

# **Environmental and Social Impact Assessment for the Power Supply Component of the Mombasa SEZ Development Project**

## **ESIA Study Report**

file : Water & Environment'

registration number : Pan-17-038

version : Final

**Kenya Electricity Transmission Co. Ltd. (KETRACO)**

January 2019

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**PROJECT SUMMARY**

<b>Consulting Services for:</b>	Consultancy Services for carrying out Environmental and Social Impact Assessment (ESIA) Study for the Proposed Mariakani-Dongo Kundu 220kV Transmission Line
<b>Project Components</b>	<p>The project is composed of a 220 kV Transmission Line extending over a distance of approximately 53 km from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County and a substation at Dongo Kundu.</p> <p>The main components of the Project are:</p> <ul style="list-style-type: none"> <li>• Development of 220 kV transmission line from Mariakani 400/220 kV substation to Mombasa SEZ (The Mariakani 400/220 kV substation is not included in the Project scope)</li> <li>• Development of 220/33 kV substation inside Mombasa SEZ</li> <li>• Development of 33 kV distribution line inside Mombasa SEZ from 220/32 kV substation</li> </ul>
<b>Project Objectives</b>	To provide adequate power supply for the proposed Special Economic Zone that will host an Industrial Park, Free Trade Zones, Residential Area, Enterprise and Port Facility among others components.
<b>ESIA Study Objectives:</b>	<p>To evaluate the Environmental and Social Impacts that will arise from the Construction and Operation of the proposed 220kV Transmission Line from Mariakani-Dongo Kundu and a substation in Dongo Kundu.</p> <ul style="list-style-type: none"> <li>• To identify all significant and adverse Environmental Impacts.</li> <li>• To generate baseline data for monitoring and evaluation of how well the proposed mitigation measures are performing.</li> <li>• To evaluate and identify viable project alternatives</li> <li>• To recommend appropriate and cost effective mitigation measures to address project impacts during construction and operation.</li> <li>• To prepare an Environmental and Social Impact Assessment Study Report compliant to             <ul style="list-style-type: none"> <li>✓ The Environmental Management and Coordination Act (1999) including the subsequent NEMA Regulations</li> <li>✓ JICA Guidelines for Environmental and Social Considerations (2010) and detailing findings and recommendations</li> </ul> </li> </ul>
<b>Client:</b>	JICA Design Team (JDT)
<b>Proponent:</b>	Kenya Electricity Transmission Co. Ltd. (KETRACO)
<b>Consultant:</b>	PANAFCON Ltd (Kenya)
<b>Report Title:</b>	ESIA Study Report
<b>Submission Date:</b>	January 2019

## DEFINITION OF KEY TERMS

**Assets:** Comprises land, structures or crops/trees, unless otherwise defined.

**Census:** means a field survey carried out to identify and determine the number of Project Affected Persons (PAPs) families/households/persons or Project Displaced Persons (PDPs). The meaning of the word shall also embrace the criteria for eligibility for compensation, resettlement and other measures that result from consultation with PAPs.

**Chainage:** Distance along a curved or straight survey line from a fixed commencing point, similar to mileage. Usually presented in “kilometers + meters” (e.g. 101+30)

**Community Sensitization Meeting (equivalent to Local Stakeholder Meeting in JICA Guidelines):** Meeting convened to inform the community regarding a proposed project

**Compensation:** Payment in-kind and/or cash for an asset to be acquired or affected by a project at replacement cost, without taking into account depreciation.

**Entitlement:** Range of measures comprising cash compensation, income rehabilitation assistance, transfer assistance, income substitution, and relocation which are owing to business restoration and/ or PAPs, depending on the type, degree and nature of their losses, to restore their social and economic base.

**Host Community:** Community/land area where people, physically displaced by a project, will be resettled.

**Household:** Family or collection of people, which function as a single economic unit.

**Income Restoration:** Measures required to ensure that PAPs have the resources to at least restore, if not improve, their livelihoods.

**Indigenous Peoples:** People indigenous to an area and include ethnic minorities as defined by World Bank Operational Policy on Indigenous Peoples (OP 4.10).

**Key Stakeholders:** Those inhabitants of an area affected by a project who have the most to lose and the most to gain from the completion of the project, and whose concerns must be addressed in an environmental assessment.

**PAP Consultation Meeting:** Meeting with the Project Affected Persons (PAPs) to disclose to them project impacts and proposed restoration measures.

**Project Affected Person:** Any person who, on account of the execution of the Project, or any of its components or subprojects would regardless of land type have their: right, title or interest in any house, titled/trust land (including residential, agricultural and grazing land) or any other fixed or movable asset acquired or possessed, in full or in part, permanently or temporarily; business, occupation, work, place of residence or habitat adversely affected; or Standard of living adversely affected.



**Project Displaced Persons:** All the people affected by a project who through involuntary acquisition and/ or encumbrance placed upon the land on account of the execution of the project, necessitating the moving and resettlement from the affected land; includes any person, household, firms, or public or private institutions who as a result of a project would have their: standard of living adversely affected; right, title or interest in all or any part of a house, land (including residential, commercial, agricultural, plantations, forest and grazing land) or any other moveable or fixed assets acquired or possessed, in full or in part, permanently or temporarily adversely affected; or business, occupation, place of work, residence, habitat or access to forest or community resources adversely affected, with or without displacement business, occupation, place of work, residence, habitat or access to forest or community resources adversely affected, with or without displacement.

**Proponent:** The agency proposing and has responsibility for implementation of a project.

**Public Consultation Meeting (PCM):** Meeting convened to gain public input prior to consideration of land use application for a proposed project. The forum is used to inform the public about the product and discuss the potential positive and negative impacts and proposed mitigation measures

**Rehabilitation:** An enhanced period of maintenance intended to restore a project to its original condition. Structural defects are repaired without major changes to alignment and width standards as would be implemented in a reconstruction.

**Relocation:** Physical moving of PAPs from their pre-project place or residence, place for work or business premises, to an area within the same land that is not affected by the project.

**Resettlement:** The settlement of people in a different place.

**Resettlement Action Plan:** Time-bound action plan, with budget, setting out resettlement strategy, objectives, eligibility criteria, entitlements, actions, responsibilities, monitoring and evaluation. The type of RAP can be categorized by the magnitude of the resettlement required.

**Socio-economic Survey:** Census of potential PAPs which is prepared through a detailed enumeration survey based on actual data collected.

**Stakeholder Meeting:** Meeting with Key Stakeholders to inform them about the project and seek guidance/consensus about the project activities

**Squatter:** A person occupying land to which they have no claim under any tenure but is eligible for compensation as he/she is present during the census and inventory of assets or in occupation of private land for over 12 years in accordance with The Limitations of Actions Act.

**UTM (Universal Transverse Mercator):** Conformal projection that uses a 2-dimensional Cartesian coordinate system to give locations on the surface of the Earth.

**Vulnerable:** Any person or groups who might suffer disproportionately or face the risk of being marginalized from the effects of resettlement i.e.

- Female-headed households with dependents;
- Children-headed households;
- Disabled household heads;
- Poor households;
- Landless;
- Elderly households with no means of support: and
- Ethnic minorities.

**Wayleave:** A Right of Way (RoW) over the land of another. This RoW is for carrying sewer, drain, power line or pipeline into, through, over or under any lands but in so doing may interfere with the existing buildings

**CERTIFICATION**

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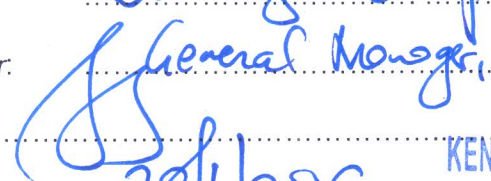
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## LIST OF ACRONYMS

ACC	Assistant County Commissioner
BDL	Below Detection Limit
CC	County Commissioner
CDE	County Director of Environment
CDP	County Development Plan
CSO	Civil Society Organization
CSR	Corporate Social Responsibility
CWMP	Construction Work Management Plan
DCC	Deputy County Commissioner
DG	Director General
DP	Displaced Persons
DPCT	District Project Coordination Team
DSDO	District Social Development Officer
EC	Electrical Conductivity
EC	European Commission
EIA	Environmental Impact Assessment
EIS	Environmental Impact Study
EIB	European Investment Bank
EMCA	Environment Management and Coordination Act
EMF	Electro Magnetic Field
EPA	Environment Protection Agency
EPs	Entitled Persons
ERC	Energy Regulatory Commission
ERM	Environmental Resources Management
ESIA	Environmental and Social Impact Assessment
ESMaP	Environmental and Social Management Plan
ESMoP	Environmental and Social Monitoring Plan
ESS	Environmental and Social Standard
EU	European Union
GDC	Geothermal Development Company
GoK	Government of Kenya
GPS	Global Positioning System
IFI	International Financial Institution
IMA	Independent Monitoring Agency
IMU	Independent Monitoring Unit
IPP	Independent Power Producers
ISS	Integrated Safeguards System
JDT	JICA Design Team
JICA	Japan International Cooperation Agency
KCAA	Kenya Civil Aviation Authority
KenGen	Kenya Electricity Generating Company
KETRACO	Kenya Electricity Transmission Company
KFS	Kenya Forest Service
KNEB	Kenya Nuclear Electricity Board
KPA	Kenya Ports Authority
KWS	Kenya Wildlife Service
M&E	Monitoring and Evaluation
MDGs	Millennium Development Goals

MOE&P	Ministry of Energy and Petroleum
NGO	Non-Governmental Organisation
NLC	National Land Commission
NMK	National Museums of Kenya
OSHA	Occupational Safety and Health Act
PAH	Polycyclic Aromatic Hydrocarbons
PAPs	Project Affected Persons
PCM	Public Consultation Meeting
PM	Particulate Matter
PMU	Project Management Unit
PRC	Provincial Resettlement Committee
REA	Rural Electrification Authority
RF	Resettlement Framework
RAP	Resettlement Action Plan
RIC	RAP Implementation Committee
ROW	Right of Way
SEZ	Special Economic Zone
SIA	Social Impact Assessment
TPH	Total Petroleum Hydrocarbon
TL	Transmission Line
TOR	Terms of Reference
UTM	Universal Transverse Mercator
WB	World Bank
WMP	Waste Management Plan
CWMP	Construction Waste Management Plan

## EXECUTIVE SUMMARY

### INTRODUCTION

#### Project Background

The Kenya Electricity Transmission Company (KETRACO) has proposed to build a 53 km 220kV transmission line (TL) from Mariakani-Dongo Kundu to supply electricity to the Mombasa Special Economic Zone (Mombasa SEZ) to be built in Dongo Kundu.

#### Project Objectives

The objective of developing the Mariakani-Dongo Kundu 220kV transmission line is to provide adequate power supply to the proposed Mombasa SEZ.

### PROJECT DESCRIPTION

The Project will consist of the following components:

- Development of 220 kV transmission line from Mariakani 400/220 kV substation to Mombasa SEZ (note that Mariakani 400/220 kV substation is not included in the Project scope and will be constructed through another project)
- Development of 220/33 kV substation inside Mombasa SEZ
- Development of 33 kV distribution line inside Mombasa SEZ from 220/33 kV substation

### POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

The study has been conducted in accordance with all the relevant legislation pertaining to energy transmission, land ownership and acquisition, relocation and resettlement among others. The Environmental Management and Co-ordination Act (EMCA) No. 8 of 1999 Revised 2018 and the subsequent regulations including Environmental (Impact Assessment and Audit) Regulations of 2003, are the legislations that govern EIA studies in Kenya.

#### Project Listing in the Second Schedule

Projects to undergo Environmental Impact Assessment are listed in the replaced Second Schedule of EMCA of 19<sup>th</sup> August 2016. The proposed Project falls in the category of “High Risk Projects – 10 (e) High Voltage Electrical Transmission Lines”. Therefore, it requires to undergo Environmental Impact Assessment (EIA) study.

JICA Guideline for Environmental and Social Consideration 2010 has also been used to carry out this ESIA study. The Project has been categorized as Category A under the JICA Guideline.

### BASELINE INFORMATION

The Project area is largely in a rural setting and traverses an area which has the following features:

- Homesteads with residential houses
- Farms with annual and perennial crops
- Privately owned trees of various types
- Cultural sites (Trees used as Shrines at chainage 17.2km and 23.5km from Mariakani)

- Several rivers/streams including Ngoni, Mwache, Mambome (Gandini), Ndzovuni and Pemba Rivers.
- A community forest between DK6 and DK7.

### Protected Sites

The table below gives a list of protected (gazetted) sites within the Project area.

**Table A: Protected Sites Close to the Project Area**

No	Name of Site	Type of Site	Area	Legislation	Distance from TL (km)
1	Kaya Gandini	Kaya	100Ha	Gazetted as natural monument in 1992 under the Antiquities and Monuments Act, Notice No. 200	30m from nearest TL
2	Kaya Kiteje	Kaya	10Ha	Gazetted as natural monument in 1992 under the Antiquities and Monuments Act, Notice No. 200	500m from nearest TL
3	Mwaluganje Forest Reserve	Forest Reserve	17km <sup>2</sup>	Gazetted in 1941 under the Forest Act	Approximately 2.5 km south west of DK7
4	Shimba Hills National Reserve	Forest Reserve	300km <sup>2</sup>	Gazetted in 1903 as National Forest under the Forest Act	Approximately 12 km south west of DK8

The ESIA study carried out measurements and lab analysis on noise, air, water and soil to obtain the baseline status of the Project area.

## ANALYSIS OF PROJECT ALTERNATIVES

### The “No Action” Alternative

The ‘No Action’ Alternative was considered where the development of the 220kV TL from Mariakani-Dongo Kundu would not be carried out. One option is to use the existing network in Mombasa but was found that it does not have sufficient capacity to support demand of Mombasa SEZ. An alternative option may be to construct a new power station inside or near Mombasa SEZ, but that will likely entail greater environmental and social impacts. In conclusion, the proposed Project is considered as the most appropriate option.

