



The Kenya Power and Lighting Co. Ltd



**RESETTLEMENT ACTION PLAN (RAP)
FOR THE PROPOSED NANYUKI-MERU, ISHIARA-KIENI, MWINGI-KITUI-WOTE-
SULTAN HAMUD 132 KV TRANSMISSION LINE**

FINAL REPORT

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Disclosure Page

This ESIA Report is hereby disclosed for public review as follows:-

Proponent: The Kenya Power and Lighting co. Ltd

Assignment: **Resettlement Action Plan** for the proposed Nanyuki-Meru, Ishiara-Kieni, Mwingi- Kitui-Wote-Sultan Hamud 123 kV Transmission Line

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Executive Summary

Introduction:

The Kenya Power and Lighting Co. Ltd (KPLC) is the Utility mandated by the Government of Kenya to manage transmission, distribution and retailing of electric power to consumers and currently controls the national power transmission network comprised of 1323 km of 220 kV, 2085km of 132 kV and 632km of 66kV transmission lines. In order to enhance coverage and performance of the national grid, KPLC is currently in the process of developing an additional 264km of 132kV transmission lines to connect

- (i) Nanyuki-Meru,
- (ii) Ishiara-Kieni-Embu and,
- (iii) Mwingi-Kitui-Wote-Sultan Hamud areas.

Contract No. **KPLC1/IF/8/3/6/2009** in respect of Consultancy Services towards preparation of this Resettlement Action Plan Study report became effective on 17th December 2009 when Repcon Associates (The Consultant) was commissioned following a successful tendering process. This document outlines the Final RAP Report prepared in line with this contract.

Objectives of the RAP Study

The Resettlement Action Plan was designed to achieve the following objectives;

- To guide compensation against displacement in line with with laws, regulations and guidelines for Resettlement/Land Acquisition Policy Framework of the Government of Kenya and the World bank.
- To identify and quantify different categories of Project –Affected People [PAPs] who would require some form of assistance, compensation, rehabilitation or relocation.
- To provide guidelines to stakeholders participating in the mitigation of adverse social impacts of the project.
- To verify the adherence and compliance of the World Bank’s Safeguard Policies.

RAP Approach:

The main activity in the RAP study was an inventory of all potentially affected persons. This took place between December and February an entailed administration of questionnaires on PAPs identified along the traverse. Further, as part of the RAP Study, consultations with secondary stakeholders took place.

Based on the information collected, a resettlement plan has been prepared for the project. Core elements of the RAP include an Asset register and entitlement matrix to guide compensation to all people likely to be affected.

Legal and Institutional Framework of the RAP

This RAP and its entitlement matrix have been prepared in compliance with the applicable policy provisions of Kenyan Government and requirements of the World Bank's Safeguard Policy on Involuntary Resettlement. OP 4.12 of the World Bank requires that a RAP be prepared for all projects that anticipate land acquisition and displacement affecting shelter, livelihood and

associated impacts. Basically, this RAP presents an inventory of (register) of people likely to be affected by development of the transmission lines, a register of the assets that are likely to be displaced by the project and the proposed compensation package.

Relevant Kenya laws considered include:-

- The Constitution of Kenya Section 70
- The Land Acquisition Act Chapter 295
- The Wayleaves Act, etc.

The RAP Team:

This RAP study was undertaken by a multidisciplinary team bringing together skills as follows:-

Mr. Michael M. Wairagu-EIA Lead Expert

Ms. Nancy Kanyi-Environmentalist

Eng. John W. Njaaga-Electrical Engineer

Mr. Richard N. Ng'ang'a-Occupational Health and Safety Expert

Mr. G.G. Aritho- Land Economist

Ms. Lillian Owiti-Sociologist

Mr. N. Gachathi-Ecologist

Project description:

The project entails development of 264 kilometres of 132 kV transmission lines connecting Nanyuki-Meru, Ishiara-Kieni and Mwingi-Kitui-Wote-Sultan Hamud. The project starts at the boundary of the Rift Valley Province at Nanyuki in Laikipia East District and traverses a total of 14 Eastern Province Districts to end at Sultan Hamud town on the boundary of Rift Valley Province.

Project activities:

The project will entail construction of power lines comprised of electrical conductors supported on 27metre high pylons constructed of stainless steel metal. Close to 1000 steel towers (pylons) comprising both angle towers and line towers will be constructed for purposes of mounting the conductors on which the 132kV power supply will be transmitted. The project will require a 30-metre wide Right of Way corridor along the entire routes of traverse implying that about 792 ha of land will be negotiated for the project. Further, all physical structures and trees growing above 7m height will be removed from the wayleave in line with requirements of the KPLC.

Ownership of target land:

With the exception of the 700m stretch of gazetted Imenti Forest in Meru that will be traversed by the project, the rest of the land (over 99%) within the routes of traverse is privately owned. Further, with the exception of a few large-scale farms encountered in the Timau area and one ranch at Sultan Hamud, the bulk of the land is controlled by over 2000 small holder farmers.

Physical profile along the route of traverse:

Relief and physiography: Relief of the routes of traverse generally ranges from around 1040m above sea level in the Kitui area to over 2000m above sea level at the base of Mt. Kenya in Meru. With the exception of sections in Nzau, Migwani and Mbeere districts, the terrain to be traversed by the Project is generally flat and undulating. The project was designed to skirt steep areas as

manifested by passage on the slopes of the Kitui hills, Kakoli Ridge, Kithumba, Nzau, and Kyemundu Hills.

Geology and soils: Geomorphology of the project area ranges from volcanic footridges and footslopes at the base of Mt. Kenya slowly graduating to the volcanic lava outflow of the Yatta plateau which is heavily dissected by the Athi River and tributaries, notably the Thwake. Across the Thwake River in Makueni, the dominant geomorphic features are remnant basement complex hills as typified by the Nzau which outcrop from the generally undulating local terrain.

At the base of Mt. Kenya, soils are deeply weathered greyish sandy clay loam to clay but in areas of poor drainage, the tendency is for heavy clays to develop. Along the Yatta plateau and other volcanic belts that suffer inadequate rainfall, soils display high variability in depth, texture and reaction and will often be underlain by lithic phases with occasional outcrops of granite. Within the basement complex belt across the Athi, soils are diverse but mainly dominated by sandy clay loam to clay loam.

Hydrology and drainage: The proposed transmission lines traverse three drainage basins namely;- Ewaso Ng'iro, Tana and Athi. Main drainage lines traversed include: Nanyuki, Likii, Sirimon, Timau, Ena, Thuchi, Tana, Tiva, Whita Syano, Athi, Thwake, Kaiti among others. The section between Wote and Sultan Hamud in Nzau District (Matiliku area) has a particularly high drainage density.

Climate: Climate varies greatly within the routes of traverse with rainfall being highest at Meru and Kieni both of which enjoy an easterly exposure on the base of Mt. Kenya which secures relatively higher humidity. Away from the base of Mt. Kenya towards the lowlands of the greater Kitui and Machakos districts, rainfall displays a marked drop with altitude with Wote recording an annual low of 565 mm. With the exception of Meru and Kieni, all other areas traversed by the project record huge annual moisture deficits with climatic regimes ranging from semi-arid to semi-humid.

Vegetation: The vegetation cover in the arid sections traversed by the project largely comprises of indigenous trees and shrubs dominated by Acacias, yellow wood, combretum, etc while that within the humid belt has been largely substituted with exotic trees dominated by grevillea, casuarinas, blue gums, Cassia siamea, neem etc all of which grow to heights generally above 8 metres.

Socio-cultural setting:

At the start of the project, the Nanyuki –Meru section, the TL traverses peri-urban Nanyuki which is largely cosmopolitan and then passes through farms owned by Kenyans of European descent. All other sections of the project up to Sultan Hamud traverse largely rural settlements dominated by the Meru, Mbeere, Embu and Akamba peoples respectively.

Highest population densities in excess of 461 persons per square kilometre is encountered within the humid Kieni /Runyenjes section of the project, with the lowest occurring in the Yatta plateau section of Kitui District. Within the section between Wote and Sultan Hamud, moderately high densities in the range of 200 persons per square kilometre will be found.

With the exception of the Nanyuki/Timau area where a few large-scale farms are found, the project largely traverses small holder settlements where small scale mixed farming is the main

economic mainstay.

Economically sensitive resources:

Land: Land is just about the most important and widely coveted resource in Kenya access to which is a pre-requisite to economic production, settlement through ownership of shelter, and it offers security in old age and upon eventual death, all of which account for the huge interest that vests in land within Kenya where the dream to own land is commonly held by majority of citizenry. Against this background, the requirement for land to be set aside for construction of the proposed transmission lines is likely to have major impacts within the routes of traverse.

Private and public investments: Many private and public investments;- buildings, institutions, trees, developed farms etc will be traversed by the project with the prospect that quite a number will be cleared out of the Right of Way corridor and measures must be put in place to insure against retrogressive impacts of infrastructure.

Existing infrastructure: Along the entire routes of traverse, diverse infrastructure is encountered as follows:-diverse power transmission lines (132kV lines at Nanyuki, Kitui and Sultan Hamud, widely occurring low voltage power transmission and distribution lines), the Military Air base and airport at Nanyuki, the sewage treatment lagoons at Nanyuki, the airstrip at Kitui, among others. Together with local roads and water supply lines, these resources are economically and strategically crucial hence the need to flag them to ensure planning for their mutual co-existence and harmony with the proposed development.

Ecologically sensitive resources:

Within the proposed routes of traverse, several ecologically fragile resources can be identified as follows:

Shallow soils on hilly slopes: Quite a number of these are traversed by the proposed lines which will imply that their stripping bare of trees to create the ROW may expose them to overgrazing and accelerated erosion. Some of the slopes especially in the Nzau area have very shallow soils whose erosion will expose the local bedrock and thus alter the local hydrology.

Vegetation cover in the ASAL sections of the Routes of Traverse: ASAL vegetation is usually delicate on account of inherently poor capacity for regeneration which possibly explains the observed declining cover on account of exploitation for charcoal making, wood carving, building and fencing materials, clearing for crop production and pastures, cutting for building and fencing among others. The proposed clearing of ASAL woody vegetation base to give way to the ROW will take place against this worrying background.

Potential damages and modalities for Compensation:

Anticipated damages: The project is likely to be 264 kilometres long and will affect a total of 2064 farms where a total of 792ha will be earmarked for wayleaves on which all physical development including any tree taller than 7metres will be removed. Further, of the 2064 farms traversed, a total of 1247 (including 35 institutions) have physical developments with 783 having more than three structures in the proposed way leave. As well, 90% of developed farms have main houses made of timber walls/iron sheet roofs and above which will have to be removed to give way to the transmission lines. A total of 10,867 trees are likely to be removed which, alongside remove of buildings constitutes the most drastic impact of the project.

The Asset Register: An Asset register detailing the features of all farms likely to be affected and the likely damage has been prepared as part of this RAP. The project entitlements have been designed to cover compensation, and rehabilitation for lost assets and restore or enhance the livelihoods of all categories (directly and indirectly affected, titleholders and non-titleholders) of affected people.

Costs of the RAP: From analysis of potential damage and application of valuation methodologies, the likely cost of the damage anticipated from creation of the wayleaves is slightly over a half Billion Kenya Shillings (**Ksh 502,470,720**). Of this amount, 55.2% will go towards compensation for land while 44.2% will meet the cost of removal of buildings from the designated wayleave.

Payment of compensation: Negotiation of wayleave agreements and payment of attendant compensation will follow standard procedures established by the KPLC's Wayleaves Department.

Resettlement Strategy: 99% of the farms within the route of traverse are small holding below 50 acres. However, 5.9% of all farms are below one acre in size with a few falling below 0.5 acres. This is the group that may require resettlement. All other people will most likely only relocate to other parts of their lands to give way to the power lines.

Institutional coordination: All preparatory work towards land acquisition will be coordinated by the KPLC. In this capacity, the KPLC will interface with other stakeholders such the Provincial Administration, relevant Departments of Lands, DDCs, etc on matters touching on land acquisition and compensation. To facilitate this process, the KPLC will designate representatives to facilitate negotiation.

Requirements for Monitoring and Evaluation:

General Monitoring by the KPLC: The arrangements for monitoring will fit in the overall monitoring plan of the entire project under auspices of the KPLC. For purposes of this RAP, monitoring will ensure smooth administration of the compensation packages in a manner that favours all. Exposure of PAPs to vulnerability has to be safeguarded against all costs.

Post Project Impact Assessment: In order to ensure that compensation and assistance will enable the affected people to improve or restore their livelihoods, an impact assessment will be undertaken 6-12 months after the implementation is completed to evaluate whether the intended objectives are realised. For this, suitable baseline indicators related to income, assets, land ownership, expenditure pattern of key activities, housing conditions, access to basic amenities, demographic characteristics, indebtedness, etc.

Conclusion and recommendations:

From discussions with diverse stakeholders, there is a general agreement that the project is quite justifiable and necessary. It enjoys overwhelming public support. It will however be necessary for project implementation to factor concerns as follows:

Need for continuous sensitization: Continuous sensitization of affected communities in the pre-construction phase of the project, especially in the populated areas of traverse should be encouraged as a preparatory measure before project implementation. KPLC should be at the forefront in ensuring this is carried out.

