogo
Time: 2:38pm

Minutes
Chief began the meeting at 2.38 word of prayer.
Julius introduced each of the consultants on the team
Following introduction of the team, Julius gave a summary of the proposed project and its proposed route through Kindaruma-Mwingi-Garissa.

They explained that the consultation process is supposed to provide information regarding the project, give people an idea of the potential impacts and lastly to give people a chance to express their views concerning such a project.

Julius gave the people some examples of the positive and negative impacts of such a projects. Eve talked about employment opportunities, economic development, growth of local industries, stability in power supply and capacity. They also talked about the potentially negative impact such as loss of land/land use, habitat loss, health and safety hazards, social disruption of HIV/AIDS – from migrant workers, loss of trees, permanent structures.

Julius then invited the members of the community to give their opinions or ask questions.

Q1. Juma Omar: - We hear the TL will be approximately taking off the road, is that so?
   A Julius:- when the survey is done, the actual line will be determined by factors such as settlements, culturally sensitive sites, schools, etc.

Q2. Kolombo Tutata:- Which areas exactly will be directly affected by this project?
   A Muriithi: where the TELL will pass there will be need for compensation of land (use) loss. The exact locations will be determined through the survey. Where there are no title deeds, then land adjudication or discussion with the local leaders is used to determine the real owner of the affected land. These are the people whom compensation will be done. The law will be used to control the process of acquisition.

They also explained that there is a method that is used to value the land.

Q3. Kolombo: In Madogo there are different types of housing structures – traditional huts, mabati houses, stone houses. How will the compensation be done?
   A According to the value of the house – using the existing valuation system.

Q4. I had a TL passing through my land where there are tall coconut trees. This line is constantly shooting due to these trees. At some point there was a live line that fell on his farm. What can be done?
   A Ali:- the wavelieve officer from KPLC should determine who is affected by the TL, if there is anything – trees, buildings, etc, that will interfere/be affected, then due process is taken. Eg where there are tall coconut trees, that need to be cut down, the owner must be compensated for the value of that tree. Each pole should be about 100m apart to avoid sagging of the line power line for the safety of the people.

Q5. Malafa:- when this project is brought will it benefit the local people in Gura (Madogo, Bangale, and Bura)?
   The casuals for this project should be hired from the local community. Madogo area is mainly Trust land. People do not have title deeds – land issues tend to have a lot of conflict. There is also community land in some areas (Madogo to Mwororo)>
   The affected land owners would also like to receive revenue from KPLC where the power line crosses the farm, crops like maize tend to fail to grow. The project is important yes, but the people in Madogo must also benefit even in the rural areas.
Julius explained that the proposed TL is a high voltage line and will be carried using towers. From here it can be pulled to the community in future following the appropriate application procedures.

Ali: concerning work opportunities, the construction will be undertaken by a contractor. It is expected that all unskilled labour will be recruited from the local community. Concerning farmland, where a line crosses, someone’s land, it should be done with the permission of the land owner, who must also be compensated for loss of land/land use, crops or trees, or houses under the line, or at the tower.

Concerning the benefits, the new line will increase the capacity and stability of power, more people will have an opportunity to connect to the national grid. The Rural Electrification program helps to take electricity to the rural area. This project will bring the main grid closer, the Rural Electrification can turn pull the power further inland.

The project may take about 3 years to be completed.

Muriithi: In Tana River district, land matters are a bit complicated because it is either Trust land or community land, meaning there are several players involved in the acquisition/compensation process.

Q6. Many people come to say that a project will create jobs for the locals, but they never follow through on these promises. The local youth still do not get jobs. If KPLC want to have the support of the community, they must involve the youth in employment opportunities.

Ali: This has been noted. Also the chief should consult with the contractors to follow-up on the employment of the local youth.

Q7. Mombasa: for those who will be relocated, what security will the people have over the new property that they will move to? Will some influential people come and claim the property and fence it off?

A Muriithi: The community itself should come together to fight for their rights through the community elders.

Q8. We are marginalized people. We rely on Garissa for power. Projects come but no one has ever come to talk to the local community in Madogo. The people want power and lighting in Madogo – there is only power for 2 days in a week. Madogo should have its own generator.

A Ali: The generator was put in Garissa because it developed faster before Madogo. KENGEN is responsible for power generation. People have to be a little patient for the infrastructure to be developed.

Q9. There is a great need for power and lighting in Madogo. Secondly, the contractor should advertise the jobs openly and in good time so that the youth can have a fair chance to apply.

15:56 The chief finalized the discussion. Julius gave a recap of the issues discussed, including matters on employment opportunities. Julius then gave a vote of thanks.

4pm. The meeting ended with prayers.