### Alternative analysis of TL route

The following alternative analysis was conducted in the process of finalizing the TL route:

- Alternative analysis of shortest TL route between Mariakani substation and Mombasa SEZ substation
- Alternative analysis of TL outside Mombasa SEZ area including route analysis to avoid Kaya Gandini
- Alternative analysis of TL inside Mombasa SEZ area

## ENVIRONMENTAL AND SOCIAL IMPACTS

### Scoping of Environmental Impacts

Scoping of environmental impacts was carried out and ToR for the ESIA Study developed. Potential impacts were rated in accordance to the following criteria.

- A+/-: Significant positive/negative impact is expected.
- B+/-: Positive/negative impact is expected to some extent.
- C+/-: Extent of positive/negative impact is unknown.
- D: No impact is expected

### Assessment of Environmental Impacts

Potential negative impacts identified from the scoping exercise were predicted and assessed in detail. No significant impacts were identified in regards to pollution and natural environmental aspects. The main concerns are impacts associated with resettlement as presented in **Table B**. Resettlement impacts are addressed in the separate Resettlement Action Plan (RAP) Study.

**Table B: Impacts on Human Settlements and Assets**

No	Description	Units	Quantity
1	Household Heads	Number	598
2	Project Affected Persons (PAPs)	Number	3,849
3	Land Parcels	Number	565
4	Land Parcels	Total Area in acres	519.71
5	Structures	Number	280
6	Business	Number	3
7	Trees	Number	11,908
8	Crops	Units	9,267
9	PAPs to be relocated	Number	403
10	PAPs for displacement	Number	89

## PUBLIC CONSULTATION AND PARTICIPATION

Public Consultation and Participation was carried out at the following levels:

- Initial Key Stakeholder Meetings with leadership in Mombasa, Kilifi and Kwale Counties. The meetings took place from Tuesday July 4, 2017 – Friday 7 July, 2017.
- Sensitization Meetings with the project area community were convened from Wednesday July 12 – Tuesday July 18, 2017. A total of 6 meetings were convened and were attended by 1,194 community members.
- Consultations with KFS, KWS and HMK were carried out from July 25 – 27, 2017.
- PAP Consultation Meetings were carried out from Monday April 23 – Friday April 27, 2018.
- Public Consultation Meetings were carried out in the 9 Locations of the Project Corridor from Monday June 18 – Friday June 22, 2018.

## ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMaP)

An ESMaP matrix table has been prepared which proposes mitigation measures for the potential negative impacts, and its implementation responsibility, supervision responsibility and cost.



## **ENVIRONMENTAL AND SOCIAL MONITORING PLAN (ESMoP)**

An ESMoP matrix table has been prepared which provides the monitoring aim, method, frequency, implementation responsibility and the associated cost.

## **CONCLUSIONS & RECOMMENDATIONS**

### **Conclusions**

As per the ESIA Study, the proposed Project is unlikely to generate any irreversible or permanent negative impacts, providing that the proposed mitigation measures and monitoring are implemented appropriately. The Project should be allowed to proceed when the process of compensation and resettlement is successfully concluded as per the RAP.

### **Recommendations**

The following aspects and commitments are to be considered in the ensuing Project stages:

- The TL tower shall be placed to the extent possible in an area with no land-based activities such as farming.
- The TL tower shall be placed to the extent possible far from sensitive environment such as rivers, school and houses.
- The TL route along the tree shrine area shall be reconsidered whether it is possible to avoid cutting the tree shrines.
- To mitigate the impacts of forest clearance, a detailed afforestation program should be developed through consultation with KFS and local community.
- Measures should be considered so that the affected local communities will gain more benefits through the Project such as providing employment opportunities.
- The proposed Environmental and Social Management Plan (ESMaP) and Environmental and Social Monitoring Plan (ESMoP) should be updated in line with any changes in plan and design of the Project.

## **COST OF PROPOSED PROJECT**

The cost of the Project is estimated as approximately KES 5,700,000,000 (Five Point Seven Billion KES).

## 1 INTRODUCTION

This ESIA Study Report is for the Power Supply Component of the Mombasa SEZ Development Project. It is for the proposed construction of a 53km long, 40m wide, 220kV transmission line (TL) from Mariakani-Dongo Kundu and a substation in Dongo Kundu.

### 1.1 Project Background

According to the Government of Kenya long-term development plan “Vision 2030”, Kenya aims to be a middle-income country by 2030 and the development of the Mombasa Special Economic Zone (hereinafter referred to as “Mombasa SEZ”) is mentioned as a priority project to achieve this goal. The Mombasa SEZ will be developed in the Dongo Kundu area of Mombasa County (part of the SEZ is also inside Kwale County), which will cover an area of approximately 1,200 ha. The Mombasa SEZ is planned to consist of free trade zone, industrial park, residential zone, tourism zone among others and are planned to be developed through three phases. New infrastructures such as port, road, power and water supply facilities will need to be developed to serve the Mombasa SEZ. The power supply facilities for the Mombasa SEZ will be developed by Kenya Electricity Transmission Company Limited (KETRACO) and will consist of the following components:

- Development of 220 kV Transmission Line (TL) from Mariakani 400/220 kV substation to Mombasa SEZ (note that Mariakani 400/220 kV substation is not included in the Project scope and will be constructed through Mombasa-Nairobi 400kV Transmission Line project)
- Development of 220/33 kV substation inside Mombasa SEZ
- Development of 33 kV distribution line inside Mombasa SEZ from 220/33 kV substation

Projects to undergo Environmental Impact Assessment are listed in the revised Second Schedule of EMCA of 19 August 2016. The proposed Project falls in the category of “High Risk Projects – 10 (e) High Voltage Electrical Transmission Lines” hence it is required to undergo Environmental Impact Assessment (EIA). JICA Guideline for Environmental and Social Consideration 2010 has also been used to carry out this ESIA study. The Project has been categorized as Category A under the JICA Guideline.

### 1.2 Project Objectives

The main objective of the proposed project is to ensure provision of adequate and stable supply of electricity to the Mombasa SEZ where there will be commercial and industrial activities.

### 1.3 Project Justification

The SEZ is going to accommodate several industries that will be carrying out processing and manufacturing of products that will have significant power demand. The high demand for power cannot be met by the available power from Mombasa area hence the need to bring in power from elsewhere. It was therefore necessary to have a dedicated supply coming from a substation in Mariakani that receives power through the 400kV TL that comes from Nairobi. The 220kV line will run from Mariakani Substation to Dongo Kundu for distribution within the SEZ.

## 2 PROJECT DESCRIPTION

### 2.1 Project Location

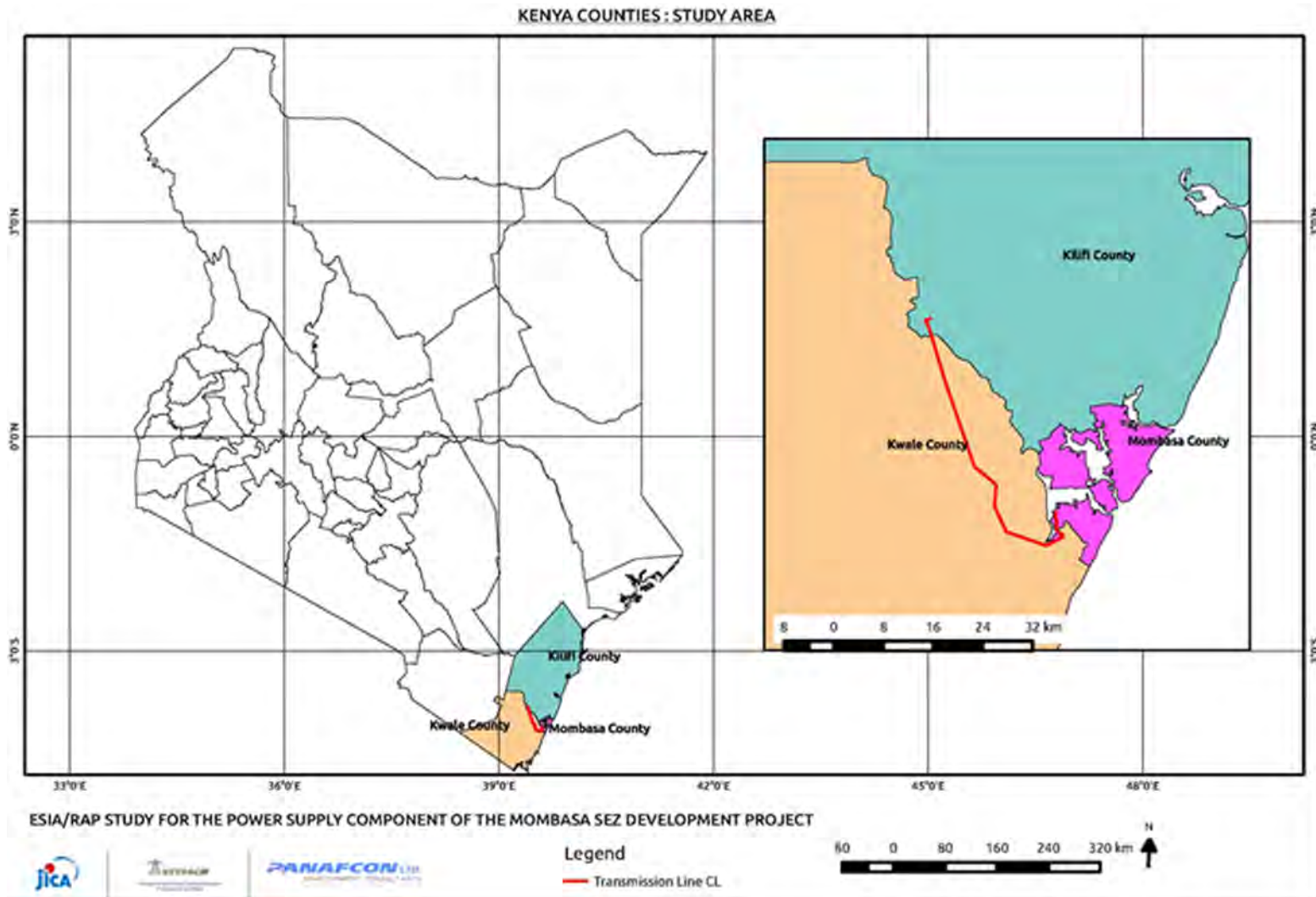
The project will be composed of a TL from Mariakani-Dongo Kundu and a substation in Dongo Kundu. The TL will traverse through three counties namely Kilifi, Kwale and Mombasa covering a distance of 53 km. It will occupy a wayleave corridor of 40m (20m on either side from the center of the TL). The substation will occupy an area of around 1.9 hectares.

Refer to **Map 1 and Map 3** for the location of the Mariakani-Dongo Kundu Transmission Line in the three counties of Kilifi, Kwale and Mombasa.

#### **Dongo Kundu**

Dongo Kundu area is in Mtongwe Location, Likoni Sub-County, Mombasa County. It is located immediately south of Port Reitz and to the east of Bombo Creek. The area has undulating topography with hills and valleys with altitude varying from Sea Level (0m) to approximately 80m above sea level.

The Mombasa SEZ 220/33 kV substation will be located in Likoni Sub-County, Mombasa County over a hilly terrain adjacent to the new Southern Bypass Road. **Map 2** shows the location of the Mombasa SEZ 220/33 kV substation while **Map 3** shows the TL route (the coordinates of the angle points are shown in **Annex 6**). The 33 kV distribution line will run from Mombasa SEZ 220/33 kV substation to the new port and industrial area to be developed inside the Mombasa SEZ. The distribution line will be installed along the right-of-way of the new Southern Bypass Road and new port access road. The total distance is approximately 11 km.



**Map 1: Location Map Showing Kilifi, Kwale and Mombasa Counties**



**Map 2: Location of the Mombasa SEZ 220/33 kV Substation**

## 2.2 Basic design of 220 kV transmission line

The 220 kV transmission line will be an overhead double-circuit transmission line supported by steel-lattice type transmission towers. The transmission tower will be placed at an interval of around 300-400 m, and the height will be around 45 m but may vary depending on the site topography and surrounding structures. Sufficient clearance height will be secured from the ground level as per Kenyan regulation. The four corners of the transmission tower base will be secured over a concrete foundation and will occupy an area of around 10 x 10 m. The exact location of the transmission towers will be determined in the ensuing detailed design study. **Figure 1** shows a typical design of steel-lattice type transmission tower.