Prompt payment of Compensation: Payment of compensation should be timely and preferably before ground breaking. Compensation will take place either the KPLC offices and/or provincial administration offices. A minimum of one month notice should to be given to the PAPs to enable them salvage their assets

Access to gazette forest land: KPLC should negotiate an MOU with KFS on use of Imenti Forest to cover not only the current project but similar projects in future

Reaction to public expectations: Towards securing continued public support to the project, the KPLC should be responsive and live up to corporate social responsibility in the project area through activities such as rural electrification, Water supply, engagement in conservation, etc.

Monitoring and Evaluation: For the RAP to be successful there will be need for continued monitoring and evaluation. This will ensure that arising issues are properly addressed.

Abbreviations

Cap	Chapter of the Laws of Kenya
DEC	District Environmental Committee
EHS	Environment Health and Safety
EMCA 1999	Environment Management and Coordination Act 1999
EMP	Environmental Management Plan
ERC	Electricity Regulatory Commission
ESIA	Environmental and Social Impact Assessment
GoK	Government of Kenya
HIV/AIDS Syndrome	Human Immuno Deficiency Virus/Acquired Immunity Deficiency Syndrome
IPPs	Independent Power Producers
KFS	Kenya Forest Service
KLPC	Kenya Power and Lighting Company Limited
Kv	Kilo volts
KWS	Kenya Wildlife Service
LN	Legal Notice
LV	Low Voltage
M&E	Monitoring & Evaluation
MW	Mega Watts
NEMA	National Environment Management Authority
O&M	Operation and Maintenance
PAPs	Project Affected Persons
ROW/ROT	Right of Way/Route of Traverse
SGPs	Safe Guard Policies
TL	Transmission Line
TORs	Terms of Reference
US\$	United States Dollar

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CHAPTER ONE: INTRODUCTION

1.1: Background to this report

The Kenya Power and Lighting Co. Ltd (KPLC) is the Utility mandated by the Government of Kenya to manage transmission, distribution and retailing of all electric power consumed in Kenya and it therefore owns and controls the national transmission and distribution network currently comprised of 1323 km of 220 kV, 2085km of 132 kV and 632km of 66kV transmission lines. In order to enhance coverage and performance of the national grid, KPLC is currently in the process of developing an additional 264km of 132kV transmission lines to connect

- (i) Nanyuki-Meru,
- (ii) Ishiara-Kieni-Embu and,
- (iii) Mwingi-Kitui-Wote-Sultan Hamud areas.

Implementation of this proposal will require that land be acquired to create the mandatory 30m wide Right of Way Corridors within which, any existing buildings, crops and trees will require to be removed. In addition to the land acquisition and displacement of settlements, construction of the transmission line is anticipated to set in motion other diverse social and environmental impacts whose resolution is the subject of the Environmental and Social Impact Assessment Report issued as Volume One of this Study.

This Resettlement Action Plan has been prepared to deal exclusively with any land acquisition and displacement impacts borne of the proposed development. It outlines the modalities of paying compensation to all people whose land and property are likely to be affected by development of the proposed transmission lines.

1.2: Objectives of the RAP

The Environmental and Social Impact Assessment [ESIA] and Resettlement Action Plan is to achieve the following objectives;

- To identify and assess potential environmental and social impacts of the proposed project.
- To identify all potential significant adverse environmental and social impacts of the proposed project and recommend measures for mitigation measures.
- To verify compliance with the environmental regulations and industry's standards
- To generate baseline data for monitoring and evaluation of how well the mitigation measures will be implemented during the project cycle
- To recommend cost effective measures to be implemented to mitigate against the expected Impact.
- To prepare an environmental impact assessment report compliant to the Environmental Management and Coordination Act [1999] and detailing finding and recommendations.

- To identify and quantify different categories of Project –Affected People [PAPs] who would require some form of assistance, compensation, rehabilitation or relocation.
- To provide guidelines to stakeholders participating in the mitigation of adverse social impacts of the project.
- To verify the adherence and compliance of the World Bank’s Safeguard Policies.

1.3: The Project background

1.3.1: Overview

This chapter provides an overview of the proposed transmission lines as currently designed. The description borrows largely from documentation availed by the KPLC.

1.3.2: Objectives of the Project

The peak electricity demand in Kenya is 1,050 MW and demand is growing 8 percent annually. Power consumption is however constrained by instability in supply and blackouts across the country are a frequent occurrence, causing business to sometimes suffer huge losses.

In the capacity of the Utility mandated by the GoK to oversee distribution of electric power, the KPLC developed the Least Cost Power Development Plan which, among other interventions identified the need to develop additional 132kV transmission lines intended to improve performance of the national grid while simultaneously catering for increased load growth. Specific goals of the proposed development of 132 kV transmission lines include:-

- i) To extend the transmission and distribution lines as well as new and reinforced distribution lines with the aim of reducing technical losses, stabilizing voltage conditions and thereby coping with additional demand.
- ii) To increase access to electricity to 20 % by 2010 by accelerating connection rates.
- iii) Upgrading of voltage so as to increase supply capacity and reduce system losses.
- iv) Provide alternative electricity supply paths to increase reliability and improve quality in the regions.

1.3.3: Project Justification

The project is justifiable in that it will stabilize power supply and thus cushion current consumers against losses occasioned by power failures and blackouts. As well, expansion of power supply will improve access by new consumers and thus facilitate investments hitherto constrained by lack of electric power.

1.4: The proposed Routes of Traverse

1.4.1: Administrative territories to be traversed

As currently designed, the transmission lines will largely pass through Eastern province starting at its border with rift Valley province at Nanyuki and ending at the border with the latter province at Sultan Hamud- a distance of 264 kilometres. A total of 11 districts, 42 locations and 113 sub-locations will be traversed by the project.

1.4.2: Physical tracing of the Routes of Traverse

Transmission lines as currently designed will be constructed in three sections with dimensions as follows:-

- i) Nanyuki – Meru 132kV Line: Construction of approximately 74 km of 132 kV transmission line interconnector between Nanyuki and Meru.
- ii) Ishiara – Kieni: Construction of approximately 30km of 132 kV single circuit transmission line.
- iii) Mwingi – Kitui – Wote – Sultan Hamud: Construction of approximately 160km of single circuit 132 kV transmission line between Mwingi and Sultan Hamud.

During feasibility studies undertaken for this project, the Routes of Traverse was identified and clearly delineated in 1:50,000 scale Survey of Kenya Maps on which, all angle points were geo-referenced. For the RAP study, all the angle points were identified on the ground by use of GPS following which, the transects in-between and their distances were established as a precursor further detailed. Appendix 3.1 provides maps for the proposed Routes of Traverse a sample of which is provided in Fig 2.1 below. Details of site conditions along the RoT are provide in Chapter Four below. However, a full description of the alignment is provided in Annex C of the Final Feasibility Study Report in respect if the **Kenya Energy Access Upscale Programme** as prepared by Ms. Norconsult.

1.5: Design features of the transmission lines

1.5.1: Components of the transmission line

Transmission lines essentially have 2 components as follows:-

(i) The Towers:

The basic building block of the TL is the Tower which supports transmission lines (conductors) either on one side (single circuit) or, on both sides (double circuit). The beginning and end of sections of a TL (angle points) are marked and supported by Tension Towers also called Angle Towers in between which are found Line Towers at spacing of 270-350 metres. Design features for Towers are presented in Fig 2.2 below. The towers are mainly erected of stainless steel and range in height from 20 to 25 metres above ground level. On the towers are mounted insulators which support conductors on the towers.

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 as accounted for in the following. 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.

Tower foundations: Based on the observation of the ground conditions during the line routes surveys conventional pad and chimney reinforced concrete pad & chimney foundations are recommended. On

certain sections where poor soils or submerged conditions are identified a raft type design might 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. All towers are assumed 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, should 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 should be carried out aimed at less than 10 Ohm.

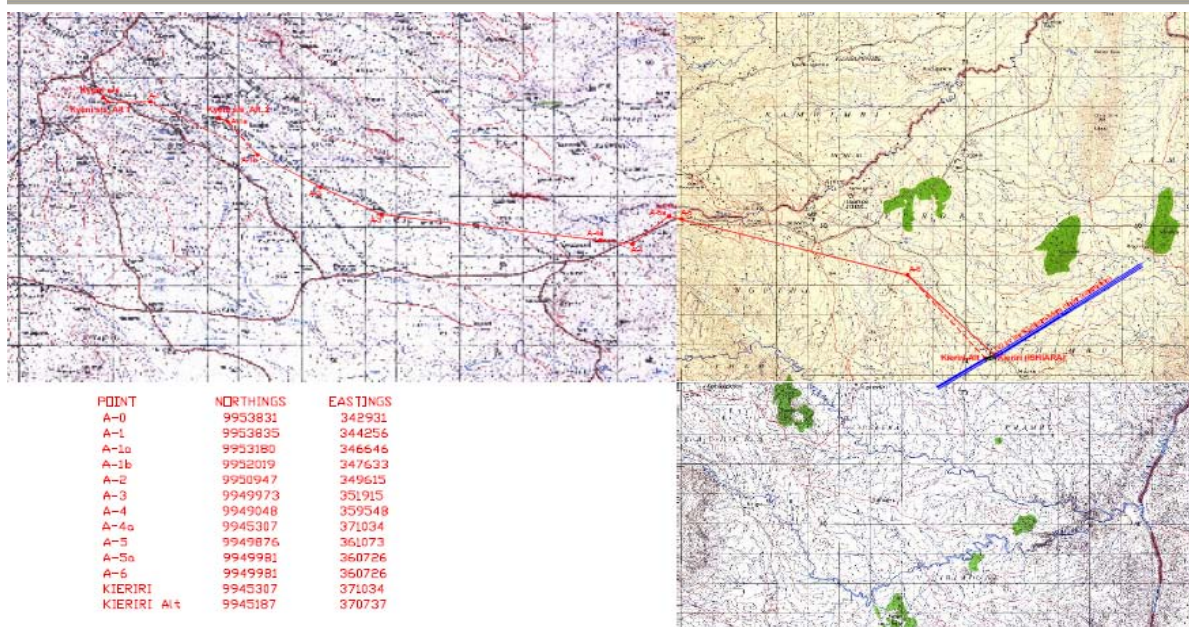


Figure 1.1: Typical Routes of Traverse as plotted on 1: 50, 000 scale maps

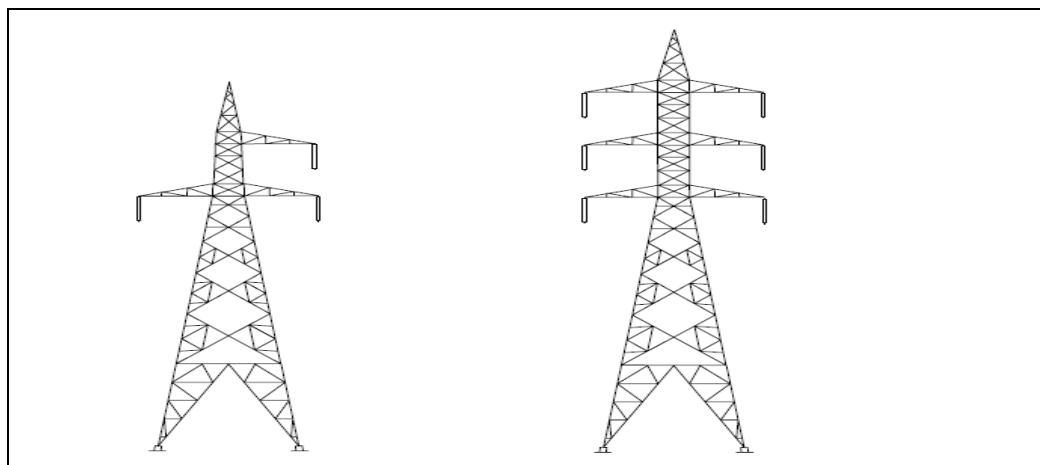


Figure 1.2: Single and double circuit lattice steel tower configurations

(ii) Conductors:

Specifications: Conductors comprise the core media through which, power transmission takes place. In the design of the proposed TL, the Wolf Conductor is preferred on account of higher efficiency of transmission, thus resulting in lower losses of energy and cumulative un-served energy. The conductors recommended for the various sub-project options are Aluminium Conductor Steel Reinforced (ACSR) “Wolf” and “Lynx” conductors which are in accordance with KPLC’s standards. The technical particulars of conductors are as specified in table 1.1 below:

Table 1.1: Technical specifications for conductor material

Specification		Conductors	
Material		ACSR	ACSR
Conductor designation		Wolf	Lynx
Cross-section	mm ²	194.9	226.2
Overall diameter	mm	18.13	19.53
Stranding Aluminium	No x mm	30 x 2.59	30 x 2.79
Stranding Steel	No x mm	7 x 2.59	7 x 2.79
Weight	kg/km	726	842
Nominal breaking load	N	69,200	79,800
Final modulus of elasticity	N/mm ²	81,000	81,000
Elongation coefficient	x 10 ⁻⁵ /°C	1.78	1.78
Current rating ²⁾	AMP	355	386
Rated DC resistance at	20 °C Ω/km	0.1828	0.1576
Standard	IEC	60209	60209

Note 2: Wind speed of 0.0447 m/s, ambient temperature 20 °C, temperature rise 30 °C at intensity of solar radiation 850 W/m².

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 result 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. For lines longer than 100 kilometres a full

transposition (three sections) of the three phases is recommended due to the impedance asymmetry resulting in a corresponding voltage and current unbalance at the line end.

1.5.2: Land requirement by the transmission lines

Dimensions of the wayleave: The practice of the KPLC is to require a way leave corridor of equivalent to 15m width on either side of the Center Line for 132 kV lines. Along the 30m wide corridor, an appropriate clearance between conductors and vegetation and structures needs be maintained which requires that houses and trees in excess of 7.5 metres are removed for the entire life of the transmission line. However, farming and grazing within the corridor is generally permitted. As for the tower foundations, they will require a permanent area of approximately 6-8 m x 6-8 m (36-64 m²) based on a typical 132 kV line tower.

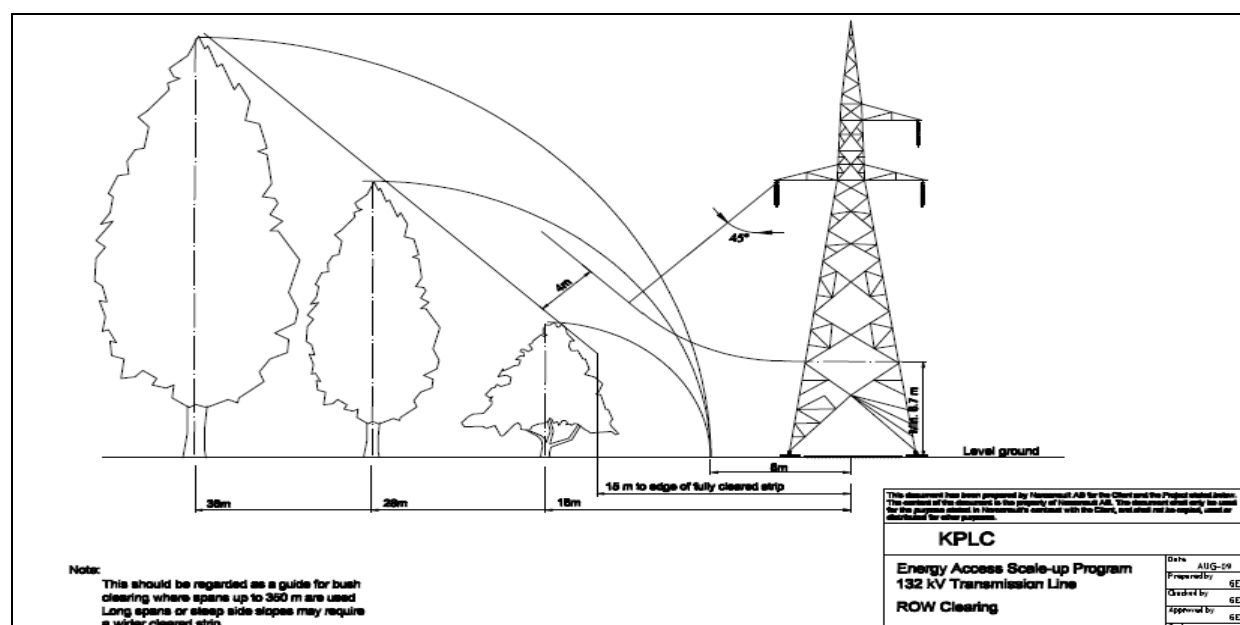


Figure 1.3: Modelling ROW requirements for TLs

Table 1.2 below provides an outline of potential land requirements for the proposed transmission lines. The latter was derived based on GPS-based computation of distances between angle points as marked by coordinates. Based on such computations, total length of the transmission lines is estimated at 264 kilometers which will be marked by a 30m wide ROW corridor giving a total land requirement of 792hactares (see chapter four below).

Table 1.2: Land requirements for the proposed transmission lines

<i>Land requirement</i>	<i>Dimensions</i>	<i>Area ha</i>
Wayleave	Total length (km): 264	Area (ha): 792
	Width (m): 30	

Tower foundations	Dimensions; 64m2	Area (ha): 6.
	Total number: 1000	

1.6: Project activities

Towards development of the transmission lines, activities are anticipated as follows:-

Design works: Feasibilities studies have already been undertaken which paved the way for design works including this RAP Study. Detailed design will involve survey-work to peg out the ROT on the ground and mark out the Centre Line following which the wayleave will be determined and negotiated with the land owners.

Construction activity: Construction will involve delivery of factory made components of the lattice structures, conductors, insulators and other components of the transmission line. Foundations will be constructed following which, the towers will be erected. The major task will entail mounting of conductors on the towers and connecting to target power intake and off-take facilities following which the project will be commissioned.

Operation phase: Upon powering, the project will then be operated by the KPLC alongside other investments in target districts.

1.7: Land ownership within routes of traverse

With the exception of the 700m stretch of gazetted Imenti Forest in Meru that is traversed by the project, the rest of the land (over 99%) within the routes of traverse is privately owned. Further, with the exception of a few large-scale farms encountered in the Timau area and one ranch at Sultan Hamud, the bulk of the land is controlled by over 2000 small holder farmers and plot owners.

1.8: The need for a Resettlement Action Plan for the project

1.8.1: Justification for the RAP

This RAP has been prepared consistent with the applicable policy provisions of Kenyan Government and the provisions of the World Bank's Safeguard Policy on Involuntary Resettlement (OP 4.12). OP 4.12 requires that a RAP be prepared for all projects that anticipate land acquisition and displacement affecting shelter, livelihood and associated impacts. Basically, this RAP presents an inventory of (register) of people likely to be affected by development of the transmission lines, a register of the assets that are likely to be displaced by the project and the proposed compensation package.

1.8.2: The RAP Team

This RAP study was undertaken by a multidisciplinary team bringing together skills as follows:-

- Mr. Michael M. Wairagu-EIA Lead Expert
- Ms. Nancy Kanyi-Environmentalist
- Eng. John W. Njaaga-Electrical Engineer
- Mr. Richard N. Ng'ang'a-Occupational Health and Safety Expert
- Mr. G.G. Aritho- Land Economist
- Ms. Lillian Owiti-Sociologist
- Mr. N. Gachathi-Ecologist

1.9: Methodology of the RAP Study

The methodology adopted in preparing this RAP was elaborated in our technical proposal and later on captured in the contract for this study. Briefly, the methodology set out to capture details of all individuals likely to be affected by the transmission lines, their social economic background to allow computation of realistic compensation packages in line with GoK and World Bank safeguard requirement in land acquisition. The methodology thus entailed activities as follows:-

Discussions with client representatives: Discussions were held with relevant staff of the KPLC responsible for Safety, Health and Environment, Energy Sector Recovery Project (ESRP), Way leaves sections with a view to better understanding project scope, design and motivation. From such discussions, the consultant obtained maps and project design data which proved useful in identifying the Routes of Traverse.

Design of questionnaires: For purposes of guiding collation of data on potentially affected persons and their assets, a one page questionnaire was designed and adapted for the study at hand. Appendix 1.1 provides a sample of the questionnaire for the Inventory of PAPs.

Recruitment of enumerators: In preparation of field work, enumerators were recruited to undertake inventory of people potentially affected by the project. Given the vastness of the Routes of Traverse-spanning from Nanyuki all the way to Sultan Hamud, it was decided to breakdown the project into three sections for which recruited total of 3 teams of enumerators were recruited and provided with motorbikes for ease of movement along the Routes of Traverse.

Upon recruitment, enumeration teams were brought together and briefed on the nature of the assignment and their roles in study. They were guided through the questionnaires and then given practical training on the operation of hand-held GPS sets. As part of their training, enumerators participated in reconnaissance surveys to identify the Routes of Traverse within their sections of jurisdiction during which, questionnaires were also pretested. Enumeration teams were facilitated as follows:-

On- the-ground mapping of the Routes of Traverse: Field work started with a reconnaissance trip to identified and familiarize with the entire Routes of Traverse. Towards this, the Consultant used hand held GPS sets to identify on-the ground locations of proposed Angle Points through use of coordinate data provided by the client. Such positions were then compared and revalidated through use of the Routes of Traverse as plotted on 1:50,000 scale maps provided by the client. Where maps were inadequate, the consultant downloaded and applied *Google Earth* maps at appropriate scale.

Socio-economic survey and Inventory of PAPs: Inventory of PAPs was undertaken along the Routes of Traverse in the three sections of study. Towards this, three teams of enumerators were deployed in the three sections as follows:-

Features of the enumeration teams used

Section	Enumeration teams	Requirements	Facilitation provided	Supervisors
Nanyuki- Meru	2	• Must be a	2 Motorbikes and	1

		resident of the area • Form Four education and above • Experience in questionnaire surveys	2 GPS sets	
Ishiara-Kieni	1		1 Motorbike and 1 GPS set	1
Mwingi-Kitui-Wote-Sultan Hamud	2		2 Motorbikes and 2 GPS sets	1
<i>Total Teams</i>	5		5 Motorbikes and 5 GPS sets	3 supervisors each on motorised transport

Each team was equipped with a GPS set for purposes of identifying sections of the Routes of Traverse in between any two Angle Points and a motorcycle for ease of movement. The role of the enumerators was to move from farm to farm conducting interviews and recording all data in the questionnaire designed for the purpose (See sample in appendix 1.1). The interview covered details as follows:-

- Personal details of respondent: this included name, age, relationship to landowner, occupation, parameters of vulnerability (disability, socio-economic status).
- Administrative details including village, location and district;
- Current asset base of respondent family including land ownership and use, total trees owned, number of houses in homestead by size and construction materials (floor, wall and roof types),
- Total length of ROW and analysis of assets there-in.
- Any other information including wishes of the respondent family regarding compensation.

Along each section, enumeration teams were supervised by a team of consultants who also supplemented questionnaire survey with stakeholder consultations to generate socio-economic baseline data.

Consultations with secondary stakeholders: Alongside the socio-economic survey, consultations were held with stakeholders for purposes of better understanding of the socio-economic baseline of target groups. Appendix 1.4 provides a list of secondary stakeholders consulted as part of this study.

Data cleaning, entry and analysis: Daily returns of questionnaires were always scrutinised for errors in data entry and capture, validity of data generated, etc following which, the sheets were filed for data entry in Nairobi. Once in Nairobi, questionnaire data was entered to create *Excel-based* data files to create an asset register for all project affected people based on administrative units. A data entry format was adopted as follows:-

Province	District	Location	Village	Name of farm owner	Details of assets and potential displacement							

The data was then further screened for consistency and corrected for typological and entry errors before further application in computation work.

Asset valuation and computation of compensation packages: Asset valuation recognised three main parameters namely:-land under to be acquired for the ROW, structures falling within the ROW, trees and crops falling under the ROW. Valuation then proceeded as explained in section 3.5 below.

The compensation package: This was derived from summation of the costs to affected land, buildings, trees and crops to which was added a 15% mark-up to cater for involuntary acquisition in line with OP4.12.

Finalisation of the RAP report: The entire process as outlined above was documented so as to yield a Draft RAP report for discussion with the KPLC. Upon receipt of comments from the KPLC, a final version of the RAP was developed.

1.10: Presentation of this RAP report

This RAP is presented in five chapters. Chapter one provides the background information while chapter two reviews the reigning legal and policy environment. Chapter three presents an analysis of the anticipated damage and proposed compensation package while chapter four outlines the proposed implementation arrangements ending with recommendations for the smooth implementation of this RAP in Chapter Five.

CHAPTER 2: THE POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

2.1: Overview of the Policy Framework

The chapter sets out the legal operating environment for acquisition of land as anticipated in the development of power transmission lines by the KPLC. It is motivated by the realization that, unmitigated involuntary resettlement in development has potential to trigger severe economic, social and environmental risks including;- displaced and dismantled production systems, loss of income sources, weakened community institutions and social networks, dispersed kin groups and diminished or lost cultural identity and traditional authority. The RAP is developed based on the GoK policy and legal provisions as read together with Safeguard Policies of the World Bank.

2.1.1: An overview of GOK Policy blueprints;

GoK Policy on national development is elaborated in diverse blue-print documents as follows:-

Vision 20230: Vision 2030 is a government development strategy that is aimed at steering Kenya to a middle income country by the year 2030. It is based on the 3 pillars of political, social and economic advancement and it aims to transform the economy to newly industrialized status by 2030 and achieve sustainable growth. Environmental considerations of development are contained within the social and economic pillar. On poverty reduction, the vision aims at creating opportunities for the poor by making institutions stronger. The proposed extension and stabilisation of power supply is a clear step towards this vision. This is also in line with the Economic Recovery Strategy for Wealth and Employment Creation (ERS) which addresses issues of promoting sustainable livelihoods in marginal areas.

Private sector development strategy 2006-2010: The strategy focuses on improving Kenya's business environment, institutional transformation, trade expansion, improved productivity and support to entrepreneurship and indigenous enterprise development. One of the key factors for the improvement of productivity is the adoption of modern, appropriate technologies.

The National Poverty Eradication Plan:

The NPEP has the objective of reducing the incidence of poverty in both rural and urban areas by 50 percent by the year 2015; as well as strengthening the capabilities of the poor and vulnerable groups to earn income. It also aims to narrow gender and geographical disparities and create a healthy, better-educated and more productive population. This plan has been prepared in line with the goals and commitments of the World Summit for the Social Development (WSSD) of 1995. The plan focuses on the four WSSD themes of the poverty eradication; reduction of unemployment; social integration of the disadvantaged people and the creation of an enabling economic, political, and cultural environment. This plan is to be implemented by the Poverty Eradication Commission (PEC) formed in collaboration with Government Ministries, community based organizations and private sector.