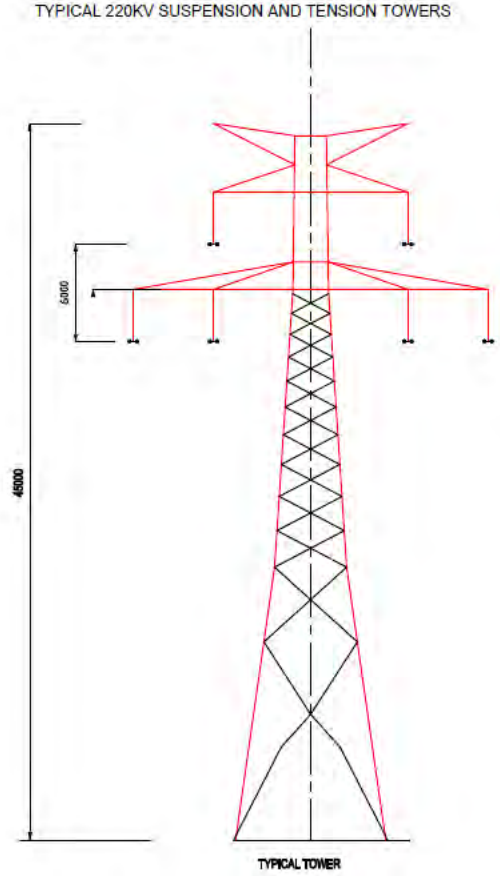
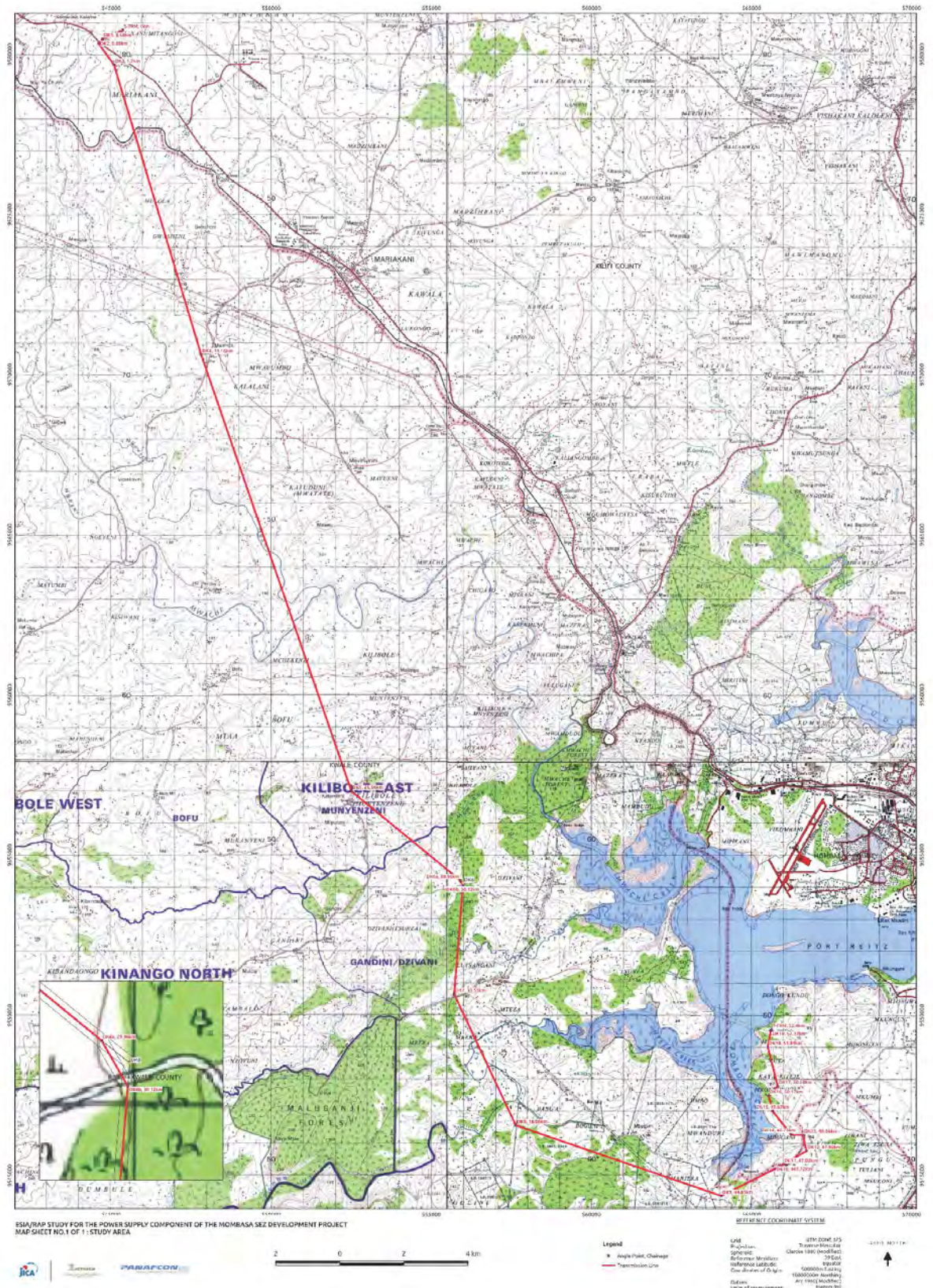


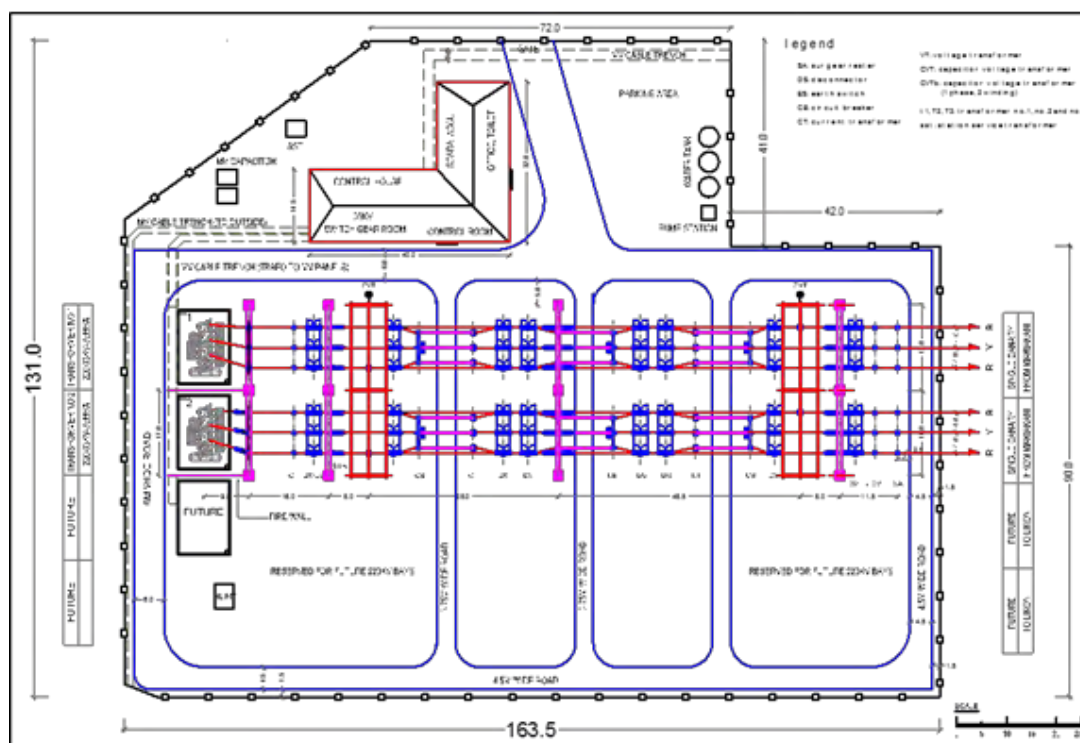
Figure 1: Typical design of steel-lattice type Transmission Tower



**Map 3: Location of the Proposed Mariakani-Dongo Kundu 220kV TL**

### 2.3 Basic design of 220/33 kV substation

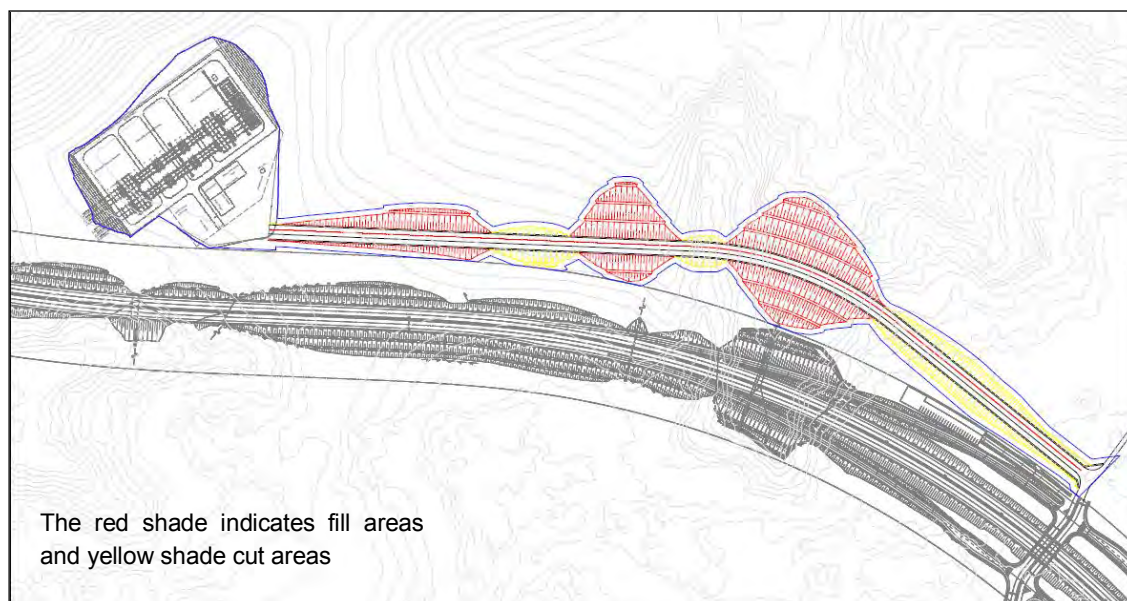
The 220/33 kV substation will mainly consist of transformers (75 MVA x 2 units), switchgear (220 kV), control building and access road. Oil pit will be installed to contain any spills from the transformer. The area of the substation will be approximately 18,800 m<sup>2</sup> with some vacant space for future expansion.



**Figure 2: Layout of the 220/33Kv Substation**

The access road will have a distance of approx. 800 m, which will connect the substation with the existing road. The road will be constructed through cut and fill works. Box culverts will be installed along the road where it intercepts natural drainage channels. **Figure 3** shows the layout of the substation access road.





**Figure 3: Layout of the substation access road**

## 2.4 33 kV distribution line

The 33 kV distribution line will be an overhead double circuit type supported by concrete pole/foundation.

## 2.5 Construction plan

During construction of the transmission line tower foundations there will be site excavation works, construction of the concrete tower pad, erection of the lattices and stringing of the conductors. Excavation works will also take place at the substation that covers an area of around 1.9 hectares.

### 2.5.1 Construction method

#### (1) Transmission line and tower

Construction of transmission lines will typically involve the following works:

- a) Clearance of vegetation along the transmission line corridor and within the footprint of the transmission tower base. Low-lying vegetation along the transmission line corridor will be maintained.
- b) Establishment of temporary construction yard and access road.
- c) Construction of concrete foundation of the transmission tower. This will include excavation of tower base, concrete placement and backfilling. The concrete mix will be prepared at the site.
- d) Erection of transmission tower (assembling of prefabricated components of the lattice structure)
- e) Stringing of transmission cable. Transmission cable will be installed by installing a winch at one end of the line, and a tensioner and cable drum at the other end.

#### (2) Substation

Construction of substation will typically involve the following construction works:

- a) Clearance of vegetation within the substation/access road site
- b) Establishment of temporary construction yard
- c) Construction of access road (cut and fill, grading, slope protection)

- d) Site development of substation (cut and fill, grading, slope protection)
- e) Construction of substation equipment foundation (concrete placement)
- f) Construction of control house and installation of equipment and steel structures
- g) Pavement of access road

**(3) Construction Machines**

**Table 1** shows the main construction machines required for construction of transmission line and substation.

**Table 1: Main Construction Machines for construction of TL and Substation**

Type	Quantity	Type	Quantity
Truck (3 ton)	1	Excavator	6
Truck with crane (2 ton)	2	4-wheel tractor	1
Mobile crane (20 ton):	1	Light truck	4
Power shovel	1	Dump truck (10 ton)	10
Hydraulic rotary drilling rig	1	Water tank truck	1
Pile driving equipment	1	Concrete mixing machine	10
Back hoe	1	Diesel engine generator	8
Stringing winch	1	Welding machine	4
Stringing tension	1	Cutting machine	6

**(4) Construction Workers**

Around 20 workers (e.g. mason, supervisor, unskilled laborer) are expected daily to be working at the substation construction sites. Around the same number of workers will also be working at the transmission line sites. Most workers will be procured locally, although skilled foreigners may be hired for highly technical works. The entire recruitment process for the workers will be managed by the contractors in accordance with Kenya labor laws.

Normal working hours are planned to be from around 08:00-17:00 from Monday to Saturday. Works outside of normal working hours will require permission from KETRACO and relevant local authorities.

**(5) Construction Materials**

Construction works will require raw materials such as fill soil, cement, aggregates, gravel and wood. Fill soil will be procured from excess soil generated from substation/access road cutting works. Other materials will be procured locally from licensed suppliers and there will be no need for the Project to develop any new quarries and borrow pits as all necessary raw materials (e.g. sand and aggregates for concrete) are readily available from existing local suppliers.

**(6) Temporary Construction Facilities**

Temporary construction facilities such as stockyard are planned to be established within the site boundary of the substations and corridor of the transmission lines. Other temporary construction facilities may include concrete batching plant, access road and workers camp. The requirement and locations of these facilities will be considered in more detail in the detailed design stage.

**(7) Construction schedule**

Construction works is expected to take around 2 years starting from around 2022. **Table 2** shows the tentative construction schedule.

**Table 2: Tentative construction schedule**

Item	Months	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Construction of S/S access road	15																								
Construction of S/S foundation	12																								
Design/manufacturing/transportation of S/S equipments	11																								
Construction/installation of S/S equipments	19																								
Site testing	2																								
Construction of transmission line	23																								

**2.6 Project cost**

The cost of the Project is estimated as approximately KES 5,700,000,000 (Five Point Seven Billion KES).

### 3 POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

#### 3.1 Policy Framework

##### 3.1.1 National Environment Policy

The Kenya Government's National Environment Policy, 2013 aims at integrating environmental aspects into national development plans. The objectives of the national environmental policy include:

- Provide a framework for an integrated approach to planning and sustainable management of Kenya's environment and natural resources.
- Strengthen the legal and institutional framework for good governance, effective coordination and management of the environment and natural resources.
- Ensure sustainable management of the environment and natural resources, such as unique terrestrial and aquatic ecosystems, for national economic growth and improved livelihoods.
- Promote and support research and capacity development as well as use of innovative environmental management tools such as incentives, disincentives, total economic valuation, indicators of sustainable development, Strategic Environmental Assessments (SEAs), Environmental Impact Assessments (EIAs), Environmental Audits (EA) and Payment for Environmental Services (PES).
- Promote and enhance cooperation, collaboration, synergy, partnerships and participation in the protection, conservation, sustainable management of the environment and natural resources.
- Ensure inclusion of cross-cutting and emerging issues such as poverty reduction, gender, disability, HIV&AIDS and other diseases in the management of the environment and natural resources.
- Promote domestication, coordination and maximisation of benefit from Strategic Multilateral Environmental Agreements (MEAs).

##### 3.1.2 KETRACO Safety, Health and Environment (SHE) Policy

KETRACO has prepared a SHE Management System with the specific aim of complying with Occupational Safety and Health Act (OSHA), 2007; Environmental Management & Coordination Act, 1999; Energy Regulatory Board's Environment, Health and Safety policy Framework for the Electric Power sub-sector, 2005; its internal SHE Policy and donor requirements.