The Poverty Reduction Strategy Paper (1999) on Environment and Development:

This strategy paper was published by the Government in 2001. The two key goals of the strategy are poverty reduction and economic growth. The document outlines the priorities and measure necessary for poverty reduction and economic growth. The objectives of economic growth and poverty reduction are borne out of realization that economic growth is not a sufficient condition to ensure poverty reduction. In this regard, measures geared towards improved economic performance and priority actions that must be implemented to reduce the incidence of poverty among Kenyans have been identified. With respect to the environment, the paper proposes that adequate awareness be created among stakeholders regarding environmental costs and benefits. It further calls for community involvement and participation in environmental management and conservation.

Sessional Paper Number 1 of 2002;

This Sessional paper for sustainable development which is an update of Sessional Paper Number 4 of 1984 on population policy guidelines, addresses issues on environment, gender, poverty and problems faced by segments of the population including the youth, the elderly and persons with disabilities. Outlined in the paper are population and development goals and objectives including improvement on standards of living and quality of life of the people; full integration of population concerns into development process; motivating and encouraging Kenyans to adhere to responsible parenthood; and empowerment of women.

2.2: *Legal Framework of the GOK in regard to land ownership and transactions*

2.2.1: Land Ownership in Kenya

Kenyan law recognises three categories of land in Kenya subsequent to which, basic or radical title vests either in the Government for Government land, registered owners in the case of titles granted by the Government; and in the county councils for both Trust land and registered titles derived from Trust land.

Government owned land: Land that previously vested in the Regions was relocated to the Government of Kenya in 1964 and this situation continues to this date. Government land includes all un-alienated government land held and occupied by government agencies, territorial sea and sea bed, all public roads whether gazetted or not and land that remained un-adjudicated under the Land Titles Act (Cap.282).

Trust lands: The Kenya Independence Order Council in 1963 provided that all land that was vested in Her Majesty or in the Governor shall be deemed to have vested in the Regions or the Government of Kenya on 12th December, 1963. All trust lands are vested in county councils, to hold such land for the benefit of the persons ordinarily resident on that land. Under section 117 of the Constitution, an Act of Parliament may empower a County Council to set apart an area of trust land vested in it for public use and occupation. Thus Local Government Act (Cap. 265) provides for the establishment of local authorities and defines their functions. Local Authorities exist for the purposes of planning for and providing basic social amenities and services including education, health care, roads, sanitation, housing, markets, open spaces, parks etc. The local Authorities as such are vested with authority over trust land for the benefit of their residents. Such land can thus be allocated for occupation as follows:-

- for the purposes of prospecting for or the extraction of minerals or mineral oils; or
- by any person or persons who in the opinion of the county council will benefit area residents.

This latter clause is important because it provides for access to land by schemes meant to benefit the public. Transfer of such land either to individuals, institutions or other group is through letters of allotment which must cite the Minutes of a Full Council meeting which approved the transaction.

Private land is all land with registered title in accordance with any registration statute. Under the National Constitution, all land is vested with the government and occupants of private land only enjoy usage rights either under lease or freehold arrangements. Section 70 of the Constitution of Kenya recognizes and protects the right to private property including land.

2.2.2: Legal provision governing voluntary land transactions in Kenya

Towards safeguarding this unalienable constitutional right, legal provisions on land registration and ownership have been put in place as follows:-

State-owned land: State owned land is governed by diverse laws depending on the purpose for reservation.

- The Government Lands Act (Cap.280)* governs the allocation and administration of all Government land both urban and agricultural. State owned land may be allocated free or sold on a commercial basis to individuals or communities by the Minister responsible for land administration. For cases where the state-owned land is being used by the public (for instance as settlements, for farming, for grazing or any other productive activity) the individual or the community would be expected to pay compensation.
- Forests Act 2005:* All state forests in Kenya were gazetted under Cap 383 but are now protected under the Forest Act 2005. The Forest Act allows for several avenues towards accessing and use of forestland:

- Under the Forest Act, a piece of forest land can be de-gazetted and converted to other uses. Forest Act however requires all de-gazetment of forest land to be discussed and approved by Parliament. All de-gazetted land then reverts to the Commissioner of Lands who then proceeds to allocate in line with the Land Control Act.
 - Under the Forest Act 2005, forestland can also be leased for use for other purposes provided that such use does not contradict the purpose for land reservation.
 - The same Act also allows for Participatory Management of Forests and thus guarantees communities (under auspices of Community Forest Associations) rights to access and utilize certain forest goods and services including citing of water supply intake works in forest areas. These intake works require that small infrastructure be placed in water courses to allow for abstraction.
- iii) *Wildlife Act Cap 376*: Nature Reserves and National Parks are controlled by the Kenya Wildlife Service under the Wildlife Management and Co-ordination Act of 1976. The common feature with all land reserved for use by wildlife is that its conversion to any other form must be approved by parliament.
- iv) *Museums and National Monuments*: Quite often, sites of historical and cultural importance are gazetted and reserved under the Museums and National Monuments Act. Such land is never available for alternative uses.
- v) *Riparian Reserves and Water Courses*: All riparian in Kenya is governed by the water Act of 2002 which empowers the Water Resources Management Authority-WRMA to define, conserve and regulate activity in riparian areas.
- vi) *Road reserves*: All road reserves are public land reserved under the Physical Planning Act Cap 286. Road Reserves are unique as public utility lands where all infrastructure lines such as for water supply, power and telecommunication will be found.

Trustlands: Trust land is defined as land held in trust in Part IX of the Constitution and the Trust Land Act (Cap.288). The Trust Lands Act (Cap.285) governs the administration of land as described in section 114 of the Constitution.

Private land: Transactions in private land in Kenya is regulated under diverse laws namely;-

- 1) Registration of Titles Act (R.T.A):
- 2) The Land Titles Act (L.T.A): Private land is all land with registered title in accordance with the Land Titles Act (Cap.282).
- 3) The Registered Land Act (R.L.A) governs registration of title to land, and for regulation of dealings in such land. It provides for private ownership of land by individuals. It should be noted that both individual and corporate persons can hold title under the RLA.
- 4) The Land Control Act Cap 406: This statute allows for all private land to be adjudicated and registered following which, a title deed is issued to the registered owner. Acquisition of private land is through transfer of the Title Deed either on account of inheritance, purchase or free gift but in all cases, transfers must be registered with the District Land Registrars following approval by the Land Control Boards.

2.2: Legal provision for involuntary land acquisition in Kenya

The Kenyan law has an explicit provision for expropriation of land under any of the three categories as follows: -

(i) Provisions under the Constitution:

In Kenya, expropriation is provided for in the Constitution under section 75 for private land and sections 117 and 118 for unregistered Trust Land. Section 75(1) provides that the Government can take possession of private land if this is necessary in the interest of town planning among other public interests, or if the development and utilization of the said land is to promote public benefit:-

- i) The development and utilization of the property will promote public benefit among other things.
- ii) The necessity for expropriation is great enough to justify any hardship caused to any persons
- iii) Law for prompt payment of full compensation makes the provision

The constitution however only provides general guidelines, and detailed procedures for land acquisition are elaborated under the Land Acquisition Act in Chapter 295 for private land and Chapter 288 for unregistered Trust Lands. These are expounded upon below.

(ii) Procedures under Chapter 295:

In approaching expropriation, a formal request from the Commissioner of Lands will be made by the benefiting authority, e.g. a municipal council in case of urban areas. Any other public body or Government may request for acquisition this way. The Commissioner will then forward the application to the Minister in charge of lands. If the minister is convinced that the land is required for public purpose, the Minister will write to the Commissioner to that effect, and directs the Commissioner to acquire the land (Section 6(1). The Commissioner will then give “Notice of Intention” to acquire the land (section 6(2) in the “Kenya Gazette” side by side with the “Notice of Inquiry”. The public announcements will be made announced widely in standard mass communication avenues such as newspapers and on the radio.

The “Notice of Intention” must mention the public body or the public purpose for which the land is to be acquired. The “Notice of Inquiry” must mention places and fixed dates when persons interested in the subject land are to submit their claims to the Commissioner of Lands or his appointee (a “Valuation Officer” also known as “Collector of compensation”) according to Section 9. Meanwhile, the Collector of Compensation will inspect the said land and value it for compensation. After the inquiry the Collector will issue an award depending on his own assessment and the representations of interested parties as submitted at the inquiry (Section 10 and 11).

The award is issued in the prescribed form indicating the amount of compensation awarded while the statement form gives the landowners option of acceptance or rejection of the award. If the landowner accepts the award, the collector will issue a cheque in settlement together with a formal “Notice of Taking Possession and Vesting” (section 19). The notice instructs the landowner to take his/her title for amendment or cancellation. It is copied to the Government Surveyor and the Land Registrar to make necessary changes to the affected deed. On the other hand, if the owner rejects the award, the collector deposits the money in court pending the former’s appeal. Privately owned property, would have to be compensated for at the market value. The general guiding principle is that whoever was using the land to be acquired would be provided alternative land of equal size and quality. An option for cash compensation in lieu of land may also be provided in case alternative land is not possible or not available. Replacement cost means replacement of assets with an amount sufficient to cover full

cost of lost assets and related transaction costs. The cost is to be based on Market rate (commercial rate) according to Kenyan law for sale of land or property. Replacement cost for agricultural land implies the market value of land of equal productive potential or use located in the vicinity of the affected land, plus the costs of preparing the land to levels similar to those of the affected land; and any registration and transfer taxes.

This statute is not likely to be triggered as the KPLC does not normally acquire land. It only enters into a way leave agreement with land owners who continue holding the tenure to land.

(iii) Procedures for land acquisition under Cap 288:

Cap 288 allows for the expropriation of Trust Land on condition that:-

The development and utilization of the property will promote public benefit among other things.

The necessity for expropriation is great enough to justify any hardship caused to any persons

Law for prompt payment of full compensation makes the provision. Procedures under Cap 288 start with a proposal to a Full Council Meeting where proposed acquisition is deliberated and consent given vide a Council Minute. The “District Commissioner” in charge of the affected area will then proceed to ascertain interests, determine areas and assess compensation for the land after which he is to issue an award.

Section 12 of Cap 295 allows for in-kind compensation as follows:- Notwithstanding anything contained in the Government Lands Act, where the land is acquired for the Government the Commissioner may agree with the person whom he has determined to be the proprietor of the land that that person, instead of receiving an award, shall receive a grant of land, not exceeding in value the amount of compensation which the Commissioner considers would have been awarded, and upon the conclusion of the agreement that person shall, subject to section 18, be deemed conclusively to have been awarded and to have received all the compensation to which he is entitled in respect of his interest. An agreement under subsection (1) shall be recorded in the award.

It should be noted that, other than the in-kind compensation allowed for under section 12 of Cap 295, GoK policies seem to favour compensation based on issue of cash awards and only payable to people determined to be proprietors of the land or tenants to the land. There is no other policy provision for Resettlement and rehabilitation under the GoK system. Therefore the principles of OP 4.12 are taken into account in design of the Resettlement and rehabilitation assistance.

Section 8.(1) of Cap 288 allows for compensation as follows:- Where land is set apart under section 7 of this Act, full compensation shall be promptly paid by the Government to any resident of the area of land set apart who under African customary law for the time being in force and applicable to the land has any right to occupy any part thereof; or is otherwise than in common with all other residents of the land, in some other way prejudicially affected by the setting apart.

A notice of setting apart published under section 7 of this Act shall also be published by displaying a copy at the District Commissioner's office and at some other public or conspicuous place in the area concerned.

Under section 9.(1), a person who claims to be entitled to compensation under section 8 of Cap 288 shall apply therefore to the District Commissioner once satisfied after consultation shall award the applicant a sum of compensation in accordance with subsection (3) of this section; and if he is not so

satisfied the District Commissioner shall reject the application. The compensation to be awarded shall be assessed by the District Commissioner after consultation with the Divisional Board, and shall be assessed in respect of the loss of the right of occupation referred to in paragraph (a), or in respect of the applicant having been otherwise prejudicially affected as referred to in paragraph (b), of section 8 (1) of this Act. The District Commissioner shall give notice in writing to the applicant of the award or of the rejection of the application as the case may be.

Cap 288 is not likely to be invoked since the KPLC does not acquire land.

(iv) Provisions of the Way-leaves Act (Cap 292):

Under Section 3 of this Act, the Government may carry any sewer, drain or pipeline into, through, over or under any lands whatsoever but may not in so doing interfere with any existing building. Under Section 4.(1), the Government shall, at least one month before carrying any sewer, drain or pipeline into, through, over or under any private land without the consent of the owner of the land, give notice of the intended work, either by notice in the Gazette or in such other manner as the Minister may in any case direct. The notice shall describe the nature of the intended work and shall name a place where the plan of the intended work is open for inspection at all reasonable hours. A copy of the notice shall either be served on every person resident in Kenya whose place of residence is known and who is known or believed to be the owner of any private land through, over or under which it is intended that any sewer, drain or pipeline shall be carried, or shall be posted in a conspicuous position on that land.

Section 6.(1) of this Act requires the Government to make good all damage done, and shall pay compensation to the owner of any tree or crops destroyed or damaged, in the execution of any power conferred by this Act. In the event of disagreement as to the amount of the compensation to be paid or as to the person entitled to receive compensation, any person interested may apply to the District Commissioner, who shall award to the person entitled to receive compensation such compensation as he thinks reasonable; and that award, subject to appeal to the Provincial Commissioner, shall be final.

KPLC will exploit windows available by this statute to negotiate land for way leaves following which compensation will take place at replacement cost value.

(v) Provisions of Cap 285-The Trustlands Act:

Under Section 38, Cap 285 provides for grant of way leaves for power transmissions as follows:-

- i) A wayleave licence may be granted to any person empowering him and his servants and agents to enter upon Trust land vested in the council and to lay pipes, make canals, aqueducts, weirs and dams and execute any other works required for the supply and use of water, to set up electric power or telephone lines, cables or aerial ropeways and erect poles and pylons therefore, and to make such excavations as may be necessary for the carrying out of any such purposes, and to maintain any such works as aforesaid:
- ii) Provided that, where the land concerned is the subject of a mining right under the Mining Act, or of a subsisting lease, Cap. 306. the council shall not grant a wayleave licence in respect of such land except with the consent of the lessee or the holder of the mining right, as the case

may be; but if any such lessee or holder refuses his consent, the council may apply to the Minister, who may grant consent in his place.

- iii) In any case where a wayleave licence over any such land has been applied for and the lessee or the holder of the mining right will suffer loss by reason of disturbance or damage to his interest, he shall be entitled to compensation therefore in such sum as may be agreed upon between the licensee and the lessee or holder, as the case may be, or, in default of such agreement, such sum as may be determined by the Minister.
- iv) The council may, after consultation with the Divisional Board, in addition to any award made under subsection (2) of this section, make a further award of compensation for loss of the use of land in any case where the usefulness of the land for agricultural purposes is impaired.
- v) All sums payable in respect of compensation under subsections (2) and (3) of this section shall be deposited with the District Commissioner by the applicant for the wayleave licence before the licence is granted.

This statute is proposed for application in case of the development of pylons on land owned by the Nanyuki Municipal Council .

2.3: Requirements of the World Bank:

2.3.1: Overview of the WBSGPs

World Bank projects and activities are governed by Operational Policies, which are clearly spelt out in the Bank's Operational Manual ("Bank Procedures" and "Good Practices"). The Environmental and Social Safeguard Policies whose objectives is to prevent and mitigate undue harm to people and their environment in the development process and have often provided a platform for the participation of stakeholders in project design, and have been an important instrument for building ownership among local populations and are thus a cornerstone to the Bank's support to sustainable poverty reduction. Subsequently, the effectiveness and development impact of projects and programs supported by the Bank has substantially increased as a result of attention to these policies. There are 11 safeguard policies, comprising the Bank's policy on Environmental Assessment (EA) Cultural Property; Disputed Areas; Forestry; Indigenous Peoples; International Waterways; Involuntary Resettlement; Natural Habitats; Pest Management; and Safety of Dams.

The thrust and thinking of policies deemed relevant to land acquisition is highlighted below.

Operational Policy 4.12- Involuntary Resettlement: OP 4.12 is to be complied with where involuntary resettlement impacts on livelihoods, acquisition of land or assets, or restrictions to natural resources, may take place as a result of the project. This requires that both a Resettlement Plan and Resettlement Policy Framework be developed by the project taking care to inbuilt measures to ensure that displaced persons are;- informed about their options and rights pertaining to resettlement; consulted on, offered choices among, and provided with technically and economically feasible resettlement alternatives; and provided prompt and effective compensation at full replacement cost for losses of assets attributable directly to the project.

If the impacts include physical relocation, the resettlement plan or resettlement policy framework includes measures to ensure that the displaced persons are provided assistance (such as moving allowances) during relocation; and provided with residential housing, or housing sites, or, as required, agricultural sites for which a combination of productive potential, locational advantages, and other factors is at least equivalent to the advantages of the old site.

Where necessary to achieve the objectives of the policy, the resettlement plan or resettlement policy framework also include measures to ensure that displaced persons are offered support after displacement, for a transition period, based on a reasonable estimate of the time likely to be needed to restore their livelihood and standards of living; and provided with development assistance in addition to compensation measures, such as land preparation, credit facilities, training, or job opportunities.

All persons are covered under this policy regardless of legal title

Operational Policy 4.11- Physical Cultural Resources: Cultural resources are important as sources of valuable historical and scientific information, as assets for economic and social development, and as integral parts of a people's cultural identity and practices. The loss of such resources is irreversible, but fortunately, it is often avoidable.

The objective of OP.4.11 is to avoid or mitigate adverse impacts on cultural resources from development projects that the World Bank finances. This RAP can report that no assets within the domain of OP 4.11 were identified within the entire ROT

Operational Policy 4.20 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.

This RAP hereby confirms that communities fitting the description of Indigenous Peoples (characterised by primary extraction of natural resources through hunting and gathering) were not encountered within the area to be traversed by the proposed project.

2.3.2: Mechanism for resolution of gaps between GoK and World Bank Policies on Land acquisition

Both the Kenyan and World Bank Policies on land acquisition- related impacts allow for land acquisition. However, operational differences exist between both documents as follows:-

- While the GoK Policy legally allows for land acquisition and thus causes displacement, the World Bank Safeguards favour a policy of avoidance or minimization of involuntary resettlement and design appropriate mitigation provision in case avoidance or minimisation is not possible.
- While the Kenyan system has no provision for resettlement and actually allows for compensation for land at market rates, the World Bank's Operational Policy- OP 4.12 emphasises that affected people be provided with compensation at replacement cost and supported during the transitional period to improve or at least restore their living standards to pre-displacement levels.

- The Kenya system recognises only title holders as bonafide property owners while under OP 4.12, lack of legal title is no bar in extending assistance and support to those affected by the investments.

This RAP recognises both provisions of the GoK on land acquisition as stated in the constitution and its legal provisions and the policy provisions of the World Bank (as provided in OP 4.12). Where there are gaps between the Bank and GoK requirements, additional provisions were made to bridge the gaps. Towards this resolution the following are proposed:-

Has been screened at feasibility study stage to determine the impacts associated with the land acquisition and resettlement impacts and accordingly determined the level of compensation commensurate with damage to be caused.

The proposed power transmission lines have been screened based on the number of livelihoods likely to be impacted and categorised S1 as it's likely to impact 2064 households (more than 40 households specified in OP 4.12 for category S1) subsequent to which, this full Resettlement Action Plan (RAP) has been prepared.

2.3.3: The KPLC Resettlement Policy

The KPLC operates within the overall policy and regulatory environment stipulated by the GOK. All activities in land transactions involving the KPLC are planned and scrutinised so as to be in harmony with existing GOK laws. Towards this, the KPLC operates fully fledged Legal and wayleaves departments to cater for the legal and policy aspects of land transactions.

CHAPTER THREE: SCOPE OF LAND TO BE AFFECTED BY CREATION OF WAY LEAVES

3.1: Overview

In sections below, an outline of the physical dimensions of proposed land affected and attendant displacement is provided. We provide data on nature of land-use along the ROT, an inventory of potentially affected people, potentially affected property etc and this chapter therefore provides a basis for computation of the compensation packages outlined in Chapter Four below.

3.2: Scope of the proposed Project

3.2.1: The proposed routes of traverse

Administrative territories to be traversed: As currently designed, the transmission lines will largely pass through Eastern province starting at its border with rift Valley province at Nanyuki and ending at the border with the latter province at Sultan Hamud- a distance of 264 kilometres. A total of 11 districts, 42 locations and 113 sub-locations will be traversed by the project.

Physical tracing of the Routes of Traverse: Transmission lines as currently designed will be constructed in three sections with dimensions as follows:-

- i) Nanyuki – Meru 132kV Line: Construction of approximately 74 km of 132 kV transmission line interconnector between Nanyuki and Meru.
- ii) Ishiara – Kieni: Construction of approximately 30km of 132 kV single circuit transmission line.
- iii) Mwingi – Kitui – Wote – Sultan Hamud: Construction of approximately 160km of single circuit 132 kV transmission line between Mwingi and Sultan Hamud.

3.2.2: Administrative territories to be traversed

As currently designed, the transmission lines will largely pass through Eastern province starting at its border with rift Valley province at Nanyuki and ending at the border with the latter province at Sultan Hamud- a distance of 264 kilometres. The entire project traverses through a total of 113 villages (sub-locations) scattered within 42 locations in 11 districts within Rift Valley and Eastern Provinces (table below).

Table 3.1: Administrative units traversed

Province	Districts	Locations	Villages
<i>Rift Valley</i>	1	9	22
<i>Eastern</i>	10	33	91
Totals	11	42	113

3.2.3: Socio-economic dynamics in the routes of traverse

A detailed account of the socio-economic profile in the routes of traverse is provided in Volume One of this Report. In this section, we highlight only those aspects with crucial bearing to land acquisition:

Status of well-being: The status of well being along the Routes of Traverse was investigated mainly based on observations on the source of livelihood for target family, ownership of assets, type family dwelling, etc and found to be strongly influenced by the agro-ecology which determines the livelihood

systems. Generally, with the exception of sections between Mwingi and Migwani and Kitui and Wote where pockets of poverty were encountered, the rest of the potentially affected areas have very narrow poverty gaps.

Occurrence of vulnerable groups: The impression of this study is that many vulnerable groups among them retired families with very limited capacity to re-establish new homes are quite prevalent within the Routes of Traverse. Families with disabled family members also frequently occur especially in the Nzaui District towards sultan Hamud.

3.2.3: Physical tracing of the Routes of Traverse

Transmission lines as currently designed will be constructed in three sections with dimensions as follows:-

- i) Nanyuki – Meru 132kV Line: Construction of approximately 74 km of 132 kV transmission line interconnector between Nanyuki and Meru.
- ii) Ishiara – Kieni: Construction of approximately 30km of 132 kV single circuit transmission line.
- iii) Mwingi – Kitui – Wote – Sultan Hamud: Construction of approximately 160km of single circuit 132 kV transmission line between Mwingi and Sultan Hamud.

During feasibility studies undertaken for this project, the Routes of Traverse was identified and clearly delineated in 1:50,000 scale Survey of Kenya Maps on which, all angle points were geo-referenced. For the RAP study, all the angle points were identified on the ground by use of GPS following which, the transects in-between and their distances were established as a precursor further detailed. Details of site conditions along the RoT are provide in Chapter Four below. However, a full description of the alignment is provided in Annex C of the Final Feasibility Study Report in respect if the Kenya Energy Access Upscale Programme as prepared by Ms. Norconsult.

3.2.4: Configuration of transmission lines

Transmission lines essentially comprise of Towers on which conductors are mounted. Design features for both components are highlighted below.

(i) The Towers:

Construction materials: The basic building block of the TL is the Tower which supports transmission lines (conductors) either on one side (single circuit) or, on both sides (double circuit). The beginning and end of sections of a TL (angle points) are marked and supported by Tension Towers also called Angle Towers in between which are found Line Towers at spacing of 270-350 metres. Design features for Towers are presented in Fig 3.1 below. The towers are mainly erected of stainless steel to a maximum height of 27 metres above ground level. On the towers are mounted insulators which support conductors on the towers.

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 as accounted for in the following. 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.

Tower foundations: Based on the observation of the ground conditions during the line routes surveys conventional pad and chimney reinforced concrete pad & chimney foundations are recommended. On certain sections where poor soils or submerged conditions are identified a raft type design might 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. All towers are assumed 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, should 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 should be installed aimed at less than 10 Ohms.

(ii) Conductors:

Conductors comprise the core media through which, power transmission takes place. In the design of the proposed TL, the Wolf Conductor is preferred on account of higher efficiency of transmission, thus resulting in lower losses of energy and cumulative un-served energy. The conductors recommended for the various sub-project options are Aluminium Conductor Steel Reinforced (ACSR) “Wolf” and “Lynx” conductors which are in accordance with KPLC’s standards.

3.2.5: Land requirement by the transmission lines

The practice of the KPLC is to require a way leave corridor of equivalent to 15m width on either side of the Center Line for 132 kV lines. Along the 30m wide corridor, an appropriate clearance between conductors and vegetation and structures needs be maintained which requires that houses and trees in excess of 7.5 metres are removed for the entire life of the transmission line. However, farming and grazing within the corridor is generally permitted. As for the tower foundations, they will require a permanent area of approximately 6-8 m x 6-8 m (36-64 m²) based on a typical 132 kV line tower.

3.2.6: Nature of land tenure within the routes of traverse

With the exception of the 700m of Imenti Forest traversed by the project, the rest of the land encountered within the three routes of traverse is privately owned. No other category of lands ownership is encountered within the three proposed routes of traverse.

3.2.7: Attitudes towards relocation and compensation

In the studies carried out 98% of respondents in the routes of TL were happy to move so long as they received satisfactory compensation. During the conduct of the survey most respondents stated that if the cash compensation was considered high enough, they would prefer that, otherwise the preferred option for compensation was land- for- land.