##### 3.1.3 KETRACO Route Selection Criteria

###### A. Criteria for Route Selection:

- The route of a transmission line is decided from the following main considerations.
  - (1) Shortest length, hence least capital cost.
  - (2) Ease during construction and ease in maintenance of the line (route near roads for easy approach & accessibility).
  - (3) Requirement of future loads (substations) near the proposed route so that the line can be easily connected.
  - (4) Required separation distance from parallel communication lines (Communication, Railways, etc.) for meeting the conditions of induced voltage.
  - (5) Avoiding of forest areas as well as wild life sanctuaries.
  - (6) Cost of securing and clearing right of way (ROW).
  - (7) Maintaining statutory distances from Airports, Airstrips and Helipads.

- The following areas are to be avoided as far as possible while selecting the route of the line.
  - (1) Tough inaccessible areas where approach is difficult.
  - (2) Towns and villages, leaving sufficient margin for their growth.
  - (3) Areas subject to floods, gushing streams during rainy seasons, tanks, ponds, lakes, etc. and natural hazards.
  - (4) Wooded areas with high trees or fruit bearing trees involving payment of heavy compensations for cutting of the trees.
  - (5) Swamps and shallow lands subject to flood, marshy areas, low lying lands, river beds, and earth slip zones, etc. involving risk to stability to foundations.
  - (6) High hillocks / hilly areas / sand dunes and areas involving abrupt changes in levels and requiring too many long spans.
  - (7) Series of irrigation wells.
  - (8) Rifle shooting areas and other protected areas such as army / defense installations and ammunition depots.
  - (9) Areas which involve risk to human life, damage to public & private properties, religious places, cremation grounds, quarry sites and underground mines, gardens, orchards and plantations.
  - (10) Areas which will create problems of right of way and way leaves.
  - (11) Buildings / Storage areas for explosives or inflammable materials, bulk oil storage tanks, oil or gas pipelines, etc.
  
- The route of the transmission line shall, as far as possible, be the shortest length between the pre - determined sub stations.
- The route of the transmission line is to be so located that, as far as possible, it is protected from high winds and falling trees & branches. In hilly tracks, the line is to be routed, as far as possible, along the side of the hills or through valleys rather than over high points. However, a route of the line very close to steep slopes of hills be avoided as far as possible as there may be difficulty in obtaining lateral (side) clearance to ground for conductors. Also, there may be overhanging / loose boulders which may roll down and damage the line.
- It is desirable to take the line as near the paths and roads as practicable without unduly increasing the length of the line so as to facilitate transportation of material during construction and the patrolling / maintenance of the line. Where the line cannot be routed near paths / roads economically, care shall be taken to see that easy access is possible at every 5 to 8 km. It shall be ensured that all angle / tension points, particularly in the case of 400 kV lines, are approachable to facilitate easy transportation of stringing equipment during construction and for maintenance / breakdowns.
- In hilly / mountainous type of terrain or in thickly populated areas, it is generally not advisable to attempt a direct route or try to locate towers in long spans. Small angles of a few degrees cost a little more and add little to the length of the line. Suspension towers (A - type) can be provided for line angles of up to 2 degrees and small angle towers (B - type) can be provided for angles up to 10 degrees.
- In general, large angles in the line are to be avoided wherever possible. The magnitude of the angle be small as far as possible and should never be more than 60 degrees.
- The line shall be aligned suitably so that it can be diverted / looped in looped out (LILO) to cater for possible future loads / sub stations along the route.

**B. Telecommunication and Railway Infrastructure:**

The line route shall be so selected that the voltage induced in parallel running telephone / communication/ signaling lines / circuits of the Communication/ Railways does not exceed the prescribed permissible values under fault conditions. The Stakeholders approval should be obtained before energizing the line.

**C. Approval of The Aviation Authorities:**

The line route shall be at a sufficient distance from the aerodromes / airports so that clearance from the aerodrome / airport authorities is not required or, otherwise, can be obtained easily.

**D. Crossing of Railway Tracks:**

The crossing of Railway tracks shall normally be outside the railway station limits.

**E. Crossing Of Rivers / Roads:**

- (1) Crossing of rivers is preferably done at points where the bed is of the smallest width and the banks on both sides of the rivers are high. The crossing is done at points of the river path where it is unlikely to cut the banks when it is flowing.
- (2) The route is selected such that multiple crossings of the same road are avoided.
- (3) Crossing of roads at very small angles is to be avoided.

**F. Crossing of Power Lines:**

- (1) When crossing existing higher voltage power lines, the new line shall normally be below such existing lines except in extremely limiting circumstances.
- (2) When crossing existing lower voltage power lines, the new line shall normally be above such existing lines except in circumstances where it is not possible.
- (3) When crossing existing power lines of the same voltage, the new line may be above or below such existing lines as per site conditions.

**G. Approval of Forest Services:**

- (1) Forest area is to be avoided as far as possible.
- (2) If forest area cannot be avoided, or if the line route is uneconomical in case forest area is avoided, then the approval of the Forest Department is required.

**3.2 Legal Framework**

**3.2.1 Relevant Environmental Legislations**

**Table 3** explains the Kenyan environmental laws and regulations relevant to the Project.

**Table 3: Relevant Legislation used in the ESIA Study**

No.	Legislation/ Guideline	Relevance of the Legislation/Guideline	Trigger of Legislation/ Guideline	Project Fulfillment of the Legislation/Guideline
1	Environmental Management & Coordination Act (EMCA), No 8 1999 Revised 2018 and Subsidiary Regulations	<p>The legislation advocates for environmental protection during project implementation and restoration of impacted environment.</p> <p>Section 58, subsection 1 – Requires that before a project is executed, an EIA Report must be prepared and submitted to the Authority (NEMA) in a prescribed form.</p> <ul style="list-style-type: none"> <li>– <b>Subsection (7)</b> EIA shall be conducted in accordance with the EIA regulations, guidelines and procedures issued under the EMCA.</li> <li>– EMCA Part V Section 50 - The Authority shall, in consultation with the relevant lead agencies (including Ministry of Wildlife &amp; Tourism – KWS) prescribe measures necessary to ensure the conservation of biological diversity in Kenya</li> </ul> <ul style="list-style-type: none"> <li>• EMCA, Section 72, 74,75, and 76 deals with water pollution, water pollution prohibition and license to discharge effluent</li> <li>• EMCA, Section 91 and 94 deals with the classification of wastes, handling and their management</li> <li>• EMCA, Section 107 provides standards for the control of noxious smell</li> <li>• EMCA, Part XIII, Section 142 (1) says that any Person who – <ul style="list-style-type: none"> <li>– Discharges any dangerous materials, substances, oil, oil mixtures into land, water, air or aquatic environment;</li> <li>– Pollutes the environment;</li> <li>– Discharges any pollutant into the environment</li> </ul> </li> </ul> <p>Commits an offence and shall on conviction, be liable to a fine not exceeding five hundred thousand shillings.</p> <p>Sector related regulations that will apply to this project includes:</p> <ul style="list-style-type: none"> <li>– Waste Management Regulations (Legal Notice No. 121 of the Kenya Gazette Supplement No. 69 of September 2006) that governs handling, storage, transportation, treatment and disposal of wastes;</li> <li>– Water Quality Regulations (Legal Notice No. 120 of the Kenya Gazette Supplement No. 68 of September 2006) that governs drinking water, water used for agricultural purposes, water used for recreational purposes, water used for fisheries and wildlife and water used for any other purposes</li> <li>– Wetlands, River Banks, Lake Shores and Sea Shore Management Regulations (Legal Notice No. 19 of the Kenya Gazette Supplement no. 9, February 2009) that governs management of wetlands, wetland resources, river banks, lake shores and sea shores. Specific sections</li> </ul>	Project has the potential to affect the physical and biological environment including soil, water, air, flora and fauna during construction.	<ul style="list-style-type: none"> <li>• The execution of an ESIA Study in compliance with regulations has been commissioned.</li> <li>• The ESIA Report has provided an Environmental and Social Management Plan (ESMaP) that will be followed by the contractor to mitigate identified project impacts and implement monitoring activities.</li> </ul>

No.	Legislation/ Guideline	Relevance of the Legislation/Guideline	Trigger of Legislation/ Guideline	Project Fulfillment of the Legislation/Guideline
		<p>have requirements that apply to wetlands in Kenya either in private or public land.</p> <ul style="list-style-type: none"> <li>- Conservation of Biological Diversity and Resources, Access to Genetic Resources, Benefit Sharing (BD) Regulations (Legal Notice No. 160 of the Kenya Gazette Supplement No. 84 of December 2006) Conservation of threatened species, Inventory and monitoring of BD and protection of environmentally significant areas, access to genetic resources, benefit sharing and offences and penalties that governs Conservation of threatened species, Inventory and monitoring of BD and protection of environmentally significant areas, access to genetic resources, benefit sharing and offences and penalties</li> <li>- Air Quality Regulations (Legal notice No. 34 of 2014) provides for prevention, control and abatement of air pollution to ensure clean and healthy ambient air.</li> <li>- Noise &amp; Excessive Vibration Pollution Control Regulations (Legal Notice No.61 of 2009) which prohibits any person from making or causing to be made any loud, unreasonable, unnecessary or unusual noise which annoys, disturbs, injures or endangers the comfort, repose, health or safety of others and the environment</li> </ul>		
2	Environmental (Impact Assessment and Audit) Regulations, 2003.	<p>The legislation provides guidance on project impact categorization into low, medium and high risks and implementation of appropriate environmental and social impact assessments.</p> <p><b>Part 1 – Preliminary</b> Section 4 (1) says no proponent shall implement a project that (a) is likely to have a negative environmental impact; or (b) for which an environmental impact assessment is required under the Act or these Regulations unless an environmental impact assessment has been concluded and approved in accordance with these Regulations,</p> <p><b>Part II The Project Report</b> This part describes the Regulations and contents of a Project Report</p> <p><b>Part III – The Environmental Impact Assessment Study</b> This part describes the ESIA Study Process, Part IV describes the contents of an ESIA Study Report and Part V elaborates on environmental audit and monitoring.</p> <p>The Regulation provides the guidelines that have been established to govern the conduct of environmental assessments and environmental audits in Kenya. The regulations provide guidelines on preparation of EIA Project Report and EIA Study Reports for EIA Licence Applications and Approvals.</p>	The proposed project has been identified to have potential significant impact. Being a high voltage transmission line, the project is envisaged to generate significant impacts	Full ESIA Study of the project assessing all impacts has been commissioned in order to prepare EIA Report for EIA License.



No.	Legislation/ Guideline	Relevance of the Legislation/Guideline	Trigger of Legislation/ Guideline	Project Fulfillment of the Legislation/Guideline
		<p>Guidelines on Environmental Audits for projects in operation are also provided in these regulations. The guidelines require that the EIA study be conducted in accordance with the issues and general guidelines spelt out in the Second and Third schedules.</p>		
3	Land Act 2012	<p>The Land Act 2012 governs the process of land management in Kenya taking into consideration required conservation measures and restoration.</p> <ul style="list-style-type: none"> <li>• Section 110. (1) Says that land may be acquired compulsorily under this part if the Commission certifies, in writing, that the land is required for public purposes or in the public interest as related to and necessary for fulfillment of the stated public purpose.</li> <li>• <b>Section 146</b>, Says the Commission (National Land Commission) may, create a right of way which shall be known as public right of way.</li> <li>• <b>Section 19</b>. (1) Says the Commission shall make rules and regulations for the sustainable conservation of land based natural resources.</li> <li>• <b>Section 126</b>. Says if the Commission is satisfied that any land of which the occupation or use has been secured under this Part is needed solely as a means of access to other land, then— (b) the compensation to be paid under section 120 shall be limited to the damage done to trees, plants, growing crops and permanent improvements on the land, together with a periodical sum for diminution in the profits of the land and of adjoining land by reason of that use.</li> <li>• <b>Section 107 (7)</b> Says for the purposes of sections 110 to 143, interested persons shall include any person whose interests appear in the land registry and the spouse or spouses of any such person, as well as any person actually occupying the land and the spouse or spouses of such person.</li> <li>• Section 148. (1) Says compensation shall be payable to any person for the use of land, of which the person is in lawful or actual occupation, as a communal right of way and, with respect to a wayleave, in addition to any compensation for the use of land for any damage suffered in respect of trees crops and buildings as shall, in cases of private land, be based on the value of the land as determined by a qualified valuer.</li> </ul>	<ul style="list-style-type: none"> <li>• Restriction of use of land taken up by transmission line and acquisition of Substation land” (40m wide for a distance of 53km for transmission line) and land for the substation.</li> <li>• The project will reduce the use of the land occupied by the TL and take-up of the substation land.</li> </ul>	<ul style="list-style-type: none"> <li>• The execution of an ESIA Study in compliance with regulations has been commissioned.</li> <li>• A RAP Study to facilitate valuation of affected land &amp; Property for compensation has also been commissioned</li> </ul>
4	Energy Act, 2006	<p>The Energy Act governs the management and sustainable use of energy resources and enhancing protection of the environment. The Act lays down the groundwork for separation of generation from transmission and distribution of power in electricity sub—sector and liberalization of procurement, distribution and pricing of oil products.</p> <p>The legislation advocates for the following:</p>	<p>The construction and maintenance activities of the project have the potential to:</p> <ul style="list-style-type: none"> <li>• Impact the environment</li> <li>• Cause health and safety risks to workers and the</li> </ul>	<ul style="list-style-type: none"> <li>• Project has initiated this ESIA Study in compliance with regulations</li> <li>• The ESIA Study Report has provided mitigations/safeguard</li> </ul>