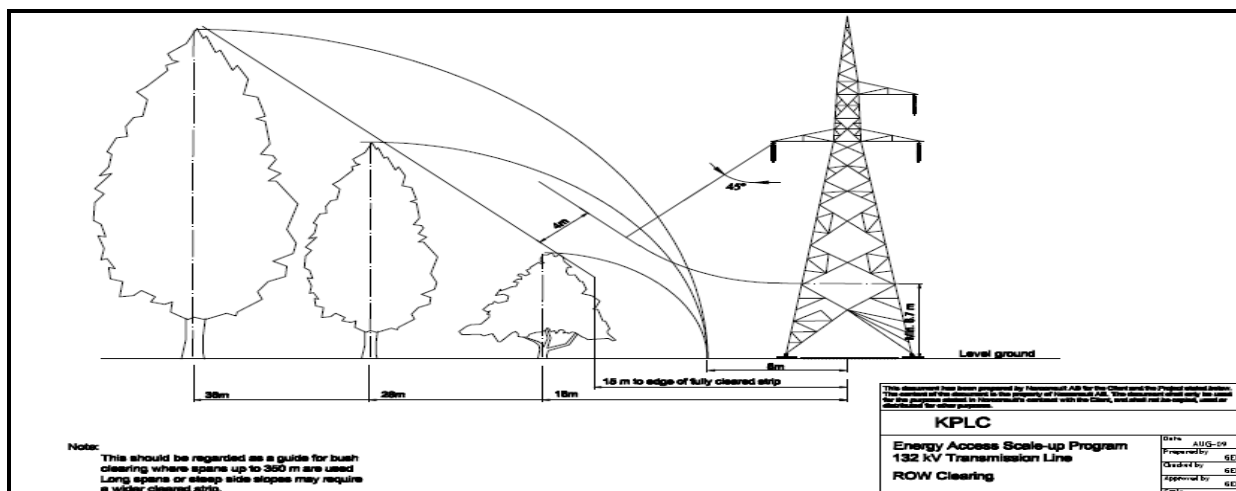


Figure 3.1: Modelling land requirements for a 132kV transmission line

3.3: Inventory of lands to be traversed

The entire inventory of farms/lands traversed by the proposed 3 sections of 132kV transmission lines is documented in Appendix 3.1 below. Key features of the inventory are as follows:-

3.3.1: Quantities of land affected and diversity of land to be traversed

From inventories undertaken as part of this RAP study, it has been determined that, the 3 transmission lines total about 264kilometres which will traverse a total of 2064 farms (table below). With an estimated length of 154kilometers, the Wote-Kitui-Mwingi-Sultan Hamud line accounts for 43.83% of the total farms traversed followed by Nanyuki-Meru at 37.01%, with the Ishiara-Kieni section accounting for only 19.16%.

With regard to density of coverage (farms per kilometre), an average of 9 to 10 farms are encountered within the Ishiara-Kieni and Mwingi-Kitui-Wote-Sultan Hamud routes owing to the high population densities encountered while a slightly lower density of 6.5 is encountered on the Nanyuki-Meru ROT possibly on account of the high frequency of large farms found in this area. Average farm size in the Nanyuki Meru section is generally in the range of 18 acres compared to 10.6 acres for Ishiara-Kieni and 3.7 acres for the Mwingi-Kitui-Wote-Sultan Hamud route.

Table 3.2: Summary of distance and farms traversed

Routes of Traverse	Length (km)	Total farms traversed	Total land acquisition (hectares)	Percentage	Farm densities (farms/km)
Meru-Nanyuki	75	764	293.1	37.04	6.5
Ishiara-Kieni	35	395	151.6	19.16	9.8
Mwingi-Kitui-Wote-Sultan Hamud	154	906	347.3	43.8	9.6
Totals (average)	264	2064	792.0	100.00	(8.6)

Inferring from table 3.2 above, a total of 792 hectares of land will be acquired to create the 264 kilometres of ROW with both the Nanyuki- Meru and Mwingi-Kitui-Wote-S/Hamud lines accounting for about 81% of the total acquisition.

3.3.2: Dynamics of land distribution within the routes of traverse

Towards determining the potential impact of land acquisition within the Routes of Traverse, an analysis of land holding patterns was undertaken for the sample of 2064 farms likely to be affected by the project. Land holdings are generally bigger along Nanyuki- Meru (average of 10.8 acres) followed by Ishiara Kieni (10.8) with the Mwingi to Sultan Hamud segment recording the lowest holdings averaging 3.7 acres. The largest land holding within the entire routes of traverse is the 11, 200 acres owned by Wangu Empori in Timau while the smallest holdings averaging 0.25 acres occur along both Nanyuki Meru and Mwingi to Sultan Hamud routes .

Comparison of the means and mode for land holding reveals that, majority of the land holdings in the Ishiara-Kieni routes (mode of 8 acres) closely approximate the mean holding of 10.8. A huge disparity between the mean land holding of 10.2 and mode of 2 acres evident for the Nanyuki-Meru routes implies that majority of the land holdings on this route are very small but occurrence of the 6 large-scale farms causes the mean holding to be elevated. The same scenario obtains for the Ishiara-Kieni routes where a low mode of 2 acres compares unfavourably with a mean of 3.7 (almost double the mode) implying that the bulk of the farms are below the mean land holding and the implication here is that the mean land holding does not reflect situation on the ground. Owing to this disparity, this study has adopted the mode value as the basis of all computations touching on average land holding.

With regard to proposed acquisition, land acquisition will be quite varied depending on the alignment and the size of target property. Though the mean acquisition averages 26.6%, some properties may lose as much as 94% of their land.

Table 3.3: Analysis of land holdings within the Routes of Traverse

Routes of transmission	Mean land holding (acres)	Max land holding (acres)	Min holding (acres)	Mode (acres)	Mean acquisition size (acres)	Range of acquisition (%)
Nanyuki Meru	18	11200	0.25	2	1.2	0.4 to 90
Ishiara Kieni	10.8	105	1	8	0.8	1 to 45
Mwingi-Kitui-Wote-S/Hamud	3.72	100	0.25	2	0.8	1.5 to 94



Figure 3.1: The proposed traverse through large tracts of land in the Timau area

3.3.3: Nature of land traversed

Appendix 3.1 provides an inventory of the property that was identified to fall within the proposed ROW corridor. Occurrence of physical assets within the three sections of the transmission lines is summarised in table 3.4 below. Generally, over 50% of all farms encountered within the proposed Routes of Traverse have existing developments- the most common of which are family dwelling units with support structures (kitchen, granary, farm stores, cow sheds, toilet, etc) while business premises and institutions are occasionally encountered. The Nanyuki-Meru a route is leading with 65% of the farms traversed being developed followed by Ishiara-Kieni with 63% while the Mwingi-Kitui-Wote-Sultan Hamud line has 50%. In the latter category, the portion of land developed was generally quite small as most of the land is still under rangelands especially in the Yatta plateau section between Tiva and Thwake rivers.

Table 3.4: Status of development of farms within the proposed ROW

Route of traverse	Total farms traversed	Total developed farms	Percentage of total farms (%)
<i>Nanyuki Meru-</i>	764	497	65
<i>Ishiara-Kieni</i>	395	239	63
<i>Mwingi-Kitui-Wote-Sultan Hamud</i>	906	434	50
<i>Totals (average)</i>	2064	1170	59.3

3.4 Nature of losses likely to be incurred

3.4.1: Damage to physical developments:

Table 3.5 below provides an analysis of properties encountered with the routes of traverse and which are likely to be partly or completely removed from the wayleave. Of the 2064 farms encountered in

the routes of traverse, 60% (1170 farms) have structures within the ROW while 40% are devoid of physical developments. Of those that are developed, 89.5% (1107 farms) have a main house comprised of a timber wall / iron sheets roof and above. The rest 10.5% have mud houses roofed with either iron sheets or thatch. This provides an indication of the damage likely. Appendix 3.1 provides a costed asset register for each of the 2064 farms encountered.

Table 3.5: Analysis of physical development on farms likely to be affected

Occurrence of structures			Nature of property on developed farms			
Number of structures found	Tally of farms	Percentage (%)	Type of structures	Tally of farms	Percentage (%)	
None	819	39.7	Thatched / Mud	15	1.2	10.5
1	207	60.3	Iron sheet / mud	115	9.3	89.5
2	257		Iron sheet / timber	464	37.5	
>3	783		Brick wall, iron sheet roof	427	34.5	
			Stone wall iron sheet roof	216	17.5	
Totals	2064	100		1237	100	100

3.4.2: Removal of trees

With the exception of sections occupied by large-scale farms in the Timau area, most farms encountered in the more humid and settled sections of the routes of traverse have exotic trees but towards the drier areas, indigenous trees dominated by *Croton megalocarpus*, Acacias, Combretum, Yellow wood (*Terminaria brownii*), *Cassia siamea*, *Acacia albida* etc dominate the scene. A total of 10,867 trees were counted within the proposed way leaves.

3.4.3: Possible damage to ecologically sensitive assets

This RAP recognises ecologically sensitive assets within the designated routes of traverse as follows:-

The North Imenti Forest: The proposed Nanyuki-Meru line has a 600m section through this forest reserve which is ecologically critical as it forms part of the wildlife migratory corridor connecting the Mt. Kenya Forest to the Nyambene Forests. This is the only section of gazetted forest encountered in the entire project.

The rangelands in the Yatta Plateau: Certain sections of the Yatta Plateau such as the Ilika area at the banks of the Athi River have near intact woodlands that serve to shield otherwise steep land from the forces of erosion. Clearing of such woodland to create the Way Leave Corridor certainly has ecological consequences that are dealt with at length in Volume One of this Report.

3.5: Computation of the financial implications of the losses

3.5.1: Valuation methods adopted

This RAP adopted diverse valuation methodologies as follows:-

Value of land under ROW: Length of land taken by ROW was multiplied by the 30m width to yield area in square meters from which total hectares and acres to be acquired was computed. The latter figure (acres) was multiplied by the market prices for land within the target locality to yield an estimate of total cost of the land to be acquired which for Way Leaves is compensated at 70% and at 100% for small plots and tower foundation areas respectively.

Valuation of buildings and other structures: Valuation of buildings and other structures used an estimate of the total effort invested in terms of building materials (floor, wall, roof type, finish and labour input) which was valued at market rates without factoring in depreciation. The outcome was used to adjust the value of target property as previously estimated by the owner during questionnaire surveys so as to arrive at objective costing of the total damage due to the target structure. The **replacement cost** principle was used to arrive at the total cost implication of shifting the affected structure to another point away from the way-leave.

Valuation of trees within the ROW: The KPLC's gazetted schedule of rates was applied in valuation of trees falling within the ROW.

3.5.2: Total cost of damages associated with creation of way leaves

A comprehensive computation of the total costs of damages is provided in Assets Register issued as appendix 3.1 to this report. Table 3.6 below provides a summary of the Assets register as per the valuation. From this analysis, the likely cost of the damage anticipated from creation of the wayleaves is slightly over one half of a Billion Kenya shilling (Ksh 502,470,720), 55.2% of which will go towards compensation for land with 44.2% going towards meeting the cost of removal of buildings.

Table 3.6: Computation of cost of damages

Column	1	2	3	4	5	6	7	8	9
Parameter	Total holding [ha]	Length of ROW [m]	Land under ROW (ha)	Loss to wayleave (%)	Trees in ROW	Value to land (ksh)	Value to property (ksh)	Value to trees (ksh)	Total costs (ksh)
Valuation (ksh)						150,000	50,000 – 1,100,000	300	
Totals	13770	263850	792	5.7	10,867	277,339,200	221,871,360	3,260,160	502,470,720
Percentage (%) allocation						55.20	44.15	0.65	100.00

CHAPTER 4: THE ENTITLEMENT MATRIX FOR RESETTLEMENT MITIGATION

4.1: Principles of this RAP

Computation of the entitlement matrix presented below is based on core principles as follows:-

4.1.1: Minimization of Displacement:

In line with the OP 4.12, displacement under the project will be minimised through the following design procedures:

- Wherever inhabited dwellings may potentially be affected by the transmission lines, the latter was re-routed to avoid any impact on such dwellings and to avoid displacement/relocation accordingly;
- The same applies to structures used for commercial activities and other businesses. Wherever the impact on the land holding of one particular household is such that this household may not be sustainable in the long term, even if there is no need to physically displace this household, the sub-project shall be redesigned (facility relocation, rerouting) to avoid any such impact;
- To the extent possible, Project facilities will utilize public easements- pipelines, public taps, other linear infrastructures etc will be routed inside existing right-of-ways (roads, streets, and power lines) wherever possible.

4.1.2: Livelihood Restoration

One of the objectives of this RAP is to ensure that livelihoods are improved or restored to pre-displacement levels. Compensation for affected property will therefore seek to facilitate full and smooth recovery without exposing the PAPs to vulnerability and this applies to people who are not necessarily physically displaced but who are affected by a land loss that affects their sustainability.

The following principles will be followed in effecting payment of compensation for lost assets -

- Compensation shall be paid prior to acquisition or displacement;
- Compensation will be at replacement cost.
- Compensation for structures shall include: the full cost of materials and labour required for reconstructing a building of similar surface and standing. In other words, the affected person must be able to have their structure rebuilt in a different location using the compensation paid for the old building. Depreciation will not be taken into account while calculating the cost of affected structures. The Compensation package will also include cost of moving, such as transport costs as well as any associated land titling or transfer fees.
- To Consult Stakeholders, including Communities and Ensure their Participation in the Compensation Policy for Loss of Land

4.1.3: Need to establish the pre-project baseline data:

This was undertaken through the socio-economic survey on the PAPs.