No.	Legislation/ Guideline	Relevance of the Legislation/Guideline	Trigger of Legislation/ Guideline	Project Fulfillment of the Legislation/Guideline
		<p><b>Section 27. (1)</b> Subject to the provisions of this Act, a licence or licences as the case may be, shall be required for the—</p> <p>(a) <b>Generation, importation or exportation, transmission or distribution of electrical energy;</b></p> <p><b>Section 30.(1)</b> The Commission shall, in granting or rejecting an application for a licence or permit, take into consideration—</p> <p>(b) The impact of the undertaking on the social, cultural or recreational life of the community;</p> <p>(c) The need to protect the environment and to conserve the natural resources in accordance with the Environmental Management and Coordination Act of 1999;</p> <p>(d) Land use or the location of the undertaking;</p> <p>(e) Economic and financial benefits to the country or area of supply of the undertaking;</p> <p>(f) the ability of the applicant to operate in a manner designed to protect the health and safety of users of the service for which the licence or permit is required and other members of the public who would be affected by the undertaking;</p> <p><b>Section 53. (1)</b> For the purpose of the conveyance, transmission, or supply of electrical energy, a licensee may erect, fix, install or lay any poles, wires, electric supply lines, power or other apparatus in, upon, under, over or across any public streets, road, railways, tramways, rivers, canals, harbours or Government property, in the manner and on the conditions as provided in this Act.</p> <p>Section 54. (1) Where a licensee requires the compulsory acquisition of land for any of the purposes of a licence, the licensee may apply to the Minister to acquire the land on his behalf.</p> <p>(2) Where the Minister in consultation with the Commission is satisfied that it is in the public interest to do so, he may acquire the land in accordance with the relevant laws.</p> <p>(3) Where land is acquired on behalf of the licensee under subsection (2), the licensee shall bear all the costs in relation thereto.</p>	community	measures to protect workers, community and environment
5	The Public Health Act (Cap 242) Revised Edition 2012	The legislation provides for the protection of public health in Kenya and lays down rules relative to, among other things, food hygiene and protection of foodstuffs, the keeping of animals, protection of public water supplies, the prevention and destruction of mosquitos and the abatement of nuisances including nuisances arising from sewerage.	(l) The construction of the Transmission Line will be done in areas where latrines are not readily available.	(n) The ESIA has proposed that workers be provided with appropriate latrines in the working area. (o) Provision of sanitation

No.	Legislation/ Guideline	Relevance of the Legislation/Guideline	Trigger of Legislation/ Guideline	Project Fulfillment of the Legislation/Guideline
		<p><b>Section 115</b> Says no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health.</p> <p><b>Part IX - Sanitation and Housing,</b></p> <p><b>Section 118</b> - b, c, e, h, i, k provides what constitutes nuisance. This includes:</p> <p>(b) Any dwelling or premises or part thereof which is or are of such construction or is such a state or so situation or so dirty or so verminous as to be dangerous to health</p> <p>(c) Any street, road or any part thereof, any stream, pool, ditch, gutter, watercourse, sink, water tank, cistern, water closet, water tank urinal, sewage treatment plant waste pipe, drain, sewer, garbage receptacle, dust bin, refuse pit is in such way or so situated or constructed to be offensive or to be injurious or dangerous to health</p> <p>(e) Any noxious matter or waste water, flowing or discharged from any premises</p> <p>(h) Any accumulation or deposit of refuse</p> <p>(i) Any accumulation of stones, timber or other material</p> <p>(k) Any dwelling which or premises which is so overcrowded, among other provisions</p> <p><b>Section 129. Duty of local authority as to protection of water supplies</b> It shall be the duty of every local authority to take all lawful, necessary and reasonably practicable measures—for preventing any pollution dangerous to health of any supply of water which the public within its district has a right to use and does use for drinking or domestic purposes (whether such supply is derived from sources within or beyond its district);</p>	<p>(m) The workers require to use latrines while at work.</p>	<p>facilities for workers in the design</p>
6	The Wildlife Conservation and Management Act No. 47 of 2013. Revised Edition 2014	<p>The Legislation governs the conservation and management of wildlife through advocating for the following actions::</p> <ul style="list-style-type: none"> <li>• Protection of wildlife using appropriate methods</li> <li>• Wildlife conservation education and extension services to create public awareness.</li> </ul> <p>The relevant sections include:</p> <ul style="list-style-type: none"> <li>• <b>Section 19</b> elaborates on the functions of the County Wildlife Conservation and Compensation Committees that includes undertake education, extension services and public awareness</li> <li>• <b>Section 26 says Environment Law to Apply</b></li> <li>• The provisions of this Act with respect to conservation, protection and management of the environment shall be in conformity with the provisions of the Environmental Management and Co-ordination Act (No. 8 of 1999).</li> </ul>	<ul style="list-style-type: none"> <li>• The Transmission Line transects vegetated and Forest areas visited by wildlife (Baboons, wild Pigs and Migratory Birds and Elephants visiting the dispersal areas (though rarely).</li> <li>• There is likelihood that protected/threatened fauna may be present in the project area</li> <li>• There may be fauna</li> </ul>	<p>ESIA Study Report to provide recommendations including:</p> <ul style="list-style-type: none"> <li>• Education on wildlife conservation</li> <li>• Installation of guards on Pylons to stop animals like Baboons from climbing and reaching conductors.</li> <li>• Installation of Bird reflector bowls to avoid bird strikes.</li> </ul>

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		<ul style="list-style-type: none"> <li>• <b>Section 28</b> says that Water Act shall apply without exception</li> <li>• <b>Section 29</b> emphasizes requirement for Sustainable use of land</li> <li>• <b>Section 31</b> provides for declaration of protected areas by the Cabinet Secretary.</li> <li>• <b>Section 46</b> provides for Protection of endangered and threatened ecosystems</li> <li>• <b>Section 47</b> provides for listing of endangered and threatened species and amendment of the list from time to time.</li> <li>• <b>Section 89</b> provides offences relating to pollution of designated wildlife areas.</li> <li>• <b>Section 92</b> provides offences relating to endangered and threatened species.</li> </ul>	species that are protected/threatened	
7	The Occupational Safety and Health Act, 2007	<p>The Act provides governance on safe and secure working environment for workers through implementation of appropriate safety measures.</p> <ul style="list-style-type: none"> <li>• <b>Section 3 part 2</b> of the Act elaborates that the purpose of the Act is to: <ul style="list-style-type: none"> <li>– Secure the safety, health and welfare of persons at work;</li> <li>– Protect persons other than persons at work against risks to safety and health arising out of, or in connection with, the activities of persons at work.</li> </ul> </li> <li>• <b>Section 8 of the factories and other places of work (Hazardous Substances) rules, 2007</b> says employers shall provide the employee with suitable respiratory protective equipment and protective clothing.</li> <li>• <b>Section 101. (1)</b> Emphasizes that every employer shall provide and maintain for the use of employees in any workplace where employees are employed in any process involving exposure to wet or to any injurious or offensive substance, adequate, effective and suitable protective clothing and appliances, including, where necessary, suitable gloves, footwear, goggles and head coverings.</li> </ul>	The construction and operation of the project will have activities taking place at heights and areas with steep slopes posing Occupational Safety and Health Risks.	ESIA Report provides recommendations on Health and safety to be followed by Staff carrying out ESIA Study and Construction Staff.
8	Public Roads and Roads of Access Act Cap. 399 (Revised Edition 2010)	<p>The legislation provides for appropriate governance on development and use of public roads and roads of access. The Act advocates for:</p> <ul style="list-style-type: none"> <li>• Notification and seeking permission for construction of Roads of Access from land owners;</li> </ul> <p><b>Section 10</b> requires that notice is served on land owners affected by the road project.</p> <p><b>Section 11</b> elaborates on granting of leave to construct road of access subject to such conditions and to payment of such compensation in respect of any growing crops or permanent improvements damaged or destroyed by the construction of such road of access</p>	<ul style="list-style-type: none"> <li>• The Construction and Operation activities of the Transmission project will require access roads within the project area.</li> <li>• The access roads will pass through fallow and farm lands</li> </ul>	Developer to apply proposed mitigation measures provided in this ESIA Study Report to minimize impact and inconvenience to project area community

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9	County Government Act No. 17 of 2012 Revised 2017	<p>The County Government Act is intended to provide powers, functions and responsibilities to deliver services to the Counties under the devolved government.</p> <p><b>Section 3. Object and purpose of the Act</b> The object and purpose of this Act is to— (h) prescribe mechanisms to protect minorities within counties pursuant to Article 197 of the Constitution;</p> <p><b>Section 34. Exercise of executive authority</b> The county executive committee shall exercise the executive authority—(e) while ensuring the protection and promotion of the interests and rights of minorities and marginalized communities;</p> <p><b>Section 94. Objectives of county communication</b> - A County government shall use the media to—(c) undertake advocacy on core development issues such as agriculture, education, health, security, economics, sustainable environment among others;</p> <p><b>Section 104. Obligation to plan by the County</b> (2) The county planning framework shall integrate economic, physical, social, environmental and spatial planning.</p> <p><b>Section 110. County Spatial Plans</b> (2) The spatial plan, which shall be spatial development framework for the county, shall— (c) contain strategies and policies regarding the manner in which the strategies and policies shall—(vi) contain a strategic assessment of the environmental impact of the spatial development framework;</p> <p><b>Section 115. Public participation in county planning</b> (1) Public participation in the county planning processes shall be mandatory and be facilitated through— (b) provision to the public of clear and unambiguous information on any matter under consideration in the planning process, including— (i) clear strategic environmental assessments; (ii) clear environmental impact assessment reports;</p>	<p>The project has the potential of</p> <ul style="list-style-type: none"> <li>• Displacing people residing within the project corridor</li> <li>• Disturbing Flora and Fauna</li> <li>• Creating visual intrusion by the pylons</li> </ul>	<ul style="list-style-type: none"> <li>• Project plans will be taken to Local Authority for approval.</li> <li>• Project design will conform with project area environment reducing visual intrusion</li> <li>• ESIA Study which is in progress will carry out an all-inclusive Public Participation process through consultations, sensitization meetings and Public Consultation Meetings.</li> <li>• The ESIA Study will also assess and establish the presence of minorities marginalized communities to identify required assistance.</li> </ul>
10	The Water Act No. 43 of 2016 revised 2017	<p>The Act provides for the protection from pollution and sustainable use of water resources.</p> <p><b>Section 63. Right to Clean and Safe Water</b> Every person in Kenya has the right to clean and safe water in adequate quantities and to reasonable standards of sanitation as stipulated in Article 43 of the Constitution.</p> <p><b>Section 110. Compulsory Acquisition of Land</b> (1) A licensee, or an applicant for a license, who requires the compulsory</p>	<p>The Transmission Line Project and substation has the potential to:</p> <ul style="list-style-type: none"> <li>• Interfere with water catchment</li> <li>• Cause pollution of water sources</li> </ul>	<ul style="list-style-type: none"> <li>• ESIA Study has already been commissioned</li> <li>• Developer to comply with ESIA ESMaP and recommendations on environmental protection and mitigation measures.</li> </ul>

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		<p>acquisition of land for any of its purposes, may apply to a county governor, or where necessary to the Cabinet Secretary, who, on being satisfied that such compulsory acquisition is desirable, may take the steps necessary to secure the compulsory acquisition of the land in accordance with the applicable laws.</p> <p>(2) It shall be a condition of the licence that the licensee or an applicant for a licence shall, for the purposes of subsection (1) take any necessary action to ensure the protection —</p> <p>(a) of a source of supply which belongs to such licensee or will belong to the licensee following the acquisition;</p> <p>(b) against pollution or other degradation whether on the surface or underground of any water resource within such licensee's area of jurisdiction.</p> <p><b>Section 143. Obstruction or Pollution of Watercourse or Water Resource</b></p> <p>(1) A person shall not, without authority conferred under this Act— (a) willfully obstruct, interfere with, divert or obstruct water from any watercourse or any water resource, or negligently allow any such obstruction, interference, diversion or abstraction; or</p> <p>(b) throw, convey, cause or permit to be thrown or conveyed, any rubbish, dirt, refuse, effluent, trade waste or other offensive matter or thing into or near to any water resource in such manner as to cause, or be likely to cause, pollution of the water resource.</p> <p><b>144. Remedy of Defaults</b></p> <p>(1) Without prejudice to any other remedy or course of action, if a person contravenes any provision under this Act, then, the Authority, the Regulatory Board, the county government executive concerned or the licensee concerned may, by order served on the person concerned, require that person within a reasonable time specified in the order to remedy the contravention and in particular— (a) to clean up any pollution or make good any other harm identified in the order which was caused to any water resource by reason of the contravention;</p>		
11	Forest Conservation and Management Act No 34 of 2016 Revised 2017	<p>This Act provides for the establishment, development and sustainable management, including conservation and rational utilization of forest resources for the socio-economic development of the country.</p> <p><b>Section 3. Application of the Act</b></p> <p>This Act shall apply to all forests on public, community and private lands.</p> <p><b>Section 4. Guiding Principles</b></p> <p>The principles of this Act shall be—</p> <p>(a) good governance in accordance with Article 10 of the Constitution;</p>	<ul style="list-style-type: none"> <li>• The proposed Transmission Line (TL) transects vegetated areas and a forested area belonging to the Community (around DK6 – DK7).</li> <li>• There will be need to cut</li> </ul>	<ul style="list-style-type: none"> <li>• ESIA Study has already been Commissioned</li> <li>• Developer to comply with ESIA recommendations on environmental protection,</li> <li>• There are recommendations provided in the ESIA</li> </ul>

No.	Legislation/ Guideline	Relevance of the Legislation/Guideline	Trigger of Legislation/ Guideline	Project Fulfillment of the Legislation/Guideline
		<p>(b) public participation and community involvement in the management of forests;</p> <p>(c) consultation and co-operation between the national and county governments;</p> <p><b>Section 21. Forestry functions of County Governments</b></p> <p>(1) Each County Government—</p> <p>(b) shall manage all forests on public land defined under Article 62(2) of the Constitution;</p> <p>(d) shall promote afforestation activities in the county;</p> <p>(e) shall advice and assist communities and individuals in the management of community forests or private forests;</p> <p>(f) may enter into joint management agreements with communities or individuals for the management of community forests or private forests.</p> <p><b>Section 42. Management of indigenous forests</b></p> <p>(1) All indigenous forests and woodlands shall be managed on a sustainable basis for purposes of—</p> <p>(a) conservation of water, soil and biodiversity;</p> <p>(b) riparian and shoreline protection;</p> <p>(c) cultural use and heritage;</p> <p><b>Section 44. Concession on Public Forests</b></p> <p>(1) Where the Service is satisfied that utilization of a public forest can be done through the granting of a concession, the Service shall grant the concession subject to the provisions of the Constitution, this Act and any other relevant written law.</p> <p>(2) The Service shall not recommend any such proposal unless—</p> <p>(a) the proposal has been subjected to an independent environmental impact assessment; and</p> <p>(b) public consultation in accordance with the Second Schedule has been undertaken and completed.</p> <p><b>Section 64 (1)</b>, except under a license or permit or a management agreement issued or entered into under this Act, no person shall, in a public or provisional forest fell, cut, take, burn, injure or remove any forest produce</p> <p><b>Section 75. No. 9 of 1999 to apply</b></p> <p>(1) Where a provision of this Act requires a person to conserve or protect the environment, the relevant provisions of the Environmental Management and Co-ordination Act, 1999, shall also apply with respect to the manner in which the conservation or protection shall proceed.</p> <p>(3) A user or other related right shall not be granted under this Act where the requirement for a strategic environmental, cultural, economic and social impact</p>	<p>down the trees along the TL corridor of 40m wide.</p> <ul style="list-style-type: none"> <li>• There may be existence of protected/threatened flora species</li> </ul>	<p>Study Report to protect Sacred and Cultural sites ;</p> <ul style="list-style-type: none"> <li>• There are recommendations in the ESIA Study Report to implement mitigation measures including protection of protected/threatened flora species.</li> </ul>

No.	Legislation/ Guideline	Relevance of the Legislation/Guideline	Trigger of Legislation/ Guideline	Project Fulfillment of the Legislation/Guideline
		assessment licence under the Environmental Management and Co-ordination Act, 1999, has not been complied with.		
12	The Physical Planning Act No.6 of 1996 Revised 2012	<p>The Act provides for implementation of regulated development through preparation of physical development plans while taking into account potential environmental impacts.</p> <p><b>Section 30. Development Permission</b>                      (1) No person shall carry out development within the area of a local authority without a development permission granted by the local authority under section 33.</p> <p><b>Section 36. Environmental impact assessment</b>                      If in connection with a development application a local authority is of the opinion that proposals for industrial location, dumping sites, sewerage treatment, quarries or any other development activity will have injurious impact on the environment, the applicant shall be required to submit together with the application an environmental impact assessment report.</p> <p><b>Section 37. Registration of documents</b>                      (1) The Registrar shall refuse to register a document relating to the development of land unless a development permission has been granted as required under this Act in respect of such development or unless the appropriate conditions relating to such development permission have been complied with</p> <p><b>Section 41. Subdivision of land</b>                      (1) No private land within the area of authority of a local authority may be subdivided except in accordance with the requirements of a local physical development plan approved in relation to that area under this Act and upon application made in the form prescribed in the Fourth Schedule to the local authority.</p> <p><b>Section 46. Right of entry</b>                      (2) A person shall not have the right to enter upon any land or premises until after the expiration of forty-eight hours after a notice of entry has been served on the owner or occupier of the land or premises.</p>	<ul style="list-style-type: none"> <li>• There are persons who will be required to relocate and resettle elsewhere within the project area</li> <li>• The project will require the cutting down of trees along the TL corridor.</li> <li>• There will be excavation works for the base of the pylons.</li> <li>• The project has the potential of interfering with flora and fauna in the project area</li> </ul>	<ul style="list-style-type: none"> <li>• Project Design to be submitted for approval</li> <li>• ESIA Study has been commissioned and is in progress</li> <li>• ESIA Study Report contains detailed Environmental and Social Management Plan (ESMaP) that will be used by the proponent and contractor during construction/operation.</li> </ul>
13	Employment Act No 11 of 2007 Revised 2017	<p>The Act provides for protection of workers against forced labour and exploitation, employment of underage children.</p> <p><b>Section 4. Prohibition against forced labour</b>                      (1) No person shall use or assist any other person in recruiting, trafficking or using forced labour.</p>	The project is located within community settled areas and there is a high potential of underage children looking for manual jobs. The	<ul style="list-style-type: none"> <li>• The ESIA Study Report provides ESMP that prohibits forced and child labour</li> <li>• Project proponent will be</li> </ul>



No.	Legislation/ Guideline	Relevance of the Legislation/Guideline	Trigger of Legislation/ Guideline	Project Fulfillment of the Legislation/Guideline
		<p><b>Section 53. Prohibition of worst forms of child labour</b>                      (1) Notwithstanding any provision of any written law, no person shall employ a child in any activity which constitutes worst form of child labour.</p> <p><b>Section 54. Complaint to the labour officer or police officer</b>                      (1) A person may make a complaint to a labour officer or a police officer of the rank of an inspector and above if that person considers any child to be employed in any activity which constitutes worst form of child labour.</p> <p><b>Section 56. Prohibition of employment of children between thirteen years and sixteen years of age</b>                      (1) No person shall employ a child who has not attained the age of thirteen years whether gainfully or otherwise in any undertaking.                      (2) A child of between thirteen years of age and sixteen years of age may be employed to perform light work which is—                      (a) not likely to be harmful to the child's health or development; and                      (b) not such as to prejudice the child's attendance at school, his participation in vocational orientation or training programmes approved by the Cabinet Secretary or his capacity to benefit from the Instructions received.</p> <p><b>Section 6. Sexual Harassment</b>                      (1) An employee is sexually harassed if the employer of that employee or a representative of that employer or a co-worker—                      (a) directly or indirectly requests that employee for sexual intercourse, sexual contact or any other form of sexual activity that contains an implied or express—                          (i) promise of preferential treatment in employment;                          (ii) threat of detrimental treatment in employment; or                          (iii) threat about the present or future employment status of the employee;                      (b) uses language whether written or spoken of a sexual nature;                      (c) uses visual material of a sexual nature; or                      (d) shows physical behaviour of a sexual nature which directly or indirectly subjects the employee to behaviour that is unwelcome or offensive to that employee and that by its nature has a detrimental effect on that employee's employment, job performance, or job satisfaction.</p>	<p>contractor will also have the opportunity of engaging community members for casual jobs. The engagement needs to observe Employment Act requirements against forced labour.</p>	<p>required to abide by the requirements of the Employment Act</p>
14	Agriculture and Food Authority Act, No 13 of 2013 Revised 2015	<p>The Act provides for governance on land classification, land use and preservation.</p> <p><b>Section 21. Land Development Guidelines</b></p>	<p>The proposed transmission, the line crosses over settlement and agricultural</p>	<p>Project proponent undertakes to abide by the requirements of the developed guidelines</p>

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		<p>(1) The Cabinet Secretary shall, on the advice of the Authority, and in consultation with the National Land Commission, provide general guidelines, in this Act referred to as land development guidelines, applicable in respect of any category of agricultural land to the owners or the occupiers thereof.</p> <p><b>Section 23. Land preservation guidelines</b></p> <p>(1) The Cabinet Secretary, on the advice of the Authority, and in consultation with the National Land Commission, for the purposes of the conservation of the soil, or the prevention of the adverse effects of soil erosion on, any land, may, prescribe national guidelines for any or all of the following matters—</p> <p>(a) prohibiting, regulating or controlling the undertaking of any agricultural activity including the firing, clearing or destruction of vegetation when such prohibiting, regulating or controlling is deemed by the Cabinet Secretary to be necessary for the protection of land against degradation, the protection of water catchment areas or otherwise, for the preservation of the soil and its fertility;</p> <p>(b) requiring, regulating or controlling—</p> <p>(i) the afforestation or re-afforestation of land;</p> <p>(ii) the drainage of land, including the construction, maintenance or repair of drains, gullies, contour banks, terraces and diversion ditches;</p> <p>(iii) salination, acidification and saltification of soil;</p> <p>(c) requiring the uprooting or destruction, without payment of any compensation therefore, of any vegetation which has been planted in contravention of a land preservation order;</p> <p><b>Section 32. Land preservation orders</b></p> <p>A county government may make a land preservation order against the owner or occupier of land, or against both the owner and occupier either at the same time or at different times.</p>	<p>land where farmers grow crops such maize, beans, cassava, peas, and commercial plants like mango trees, cashew nuts, coco nuts etc.</p>	<p>touching on type of development, prevention of adverse effects and following preservation orders issued by County Government.</p>
15	National Museums and Heritage Act No. 6 of 2006 Revised 2012	<p>The Act provides for the protection, preservation and maintenance of cultural and natural heritage sites and monuments.</p> <p><b>Section 4. Functions of National Museums</b></p> <p>(c) identify, protect, conserve and transmit the cultural and natural heritage of Kenya;</p> <p>(d) promote cultural resources in the context of social and economic development.</p> <p><b>Section 43. Duties of National Museums to Protect and Maintain Monuments</b></p> <p>(1) A monument which is for the time being owned by the National Museums, or under the guardianship of the National Museums, shall be properly maintained</p>	<p>2 Tree shrines are affected. One in Mwatate Location and the other in Kasemeni Locations.</p>	<ul style="list-style-type: none"> <li>• The JICA Design Team is reviewing the Transmission Line route to avoid these cultural/protected sites.</li> <li>• Consultations with the Guardians of the Cultural Sites (Owners of Shrines) have been consulted with regards, to the affected items.</li> </ul>

No.	Legislation/ Guideline	Relevance of the Legislation/Guideline	Trigger of Legislation/ Guideline	Project Fulfillment of the Legislation/Guideline
		<p>by the National Museums, except so far as its maintenance is, by such guardianship or agreement the responsibility of the owner of the monument or of any other person.</p> <p>(3) When any such monument or any part thereof is used periodically for religious observances, the National Museums shall make due provision for the protection of the monument from pollution or desecration—</p> <p>(a) by prohibiting entry therein, except in accordance with by-laws made with the concurrence of the persons in religious charge of the monument or part thereof, of any person not entitled so to enter by the religious usage of the sect or community by which the monument or part thereof is used; or (b) by taking such other action the National Museums deems necessary.</p> <p><b>Section 57. Heritage wardens</b></p> <p>(1) The Minister may by notice in the <i>Gazette</i> appoint persons recommended by the National Museums to be heritage wardens for the purpose of enforcing this Act.</p> <p>(2) A heritage warden appointed under subsection (1) may, with leave of the Attorney-General be appointed prosecutor for purposes of prosecuting offences committed under this Act.</p>		
16	Community Land Act No. 27 of 2016	<p>The Act provides for the governance of community land on use, development and benefits sharing among community members.</p> <p><b>Section 4. Ownership and tenure system</b></p> <p>(1) Community land in Kenya shall vest in the Community.</p> <p>(2) Subject to the provisions of this Act or any other written law, the State may regulate the use of community land in accordance with Article 66 of the Constitution.</p> <p>(3) Community land shall vest in the community and maybe held under any of the following tenure system—</p> <p>(a) customary;</p> <p>(b) freehold;</p> <p>(c) leasehold; and</p> <p>(d) such other tenure system recognized under this Act or other written law.</p> <p><b>Section 22. Conversion of community land to public land</b></p> <p>(1) Community land may be converted to public land by—</p> <p>(a) compulsory acquisition;</p> <p>(b) transfer; or</p> <p>(c) surrender.</p> <p><b>Section 6. Role of County Governments</b></p>	The transmission line is passing through land owned by the community	<ul style="list-style-type: none"> <li>The ESIA and RAP Study teams have consulted with the community members. The ESIA Report has provided an ESMaP that should be implemented by the contractor</li> </ul>

No.	Legislation/ Guideline	Relevance of the Legislation/Guideline	Trigger of Legislation/ Guideline	Project Fulfillment of the Legislation/Guideline
		<p>(2) The respective county government shall hold in trust for a community any monies payable as compensation for compulsory acquisition of any unregistered community land.</p> <p><b>Section 19. Land use and development planning of community land</b>                      (a) consider any conservation, environmental or heritage issues relevant to the development, management or use of the land;</p>		
17	HIV And Aids Prevention and Control Act No. 14 Of 2006 Revised in 2012	<p>The Act provides for measures for the prevention, management and control of HIV and AIDS, to provide for the protection and promotion of public health and for the appropriate treatment, counselling, support and care of persons infected or at risk of HIV and AIDS infection</p> <p><b>Section 3. Object and purpose of Act</b>                      The object and purpose of this Act is to— (a) promote public awareness about the causes, modes of transmission, consequences, means of prevention and control of HIV and AIDS;</p> <p><b>Section 4. HIV and AIDS Education and Information</b>                      (1) The Government shall promote public awareness about the causes, modes of transmission, consequences, means of prevention and control of HIV and AIDS through a comprehensive nationwide educational and information campaign conducted by the Government through its various Ministries, Departments, authorities and other agencies.</p> <p><b>Section 7. HIV and AIDS Education in the workplace</b>                      (1) The Government shall ensure the provision of basic information and instruction on HIV and AIDS prevention and control to— (a) employees of all Government Ministries, Departments, authorities and other agencies; and (b) employees of private and informal sectors.</p>	The Transmission Line passes through a settlement area. There is a high potential of the project workers getting involved in unprotected sex with community members.	The Contractor shall prepare a project implementation plan that contains a comprehensive programme for: <ul style="list-style-type: none"> <li>• Regular sensitization of all workers on HIV Aids and other Sexually Transmitted Diseases</li> <li>• Providing workers with condoms</li> </ul>

### 3.2.2 JICA Guideline for Environmental and Social Consideration

JICA Guidelines provide for Impact Categorization into Category A, B, C and FI.

- **Category A** – Proposed projects are classified as Category A if they are likely to have significant adverse impacts on the environment and society. Projects with complicated or unprecedented impacts that are difficult to assess, or projects with a wide range of impacts or irreversible impacts, are also classified as Category A. These impacts may affect an area broader than the sites or facilities subject to physical construction. Category A, in principle, includes projects in sensitive sectors, projects that have characteristics that are liable to cause adverse environmental impacts, and projects located in or near sensitive areas.
- **Category B** – Proposed projects are classified as Category B if their potential adverse impacts on the environment and society are less adverse than those of Category A projects. Generally, they are site-specific; few if any are irreversible; and in most cases, normal mitigation measures can be designed more readily.
- **Category C** – Projects that are likely to have minimal or little adverse impact on the environment and society
- **Category FI** – Project funding is provided to a financial intermediary or executing agency; the selection and appraisal of the sub-projects is substantially undertaken by such an institution only after JICA’s approval of the funding, so that the sub-projects cannot be specified prior to JICA’s approval of funding/project appraisal; and those sub-projects are expected to have a potential impact on the environment.