4.1.4: The need to cushion vulnerable groups

This RAP recognises the need for providing additional support to the vulnerable groups to facilitate faster adjustment in terms of relocating property and re-establishing any business lost. Vulnerable

households therefore may have different needs from most households, or needs unrelated to the amount of land available to them.

As part of the inventory of PAPs, this study undertook an inventory of vulnerable individuals within households and recorded details that may be indicative of proneness to economic and social vulnerability. Thus, in addition to entitlements proposed to ordinary households, those who are found in difficult situations and are at greater risk of impoverishment (i.e. widowed household heads, households without employment, single parent households, etc) as identified by the census will be provided with appropriate assistance by the project.

Vulnerable groups have been identified as follows:-

Indigenous people: These are people who are closely tied to their traditional or customary lands and natural resources on these lands, but these lands may not be under legal ownership. Any form of resettlement for indigenous people embodies more serious risks than for any other populations and should consequently be avoided. If this is not feasible, the indigenous peoples' land use will be documented by experts in collaboration with the affected households without prejudicing any land claim. The affected indigenous people will be informed of their rights with respect to these lands under national laws, including any national law recognizing customary rights or use.

This RAP wishes to declare that investigations did not reveal occurrence of any Indigenous peoples within the proposed Routes of Traverse.

Elderly persons: Elderly people farm or work as long as they are able. Their economic viability may depend on how much land they farm or how much they produce because, by producing even small amounts of food to "exchange" with others, they can subsist on cooked food and generous return gifts of cereal from people such as their kith, kin and neighbours. Displacement will affect their economic viability. However, resettlement would damage their economic viability even more than losing land since it will separate them from the person or household on whom they depend for their support.

HIV/AIDS afflicted persons: Relatively high percentages of the poor and total population are living with HIV or are terminally ill with AIDS. Many are beneficiaries of numerous health programmes from the government, international organizations and the NGO community.

Orphans and street children: Due to the impacts of the AIDS pandemic, there are a considerable number of orphaned children, whose parents have died from AIDS related diseases. These children today fall into three categories of care namely (i) those being looked after by close relatives, (ii) those being looked after by the government, local authorities or NGOs and (iii) those living alone and providing for themselves and other siblings. These children are more vulnerable since they are often "voiceless" because they have no parents to defend or stand up for them and also because they are considered too young to be heard.

4.1.5: A fair and equitable set of compensation must be negotiated:

As was argued elsewhere above, the Kenyan law only recognizes title holders as bonafide claimants to land. However, in line with requirements of OP 4.12, the entitlement matrix has provision to ensure fair compensation to squatters and encroaches.

4.1.6: Assistance in relocation must be made available:

Compensation, alone, is insufficient to meet the objectives of the RAP, which is to restore, or preferably improve, pre-project living standards and productive incomes of farmers who are to lose a significant amount or all of their agricultural land, or of businesses who must re-establish themselves.. Income restoration measures have been designed to assist all severely affected farmers and others losing productive/income generating assets, including those losing their place of residence and for vulnerable households. The objective is to restore their pre-project standards of living and productive incomes and to improve those of the poor and vulnerable. These measures may include the following:

i) Provision of agricultural extension services:

Severely affected farmers and vulnerable affected people will be assisted to improve productivity on remaining agricultural land, by linking them with pre-existing government – run programmes such as ‘Agriculture Encouragement’. Links will be facilitated by KPLC and the other implementing agencies to the Ministry of Agriculture, once a demand assessment had been carried out.

ii) Skills Training:

Severely affected PAPs and those from vulnerable groups will be given the option to select any training they wish, which would help them to maintain and/or improve their income generation potential. The skills training program will be designed during project implementation, Trainees will be entitled to a subsistence allowance during the training period, which may last from between three to six months on average;

iii) Project related job opportunities: Severely affected persons will be prioritized in gaining employment in the works linked to the Project. KPLC will ensure that this is included in the contractors’ specifications wherever possible.

iv) Assistance through Corporate Social Responsibility (CSR) programme: As part of its CSR programme, the KPLC should explore means of remaining engaged in communities adversely affected by the proposed project. This could be through assistance to community based projects in the targets area.

4.1.7: Resettlement must be seen as an inevitable upfront cost:

All compensation will have to be paid and concluded before ground breaking-before recruitment of contractors.

4.1.8: An independent Grievance Redress Mechanism to be put in place:

Provision for this is made in chapter five below. The team must comprise of people who are not stakeholders to the compensation.

4.2: The Entitlement Matrix

The entitlement matrix outlined in Table 4.1 below defines the type of compensation and assistance to be provided to the different categories of project affected households.

4.3: The Cut-off date

The Cut of date effective to this RAP from which eligibility for compensation will be terminated will be proclaimed and new inhabitants coming to the project affected areas will not be considered for

compensation. The same will coincide with expiry of the public review period as advertised by the National Environmental Management Authority. Thus, in estimating the compensation to be given for any land or any estate therein or the potential profits thereof, the value of such lands, estates or interests or profits at the time of the emission of the notice to acquire, and shall not take into account any improvements or works made or constructed thereafter on the lands.

Table 4.1: Entitlement Matrix for different types of impacts

NO	Type of Loss	Unit of entitlement	Entitlements
A. Loss of Agricultural Land			
1	More than 20% of land or residual land is viable ¹ .	(a) Title holder	<ul style="list-style-type: none"> 70% cash compensation at replacement cost for the portion surrendered. 100% cash compensation for land taken for tower foundations. Compensation for any trees removed based on economic value for cash crops.
		(b) Tenants	<ul style="list-style-type: none"> Cash compensation for standing tree crops Advance notice to vacate.
		(c) Encroachers	<ul style="list-style-type: none"> Cash compensation for standing tree crops Advance Notice to vacate.
2	More than 20% of land lost or residual land is economically non-viable	(a) Title holder	<ul style="list-style-type: none"> 100% cash compensation at replacement cost for the lost portion. Landowner retains right over the entire plot subject to rules for such wayleaves.
		(b) Tenants	<ul style="list-style-type: none"> Cash compensation for standing tree crops Advance notice to vacate
		(c) Encroachers	<ul style="list-style-type: none"> Cash compensation for standing tree crops Advance Notice to vacate.
B. Loss of residential/commercial/industrial land			
1	Partial loss of land but residual is viable ²	(a) Title holder	<ul style="list-style-type: none"> 70% Cash compensation for loss at replacement cost. Landowner retains right over the entire plot subject to rules for such wayleaves. 100% cash compensation for land taken for tower foundations.
		(b) Tenant/Leaseholder	<ul style="list-style-type: none"> Cash compensation for standing tree crops Advance notice to vacate.
		(c) Squatters	<ul style="list-style-type: none"> Cash compensation for standing tree crops Advance notice to vacate.
2	Entire loss of land	(a) owners	<ul style="list-style-type: none"> 100% Cash compensation for entire land holding at replacement cost Landowner retains right over the entire plot subject to rules for such wayleaves.
		(b) Tenants/ Lease holders	<ul style="list-style-type: none"> Cash compensation for standing tree crops Advance notice to vacate
		(c) Squatters	<ul style="list-style-type: none"> Replacement cost for standing assets, Cash compensation for standing tree crops Advance notice to vacate
C. Loss of structures			
1	Partial loss but residential viable	(a) Legal User with valid titles	<ul style="list-style-type: none"> Cash compensation at replacement cost for affected portion calculated on MOW rate

¹ Non arable land either because of rockiness, slope exceeding 55%, water logging, or cannot afford space adequate for housing and economic utilization.

² Land can still be exploited economically for residential, commercial or industrial uses as per local zoning class.

NO	Type of Loss	Unit of entitlement	Entitlements
			without depreciation; <ul style="list-style-type: none"> • Repair costs equivalent to 25% of the compensation • Right to salvage material
		(b) Owner without titles	<ul style="list-style-type: none"> • Cash compensation at replacement cost for affected portion based on MOW rates without depreciation. • Repair costs for unaffected structure at 25% of compensation • Right to salvage material
		(c) Squatter	<ul style="list-style-type: none"> • Cash compensation at replacement cost for affected portion based on MOW rate without factoring depreciation. • Repair costs for unaffected structure at 25% of compensation • Right to salvage material
2	Fully affected/ part affected and remaining structure is non-viable	(a) Land owner with valid title	<ul style="list-style-type: none"> • Cash compensation at replacement cost of the affected unit based on MOW rates without depreciation plus a house building allowance at 25% of compensation. • Right to salvage materials. • Advance notice to vacate
		(b) Tenant/ Lease Holder	<ul style="list-style-type: none"> • Cash compensation at replacement cost of the affected unit based on MOW rates without depreciation plus a house building allowance at 25% of compensation. • Right to salvage materials
		(c) Squatter	<ul style="list-style-type: none"> • Cash compensation at replacement cost of the affected unit based on MOW rates without depreciation plus a house building allowance at 25% of compensation. • Right to salvage materials.
D. Loss of standing tree crops			
		All Cultivators	<ul style="list-style-type: none"> • Cash compensation based on the annual market value of target crops for the previous 3 years.
E. Loss of community propriety resources			
			<ul style="list-style-type: none"> • Cash compensation at replacement cost for affected portion calculated on MOW rate without depreciation; • Repair costs equivalent to 25% of the compensation • Right to salvage material
F. Assistance to vulnerable groups			
			Socio-department of KPLC to consider other assistance over and above compensation package to cushion them against impact of such disability. To be treated on merit basis.

CHAPTER 5: PLANNING FOR LAND ACQUISITION AND RESETTLEMENT MITIGATION

5.1: Disclosure of this RAP

The draft RAP will be disclosed prior to stakeholder's consultations. In line with OP 4.12, the RAP will also be disclosed as a separate and stand-alone document by the KPLC in capacity of Executing Agency in line with EMCA 1999. The RAP will be disclosed at strategic positions within the Routes of Traverse where it can be accessed by potentially affected people. IN keeping with the tradition established by NEMA, this RAP should be disclosed alongside the ESIA reports in designated locations as follows:-

- The NEMA headquarters in Nairobi,
- Provincial Directorates of Environment for Rift Valley and Eastern Provinces,
- The District Environmental Offices in all affected districts (11 districts),
- The District Environmental Office at Machakos owing to its centrality.

Subsequent to this, meetings will be held to further disclose the RAP to ensure that the proposed project is understood clearly by those likely to be affected. Information accruing will be used to further refine the Entitlement Matrix provided for in Chapter Four above.

5.2: Finalisation of the Inventory of Project Affected People and Asset register

5.2.1: Revalidation on Inventory of PASPs through routes surveys

Upon completion of compilation of Asset Register (Appendix 3.1), the KPLC Survey Team will document and benchmark the routes of traverse by establishing the centre line. IN the process, this will revalidate the Inventory of PAPs and Asset Register as already provided in Appendix 3.1 of this RAP.

From the survey works, the Wayleaves Department of the KPLC will undertake valuation of the assets so as to determine the payments due to PAPs in the form of compensation and assistance. During negotiation, values of each asset will be pre-printed, shown to the affected person, and set against the type and number of such losses that the individual will be shown, and the total of all losses as well.

5.2.2: Negotiations on modalities for compensation

Upon assembly of the final register, PAPs in different administrative units eg wards will be brought together in a meeting (through the Provincial Administration) where the intention to effect compensation and modalities of negotiation will be discussed. If need be, PAPs in allocation will be organised to form a PAP committee which will then undertake negotiation on their behalf. This is the committees through which compensation/ and possible grievances will be effected.

This study has confirmed that the KPLC has clearly stipulated and operational guidelines which are applied b in effecting wayleave agreements and attendant compensation. The same are recommended for application in this RAP. Proceedings are as follows:-

- i) The Chief Wayleaves Officer receives inter office memo and marked drawing from Design Engineer requesting wayleaves clearance and on receipt of the same it is recorded by a wayleaves clerk and thereafter the job is allocated to wayleaves officer.
- ii) The Wayleaves Officer identifies if Public approvals are required or wayleave agreement forms are necessary. If Public approvals are required, he instructs the wayleaves clerk to obtain coloured design drawing and forwards them for application for public approval.
- iii) If agreement are required he instructs the wayleaves clerk to obtain the proposed plan to trace the site plan for each parcel affected by the powerline.
- iv) After preparing all the wayleaves agreements, a list of the plot numbers affected is prepared and the same are used to carry-out personal title searches from the respective District Land Registrar Office to determine the registered owners and their contact. The name of landowners is inserted to each and every wayleaves agreement form affected.
- v) The wayleaves officer allocates the agreement form to his/her wayleaves assistant to physically look for the landowners from wherever they could be to sign the agreements forms.
- vi) Assuming that all the agreements are signed the wayleaves assistant forwards them to the wayleaves officer to counter check and record for filing for future reference. In case some land owners dissents, the Design Engineer is notified and he explores an alternative route and the exercise is repeated.
- vii) Once the public approval is obtained where applicable the Design Engineer/construction is advised of completion of the wayleaves acquisition for the construction works to proceed.