This Project is categorized as “Category A” mainly as it will entail significant resettlement. **Table 4** shows the gaps between Kenya’s law and JICA environmental guideline and the Project’s policy to fill the gaps.

**Table 4: Gaps between Kenya’s Law and JICA Environmental Guideline**

	JICA Environmental Guideline	Kenyan law	Gaps and Project’s gap filling policy
General	Environmental impacts that may be caused by projects must be assessed and examined in the earliest possible planning stage. Alternatives or mitigation measures to avoid or minimize adverse impacts must be examined and incorporated into the project plan.	Projects that require EIA is listed in Second Schedule of EMCA. High-voltage transmission line project is categorized as “High risk” hence it is necessary to conduct EIA in the planning stage. As per Article 16 of the EIA regulation, it is necessary to consider alternatives and mitigation measures.	There is no notable gap. The Project will consider alternatives and mitigation measures during the planning process.
Information disclosure	EIA reports must be written in the official language or in a language widely used in the country in which the project is to be implemented. When explaining projects to local residents, written materials must be provided in a language and form understandable to them.	There is no specific regulation on EIA report language but English is the norm as it is the official language. There is no regulation on language use for when explaining projects to local residents.	The EIA report will be prepared in English. Explanation and written materials for local residents will be provided in Kiswahili, which is the locally common language.
	EIA reports are required to be made available to the local residents of the country in which the project is to be implemented. The EIA reports are required to be available at all times for perusal by	As per Article 21 of the EIA regulation, the public have the opportunity to submit oral or written comments on the EIA during the EIA evaluation period, which will be announced through	While there is no specific regulation on the availability period of EIA and permission for copy, the EIA report will be disclosed continuously through KETRACO website.

	JICA Environmental Guideline	Kenyan law	Gaps and Project's gap filling policy
	project stakeholders such as local residents and copying must be permitted.	gazette and newspaper with nation-wide circulation. The announcement will include the time and place where the EIA can be reviewed. There is no specific regulation on the availability period of EIA and permission for copy.	
Consultation	For projects with a potentially large environmental impact, sufficient consultations with local stakeholders, such as local residents, must be conducted via disclosure of information at an early stage, at which time alternatives for project plans may be examined. The outcome of such consultations must be incorporated into the contents of project plans.	As per Article 17 of the EIA regulation, it is necessary to hold at least 3 public meetings during the EIA preparation stage. However, there is no specific regulations on information disclosure and when to hold the meetings.	While there are no specific regulations on information disclosure and when to hold the meetings, the Project will start to hold meetings with relevant stakeholders from the early planning stage to explain and discuss the Project plans.
	In preparing EIA reports, consultations with stakeholders, such as local residents, must take place after sufficient information has been disclosed. Records of such consultations must be prepared.	As per Article 17 of the EIA regulation, it is necessary to hold at least 3 public meetings during the EIA preparation stage. Minutes of the meeting is required to be submitted to NEMA.	No notable gap.
	Holding consultations is highly desirable, especially when the items to be considered in the EIA are being selected, and when the draft report is being prepared.	It is required to consult stakeholders during the EIA preparation and also hold public hearing during EIA evaluation as necessary.	While there are no specific regulations on when to hold the consultations, public meetings will be held at the scoping and draft report stages.
Assessment items	The impacts to be assessed with regard to environmental and social considerations include impacts on human health and safety, as well as on the natural environment, that are transmitted through air, water, soil, waste, accidents, water usage, climate change, ecosystems, fauna and flora, including trans-boundary or global scale impacts. These also include social impacts, including migration of population and involuntary resettlement, local economy such as employment and livelihood, utilization of land and local resources, social institutions such as social capital and local decision-making institutions, existing social infrastructures and services, vulnerable social groups such as poor and indigenous peoples, equality of benefits and losses and equality in the development process, gender, children's rights, cultural heritage,	Second Schedule of the EIA regulation describes the items to be considered such as: <ul style="list-style-type: none"> <li>Natural environment (e.g. biodiversity, wildlife, wetland, water resource, hydrology, vulnerable ecosystem)</li> <li>Social environment (e.g. economy, social, health, migration/immigration, social infrastructure, culture, landscape, amenity, land use)</li> </ul>	There is no notable gap. The Project will nevertheless cover the JICA environmental items.

	JICA Environmental Guideline	Kenyan law	Gaps and Project's gap filling policy
	local conflicts of interest, infectious diseases such as HIV/AIDS, and working conditions including occupational safety.		
	In addition to the direct and immediate impacts of projects, their derivative, secondary, and cumulative impacts as well as the impacts of projects that are indivisible from the project are also to be examined and assessed to a reasonable extent. It is also desirable that the impacts that can occur at any time throughout the project cycle should be considered throughout the life cycle of the project.	As per Article 18 of the EIA regulation, it is necessary to consider secondary, and cumulative impacts but does not mention impacts of projects that are indivisible from the project and to consider impacts throughout the life cycle of the project.	Impacts of Projects that are indivisible from the project will be considered as necessary. Impact will also be considered throughout the life cycle of the Project including pre-construction, construction and operation stages.
Monitoring , grievance	Project proponents etc. should make efforts to make the results of the monitoring process available to local project stakeholders.	There is no regulation on disclosure of monitoring results.	Monitoring results are planned to be disclosed through KETRACO website.
	When third parties point out, in concrete terms, that environmental and social considerations are not being fully undertaken, forums for discussion and examination of countermeasures are established based on sufficient information disclosure, including stakeholders' participation in relevant projects. Project proponents etc. should make efforts to reach an agreement on procedures to be adopted with a view to resolving problems.	As per Article 39 of the EIA regulation, the public may, after showing reasonable cause in writing, petition the Authority to cause an audit to be carried out on any project.	KETRACO will establish Project Implementation Team, which will include environment and social officers. The team will have the role of responding against any grievances.
Ecosystem and biota	Projects must not involve significant conversion or significant degradation of critical natural habitats and critical forests.	As per Second Schedule of the EIA regulation, it is necessary to assess impacts on vulnerable ecosystem.	While there are no specific regulations on ecosystem and biota, the Project will confirm the presence and status of critical natural habitats and critical forests through field surveys and expert consultations. In case any are identified, the Project will consider to the extent possible to avoid any impacts.
Indigenous Peoples	Any adverse impacts that a project may have on indigenous peoples are to be avoided when feasible by exploring all viable alternatives. When, after such an examination, avoidance is proved unfeasible, effective measures must be taken to minimize impacts and to compensate indigenous peoples for their losses.	The 2010 Kenya Constitution protects the rights of minority or marginalized communities such land rights and political participation.	While there are no specific regulations on indigenous peoples, the Project will confirm the presence and status of indigenous peoples through field reconnaissance and interviews. In case any are identified, the Project will consider to the extent possible to avoid any impacts.

### 3.3 Institutional Framework

There are several institutions that have been set up to operate under the Ministry of Energy and Petroleum (MOE&P) to provide services in the energy sector particularly generation, transmission and distribution of electricity. They include Energy Regulatory Commission (ERC), Kenya Electricity Generating Company (KenGen), The Kenya Power and Lighting Company (KPLC), The Rural Electrification Authority (REA), Kenya Electricity Transmission Company (KETRACO), Geothermal Development Company (GDC), Energy Tribunal, Kenya Nuclear Electricity Board (KNEB), and Independent Power Producers (IPPs).

The roles and functions of these institutions have been categorized into generation, transmission, distribution, oversight, policy and regulation. The functions are elaborated in **Table 5**. The Chart showing the arrangement of the institutions is provide in **Figure 3**. KETRACO plays the role of electricity transmission.



**Table 5: Roles of Organizations involved in Electricity Generation & Distribution**

No.	Category	Institution	Role/Function
1	Policy	Ministry of Energy and Petroleum (MOE&P)	MOE&P is in charge of making and articulating energy policies to create an enabling environment for efficient operation and growth of the sector
2	Policy	Kenya Nuclear Energy Board - KNEB	KNEB is tasked with defining, coordinating and implementing Kenya's nuclear power programme which includes the development of a comprehensive legal and regulatory framework for nuclear energy use, evaluation of technical requirements for the programme and advocacy for nuclear use in Kenya
3	Arbitration	Energy Tribunal	Energy Tribunal is an independent legal entity which was set up to arbitrate disputes in the sector.
4	Regulation	Energy Regulatory Commission (ERC)	Energy Tribunal ERC is responsible for regulation of the energy sector. Functions include tariff setting and oversight, coordination of the development of Indicative Energy Plans, monitoring and enforcement of sector regulations
5	Generation	Kenya Electricity Generating Company (KenGen)	KenGen carries out generation of electricity from hydropower, thermal, geothermal and wind
		Geothermal Development Company (GDC)	GDC undertakes surface exploration of geothermal fields, undertake exploratory appraisal and production drilling and management of steam fields as well as entering into steam sales agreements with investors
		Independent Power Producers (IPPs)	IPPs are private investors that are involved in generation either on a large scale or for the development of renewable energy under the Feed-in-tariff Policy. Some of the IPPs include IberAfrica Power, Rabai Power, Tsavo Power, or Power, Mumias Sugar Company etc
6	Transmission	Kenya Electricity Transmission Company (KETRACO)	KETRACO Plans, designs, constructs, owns, operates and maintains new high voltage (132kV and above) electricity transmission infrastructure
7	Distribution	Kenya Power and Lighting Company commonly known as Kenya Power	KPLC is the off-taker in the power market buying power from all power generators on the basis of negotiated Power Purchase Agreements (PPAs) for onward transmission, distribution and supply to consumers

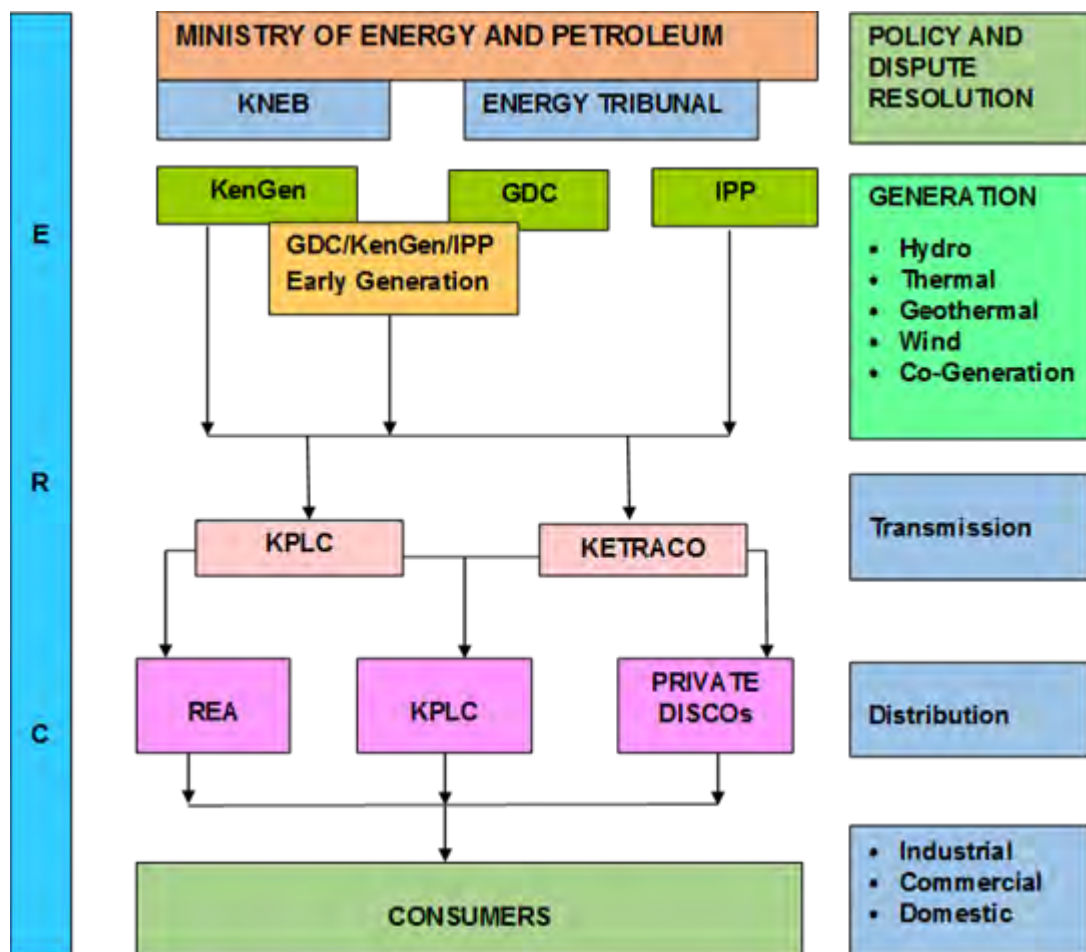


Figure 4: Institutional Arrangements in the Electricity Sector

**Abbreviations**

- KNEB – Kenya Nuclear Electricity Board
- KenGen - Kenya Electricity Generating Company
- GDC – Geothermal Development Company
- IPP – Independent Power Producers
- REA – Rural Electrification Authority
- KETRACO – Kenya Electricity Transmission Company
- NLC – National Land Commission
- ERC – Energy Regulatory Commission
- KPLC – Kenya Power and Lighting Company known commonly as Kenya Power

**3.4 Environment-related permits**

Table 6 lists the environment-related permits required in the Project.