5.3: Modalities for payment of compensation

Payment of compensation and other assistance will be implemented within existing machinery of the KPLC in accordance with Cap 288 of the laws of Kenya. The KPLC payment process will be followed as stipulated below:-

- i) The Chief Wayleaves Officer receives inter office memo and marked drawing from Design Engineer requesting wayleaves clearance and on receipt of the same it is recorded by a wayleaves clerk and thereafter the job is allocated to wayleaves officer. The Wayleaves Officer identifies if Public approvals are required or wayleave agreement forms are necessary. If Public approvals are required, he instructs the wayleaves clerk to obtain coloured design drawing and forwards them for application for public approval. If agreement is required he instructs the wayleaves clerk to obtain the proposed plan to trace the site plan for each parcel affected by the powerline.
- ii) After preparing all the wayleaves agreements, a list of the plot numbers affected is prepared and the same are used to carry-out personal title searches from the respective District Land Registrar Office to determine the registered owners and their contact. The names of landowners are inserted to each and every wayleaves agreement form affected. The wayleaves officer allocates the agreement form to his/her wayleaves assistant to physically look for the landowners from wherever they could be to sign the agreements forms.

- iii) Assuming that all the agreements are signed the wayleaves assistant forwards them to the wayleaves officer to counter check and record for filing for future reference. In case some land owners dissents, the Design Engineer is notified and he explores an alternative route and the exercise is repeated. Once the public approval are obtained where applicable the Design Engineer/construction is advised of completion of the wayleaves Acquisition for the construction works to proceed.
- iv) The Wayleaves Officer shall assign the job to wayleaves assistant who shall record actual damages per plot on the property damage report form which are serialised in the presence of property owner and Engineer/Surveyor/Contractor. The property owner acknowledges the damage as correctly assessed and recorded by signing and Engineer/Surveyor/Construction contractor confirms by signing the report.
- v) The Wayleaves assistant forwards the endorsed property damage reports to wayleaves officer who shall counter check the details and signatures. If correctly done he assign the wayleaves clerk to compute each and every damage report. The wayleaves clerk forwards the computed property damage reports to wayleaves officer for counter checking and Costing and typing. He forwards the same to Chief Wayleaves Officer who ensures that they are correctly done and amount provided for in the budget are not overspent certifies the same, then forwards them to the Divisional Heads for Approvals.
- vi) If approved, the same are returned to wayleaves officer through Chief Wayleaves Officer for settlement. On receipt of approved property damage and compensation forms, the originating wayleaves officer arranges with area accountant for date of payment.
- vii) The wayleaves officer advises the property owners and the provincial Administration (Area chief) the agreed date and time and place for payments .

5.4: Grievance Redresses Mechanism

As part of the RAP, options for instituting independent grievance mechanisms were explored. This RAP recommends that for every location traversed by the proposed transmission lines, a grievance redress team comprised of respected local elders be put in place to coordinate with the KPLC's Way Leaves department in responding to all grievances. The Grievance Team will comprise of three members who are not associated/ stakeholders to the implementation. The grievance redress mechanisms will aim to solve disputes at the earliest possible time in the interest of all parties concerned.

Grievance procedures may be invoked at any time, depending on the complaint. No person or community from whom land or other productive assets are to be taken will be required to surrender those assets until any complaints he/she has about the method or value of the assets or proposed measures are satisfactorily resolved. If the verdict rendered by the GRT is not acceptable, the aggrieved party can take recourse to the High Court whose decision will be final.

5.5: Institutional coordination

The Role of the KPLC: All preparatory work towards land acquisition will be coordinated by the KPLC. In this capacity, the KPLC will interface with other stakeholders such the Provincial

Administration, relevant Departments of Lands, DDCs, etc on matters touching on land acquisition and compensation. To facilitate this process, the KPLC will designate representatives to facilitate negotiation.

The National Environment Management Authority-NEMA: In the capacity of Environmental Regulator, NEMA will review the ESIA report in respect of the proposed transmission line to ascertain efficacy and adequacy of proposed ESMP and since land is identified as an impact, NEMA will review and clear this RAP before implementation and grant of Environmental Licenses. Thereafter, NEMA will monitor project implementation to ensure adherence to the ESMPs. It is recommended that NEMA be invited to all site meetings during construction and defect liability periods.

5.6: Requirements for Monitoring and Evaluation

General Monitoring by the KPLC: The arrangements for monitoring will fit in the overall monitoring plan of the entire project under auspices of the KPLC. For purposes of this RAP, monitoring will ensure smooth administration of the compensation packages in a matter that favours all. Exposure of PAPs to vulnerability has to be safeguarded against all costs.

Post Project Impact Assessment: In order to ensure that compensation and assistance will enable the affected people to improve or restore their livelihoods, an impact assessment will be undertaken 6-12 months after the implementation is completed to evaluate whether the intended objectives are realised. For this, suitable baseline indicators related to income, assets, land ownership, expenditure pattern of key activities, housing conditions, access to basic amenities, demographic characteristics, indebtedness, etc.

Monitoring reports will be submitted to the KPLC's monitoring unit who will synthesize monitoring reports to:-

- a) Provide timely information about all resettlement arising as a result of development of the transmission lines PMU activities;
- b) Identify any grievances that have not been resolved at a local level and require resolution through the involvement of the PCU;
- c) Document the timely completion of project resettlement obligations for all permanent and temporary losses;
- d) Evaluate whether all PAPs have been compensated in accordance with the requirements of this RAP and that PAPs have higher living standards in comparison to their living standards before physical or economic displacement.

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

The subject of this RAP Report is the proposed construction of 240 km of 132kV power transmission lines by the KPLC in sections between Nanyuki to Meru, Embu Ishiara and Mwingi, Kitui-Wote Sultan Hamud.

This RAP has been prepared consistent with the applicable policy provisions of Kenyan Government and the provisions of the World Bank's Safeguard Policy on Involuntary Resettlement (OP 4.12). OP 4.12 requires that a RAP be prepared for all projects that anticipate land acquisition and displacement affecting shelter, livelihood and associated impacts. Basically, this RAP presents an inventory of (register) of people likely to be affected by development of the transmission lines, a register of the assets that are likely to be displaced by the project and the proposed compensation package.

Baseline data on proposed development was generated through desktop studies, site visits and interviews with the proponent, potentially affected people. Stakeholder consultations were undertaken towards development of a Resettlement Action Plan (RAP) and as per requirements of EMCA. To identify, predict, analyze and evaluate the various impacts that may emanate from the project, diverse study methods and tools including use of checklists, matrices, expert opinion and observations were employed.

Development of the project has been justified on the basis that it will improve access to electric power in a country where current national coverage averages allow 14% with most connections being recorded in urban areas. Provision of additional and stable has potential to unlock the economic potential of rural areas and thus contribute to national economic growth.

Project Impacts: The project is 264kilometres long and will affect a total of 2064 farms. A total of 792ha will be earmarked for creation of wayleaves on which all physical development and trees taller than 7metres will be removed. This constitutes the most drastic impact of the project. An Asset register detailing the features of all farms likely to be affected and the likely damage has been prepared as part of this RAP. A total of Ksh half a billion will be required to effect way leave agreements and offset damage to property. This is the responsibility of the KPLC in capacity of proponent.

An entitlement matrix setting out compensation packages for diverse impacts has been prepared.

Way leave agreements and payment of compensation will be approached using procedures already operationalised by the KPLC's Wayleaves Department. Other recommendations are as follows-

Recommendations:

- ✓ Continuous sensitisation of affected communities in the pre-construction phase of the project, especially in the populated areas of traverse should be encouraged as a preparatory measure before project implementation. KPLC should be at the forefront in ensuring this is carried out
- ✓ KPLC should compensate all the affected persons in a timely manner using the prevailing market rates.

- ✓ Compensation to PAPs should be made before demolition commences. This will be done at either the KPLC offices and/or provincial administration offices. A minimum of one month notice should to be given to the PAPs to enable them salvage their assets
- ✓ KPLC should negotiate an MOU with KFS on use of Imenti Forest to cover not only the current project but similar projects in future

KPLC should be responsive and live up to corporate social responsibility in the project area through the following activities: Rural electrification programme , Water supply, engagement in conservation through funding of reforestation and other catchment conservation programmes.

Monitoring and Evaluation: For the RAP to be successful there will be need for continued monitoring and evaluation. This will ensure that arising issues are properly addressed.

APPENDICES

1.1: Sample Questionnaire

1.2: List of secondary stakeholders Consulted

1.3: Schedule of rates from the KPLC

3.1: Inventory of PAPs –Issued as a standalone report

Annex One: Definition of Terms used in the Report

Unless the context dictates otherwise, the following terms shall have the following meanings:

“Census” means a field survey carried out to identify and determine the number of Project Affected Families/households/Persons (PAF/PAH/PAP) or Displaced families (DFs). The meaning of the word shall also embrace the criteria for eligibility for compensation, resettlement and other measures emanating from consultations with affected communities.

Project Affected Person(s) (PAPs) are persons affected by land use or acquisition needs of the Program. These person(s) are affected because they may lose, be denied, or be restricted access to economic assets; lose shelter, income sources, or means of livelihood. These persons are affected whether or not they must move to another location.

“Compensation” means the payment in kind, cash or other assets given in exchange for the acquisition of land including fixed assets thereon.

“Cut-off date” is the date of commencement of the census of PAPs or DPs within the project area boundaries. This is the date on and beyond which any person whose land is occupied for project use, will not be eligible for compensation.

“Displaced Persons” mean persons who, for reasons due to involuntary acquisition or voluntary contribution of their land and other assets under the project, will suffer direct economic and or social adverse impacts, regardless of whether or not the said Displaced Persons are physically relocated. These people will have their: standard of living adversely affected, whether or not the Displaced Person must move to another location ; lose right, title, interest in any house, land (including premises, agricultural and grazing land) or any other fixed or movable assets acquired or possessed, lose access to productive assets or any means of livelihood.

“Involuntary Displacement” means the involuntary acquisition of land resulting in direct or indirect economic and social impacts caused by: Loss of benefits from use of such land; relocation or loss of shelter; loss of assets or access to assets; or loss of income sources or means of livelihood, whether or not the Displaced Persons has moved to another location; or not.

”Involuntary Land Acquisition” is the repossession of land by government or other government agencies for compensation, for the purposes of a public project against the will of the landowner. The landowner may be left with the right to negotiate the amount of compensation proposed. This includes land or assets for which the owner enjoys uncontested customary rights.

“Land” refers to agricultural and/or non-agricultural land and any structures thereon whether temporary or permanent and which may be required for the Project.

”Land acquisition” means the repossession of or alienation of land, buildings or other assets thereon for purposes of the Project.

Lease holder: A land user who has obtained temporary usage of the land on account of having entered

into a lease agreement with the owner.

Legal and legalizable Users of Agricultural Land: The right for Project Affected Persons (PAPs) to use land permanently comes in the form of a Land Use Right Certificate (LURC) issued by the district authority which

as the power to grant such rights. These PAPs have full title to the land and will be compensated as such. This category of PAPs shall also include those who are in the process of obtaining permanent land use rights and who have documents to prove this. Pending issuance, these families will have been issued with a temporary certificate by the People's Committee, as it usually takes several years before a LURC can be issued. In the meantime, the land users are considered to be legal occupants with the same rights as permanent legal occupants and they will be compensated as such.

Legal and legalizable Users of Residential and Commercial Land: PAPs who have the right to use land permanently, in the form of a LURC, issued by the district authority which has the power to grant such rights. These PAPs have full title to the land. This category also includes PAPs who are in the process of obtaining permanent LURCs and have been issued temporary LURCs pending completion of the permanent certificates.

Market rate: The selling price of a commodity in the open competitive market.

Rehabilitation Assistance means the provision of development assistance in addition to Compensation such as moving and subsistence allowance, land preparation assistance, credit facilities, training, or job opportunities, needed to enable Displaced Persons to improve their living standards, income earning capacity and production levels; or at least maintain them at pre-Project levels.

Resettlement and Compensation Plan, also known as a **“Resettlement Action Plan (RAP)”** or **“Resettlement Plan”** - is a resettlement instrument (document) to be prepared when program locations are identified. In such cases, land acquisition leads to physical displacement of persons, and/or loss of shelter, and/or loss of livelihoods and/or loss, denial or restriction of access to economic resources. RAPs are prepared by the party impacting on the people and their livelihoods. RAPs contain specific and legal binding requirements to resettle and compensate the affected party before implementation of the project activities.

“Replacement cost” means replacement of assets with same quality and quantity with an amount sufficient to cover full cost of lost assets and related transaction costs and taxes. The cost is to be based on **Market rate (commercial rate)** according to Kenyan law for sale of land or property. In terms of land, this may be categorized as follows; (a) **“Replacement cost for agricultural land”** means the pre-project or pre-displacement, whichever is higher, market value of land of equal productive potential or use located in the vicinity of the affected land, plus the costs of: (b) preparing the land to levels similar to those of the affected land; and (c) any registration and transfer taxes;

“Replacement cost for houses and other structures” means the prevailing cost of replacing affected structures, in an area and of the quality similar to or better than that of the affected structures. Such costs shall include: (a) transporting building materials to the construction site; (b) any labor and contractors' fees; and (c) any registration costs.

“Resettlement Assistance” means the measures to ensure that Displaced Persons who may require to be physically relocated are provided with assistance during relocation, such as moving allowances,

residential housing or rentals whichever is feasible and as required, for ease of resettlement.

A Squatter: An individual occupying land to which they have no claim under any tenure system.