**Table 6: Environment-related permits required in the Project**

No.	Relevant activity	Statute	Requirement	Competent Authority	Responsible Agency for Obtaining Clearance	Date of Acquisition	Duration
<b>Pre-Construction Stage</b>							
1	Construction and operation of TL and substation	Environmental Management and Coordination Act (EMCA) Cap 387, Rev 2018	Need to submit ESIA report to obtain EIA license	NEMA	KETRACO	Upon approval of ESIA report	Max 90 Days from date of submission of ESIA Report
2	Cutting of forest trees between DK6-7	Forest Management and Conservation Act, 2016	Need to obtain permission to cut forest trees between DK6-7	Kenya Forest Service (KFS)	KETRACO	Before forest clearance works	Indefinite
3	Construction of overhead TL tower (approx. 45 m height)	Civil Aviation Act, 2013	Need to obtain permission to install overhead TL tower	Kenya Civil Aviation Authority (KCAA)	KETRACO	After D/D study	Indefinite
4	Construction activities	Occupational Safety and Health Act (OSHA), 2007	Need to apply registration of premises	Directorate of Occupational Safety and Health Services (DOSHS)	Contractor	Before commencement of construction	1 – 4 weeks
5	Construction and operation of TL and substation in 3 different counties	County Governments Act No. 17 of 2012 revised in 2017	Need to obtain clearance of ESIA report	County Governments of Kilifi, Kwale and Mombasa Counties	KETRACO	Upon approval of ESIA report	Indefinite
6	Setting up of construction camp sites	Environmental Management and Coordination Act (EMCA) Cap 387, Rev 2018	Need to submit Project report to obtain EIA license	NEMA	Contractor	Before commencement of construction	1 – 1.5 months
7	Water abstraction from water resource (if required)	Water Act, 2012	Need to obtain permission to abstract water	Water Resources Authority (WRA)	Contractor	Before commencement of construction	1 – 1.5 months

No.	Relevant activity	Statute	Requirement	Competent Authority	Responsible Agency for Obtaining Clearance	Date of Acquisition	Duration
8	Drilling of boreholes (if required)	Environmental Management and Coordination Act (EMCA) Cap 387, Rev 2018	Need to submit Project report to obtain EIA license	NEMA	Contractor	Before commencement of construction	1 – 1.5 months
9	Storage, transport and disposal of waste including hazardous waste	Environmental Management and Coordination Act (EMCA) Cap 387, Rev 2018	Need to obtain waste license through submission of Waste Management Plan	NEMA	Contractor	Before commencement of construction	1 – 1.5 months
<b>Construction Stage</b>							
1	Blasting of construction site bedrocks (if required)	Explosives Act, 2016	Need to obtain to blasting permit	Mines and Geology Department in Ministry of Environment and Forestry	Contractor	Before blasting works	Max 1 month
2	Emission of excessive noise/vibration (if required)	Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations 2009	Need to obtain permit to emit excess noise/vibration	NEMA	Contractor	Before excessive noise/vibration works	2 days

### 3.5 Environmental standards

Table 7 shows the environmental standards that were referred in the EIA study.

**Table 7: Environmental standards referred in the EIA study**

Category	Referred standards
Air quality	<ul style="list-style-type: none"> <li>• Environmental Management &amp; Co-ordination Act (Air Quality) Regulations 2014</li> <li>• WHO Ambient Air Quality Guidelines (2005)</li> </ul>
Noise/vibration	<ul style="list-style-type: none"> <li>• Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations 2009</li> <li>• WHO Guidelines for Community Noise (1999)</li> </ul>
Surface/ground water	<ul style="list-style-type: none"> <li>• Environmental Management and Coordination (Water Quality) Regulations 2006</li> <li>• Dutch Soil Remediation Circular 2013</li> </ul>
Soil	<ul style="list-style-type: none"> <li>• Dutch Soil Remediation Circular 2013</li> </ul>

## 4 PROJECT BASELINE INFORMATION

The proposed project involves the construction of a 220kV Transmission Line from Mariakani-Dongo Kundu (53km long) and a substation in Dongo Kundu. The transmission line will occupy a corridor of 40m width.

### 4.1 Physical Environment

#### 4.1.1 Climate

##### Rainfall

In general, the annual precipitation varies with the distance away from the coast. Along the Coastline Area, rainfall changes from 900-1100 mm per year (Dongo Kundu Area). About 40 to 50 km inland (Mariakani Area), the rainfall is about 700 mm. The coastal region receives an average annual convectional and bimodal rainfall of about 900mm with a marked decrease in intensity into the hinterland. The project area experiences two rain seasons, short rains occur between October and December while the long rains are usually experienced between March and July. The rainfall pattern is influenced by proximity to the Indian Ocean, relatively low altitudes, temperature and trade winds (East Africa Monsoon Winds).

##### Temperature

The annual minimum temperatures in the area ranges between 22°C and 26°C while the maximum temperatures vary between 31°C and 36°C along the coastal belt. The average annual relative humidity is 77.6% and average monthly relative humidity ranges from 73% in January to 84% in May along the coastal belt due to the high evaporation rate and availability of surface water.

#### 4.1.2 Topography

The project corridor covers a distance of 53km from Mariakani-Dongo Kundu area in Mombasa County. Dongo Kundu lies in the coastal lowland to the south of Port Reitz Creek. It rises gently from flat zone of elevation 0 – 40m above sea level within the SEZ area where the Dongo Kundu substation is located. The landscape of the project corridor as one moves north-westwards undulates forming rolling hills. The topography rises from 40m at Dongo Kundu to about 160m above sea level at the Gandini Forest area located between Mwaché and Mwaluganje Forest Reserves (DK6) and 195m at Mwanda Centre further on. The topography further rises to around 220m at Mariakani area where the project starts.

#### 4.1.3 Soils and Geology

##### Soils

The soil profile changes from the coastline to Mariakani. The soil around Dongo Kundu area up to the hills at Gandini is composed of well drained to imperfectly drained, shallow to moderately deep, yellowish brown to very dark grey, firm to very firm clay on dissected parts (Cambisols). The forested area (DK6 area) is composed of well drained, shallow to moderately deep, dark brown to yellowish brown, firm, moderately calcareous clay. The area from Mariakani to DK6 is composed of well drained, deep, dark brown to yellowish brown, friable to firm, fairly stony, fairly rocky, fine sandy clay loam to clay. The Baseline Soil analysis results for TPH and PAH are presented in **Table 12** and the Analysis Report is in **Annex 9**.

### Geology

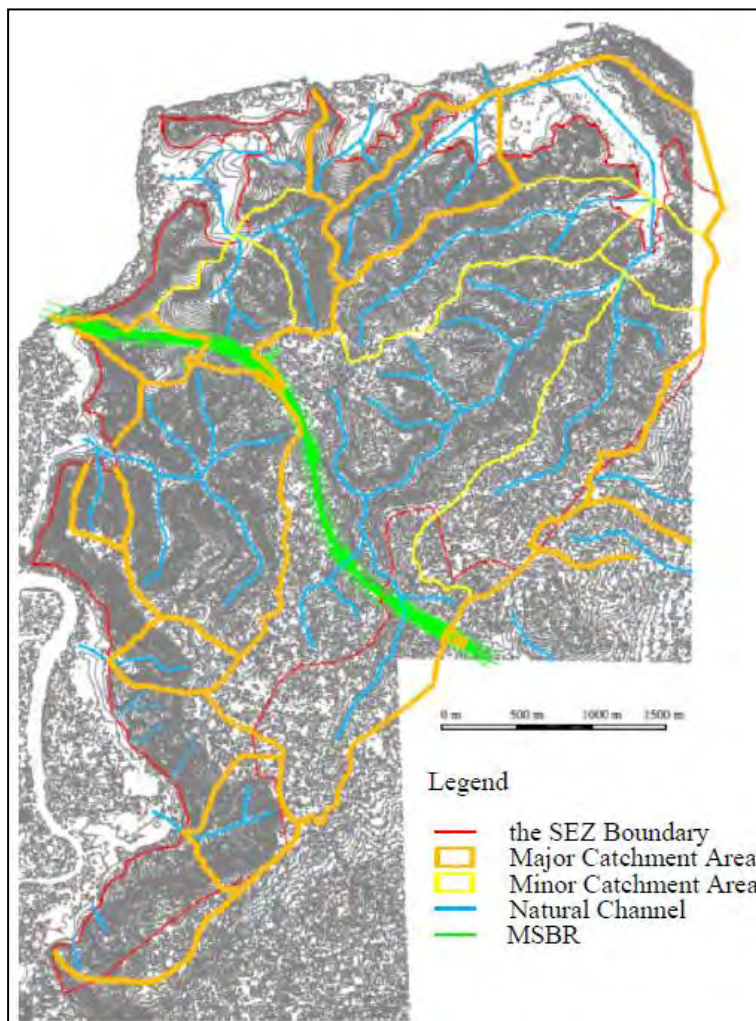
The coastal zone is composed of Jurassic Sediments consisting of Shales and Sandstones with lesser intercalations of limestones. Further inland from Mazeras area to Mariakani, the geology is composed of Mariakani Sandstones overlain by Mazeras Sandstones and Shimba Grits. These can be seen exposed along the Mwache River and its tributary (Ngoni River).

#### 4.1.4 Hydrology

The main river that drains the transmission line project area is Mwache River. The Mwache River and all the tributaries feeding into it are seasonal by nature and flows are dependent on the rainfall in the middle and high watersheds discharging into Indian Ocean via Mwache Creek and Port Reitz. These rivers flow southwards and south-eastwards as tributaries of Mwache River. Mwang'ombe River passing on the eastern side of the Mariakani Substation area flows southwards changing its name to Ngoni and joins Mwache River to the north east of Bofu. The other rivers that drain the project area include Ngeyeni and Matumbi Rivers that flow eastwards to join Mwache River to the north-east of Matumbi Centre. Mambome and Ndzovuni Rivers also drain the project area eastwards passing through Lutsangani to the Mwache Creek.

Mwache River and the smaller seasonal streams have peak flows that coincide with the rainy seasons occurring between March and June and during November/December short rains. The river beds remain dry for the rest of the dry season. Cumulatively the rivers drain thousands of tons of sediment during the flows. The local population relies on these rivers for their domestic water supply and watering livestock. Shallow groundwater in the area is exploited through wells and boreholes to augment water supply to the community since the rivers have seasonal flows. Refer to **Annex 7** for the Map showing main Rivers of the Project Area.

While there are no perennial rivers/streams in the Mombasa SEZ area, during heavy rain, rainwater will flow along existing valleys or natural channels downstream. **Figure 5** shows the catchment area and drainage pattern within the Mombasa SEZ area.



Source: JICA Design Team

**Figure 5: Catchment area and drainage pattern within the Mombasa SEZ area**

#### 4.1.5 Physical Infrastructure and Telecommunication

The Mombasa-Nairobi A109 Highway that passes through Mazaras and Mariakani Towns is located on the eastern side of the 220kV Transmission Line (TL) project. The highway enjoys modern infrastructure including paved roads, good public transport connection, land line and mobile network system. The powerline runs in the north-west to south-east direction and passes through privately owned land parcels. Whereas the mobile networks cover the area, the powerline corridor passes through land parcels that do not have proper road network. Some murram roads transect the powerline corridor at various places. The roads can be accessed in places like:

- near the Mariakani Toll Station,
- through Gwasheni and well maintained roads starting at Mariakani Town, Kokotoni area, Uwanja Wa Ndege, Mazaras Town, Bonje and Miritini areas.

#### 4.2 Pollution

The proposed project has the potential to generate pollution during construction and operation phases. The proposed transmission corridor is located within a settlement area with dwelling homesteads and more than 3km away from the Mombasa-Nairobi A109 Highway where there are commercial and industrial developments.



The pollution aspects of concern include: Air, Noise, Soil, Surface/Groundwater and Radiation. During the ESIA Study Phase, Air, Noise, Soil, Surface/Groundwater and Radiation samples were collected for baseline lab analysis of various parameters.

Baseline measurements and sample collection for analysis was done during the ESIA Study Phase by SGS and Radiotech Solutions as elaborated in **Table 8**

**Table 8: Measurements and Sample Collection for Lab Analysis**

Nr	Medium	Agency	Location	Analysis/Measurements	No of Samples
1	Water	SGS	Streams/Rivers	TPH and PAH	5
			Shallow Groundwater/Wells		
2	Soil	SGS	Contractor's Camp, Pylon Base and Substation	TPH and PAH	5
3	Noise	SGS	Selected Project Area Sites	Baseline Noise Level Measurements	5
4	Air	SGS	Selected Project Area Sites	Particulate Matter (PM <sub>10</sub> ), Oxides of Sulphur (SO <sub>x</sub> ), Oxides of Nitrogen (NO <sub>x</sub> )	5
5	Radiation	Radiotech	Transmission Line Corridor	Radiation Levels	10

The Map showing the locations where measurements were done and samples collected for analysis is provided in **Annex 17**.

#### 4.2.1 Insitu-Measurements of Surface and Groundwater

During the ESIA Study field assessment, surface and groundwater samples were collected for *insitu* measurements using Electrical Conductivity (EC) and pH meters. This was done to establish the status of the water sources being used by the community in the project area

##### **Insitu Measurements Methodology**

The Electrical Conductivity (EC) and pH measurements were carried out using the EC and pH Meters from Eijkelkamp the Netherlands. The water from the rivers/streams, open wells or pans were collected and used to rinse the EC and pH meter probes. The water from the developed well was purged for a few minutes before collection of the samples for measurements and lab analysis. The measurement readings were given a few minutes to stabilize before readings were recorded.

##### **Insitu Measurement Results**

The results of the insitu measurements carried out on the surface and ground water samples are presented in **Table 9**. The results indicate that the water sources assessed are within the recommended limits.

**Table 9: Insitu Measurements on Surface and Groundwater Samples**

No	Location	Location Coordinates	EC ( $\mu\text{S/cm}$ )	pH	Temperature ( $^{\circ}\text{C}$ )
1.	Well at Boundary of Kaya Mtongwe and Mwangala Sub-locations	0565614, 9548578	764	7.4	27.8
2.	Developed Community Well with Pump	0562179, 9544810	498	7.10	28
3.	Stream Water at the Railway Bridge	0545893, 9577726	33	8.47	28.3
4.	Mwache River near Bofu Centre – 055087, 9562395	0550870, 9562395	212	7.99	31.8
5.	Water Pan in Mariakani/Mitangoni -	0545096, 9580880	42	7.95	29.5
<b>Kenya - Water Quality Regulations (pH)</b>			-	<b>6.5 – 8.5</b>	-

*Source: Panafcon - ESIA Study 2017 - 2018*

### **Electrical Conductivity (EC) Levels and Uses**

#### ***0 – 800 ( $\mu\text{S/cm}$ )***

- Good for drinking (provided there is no organic pollution suspended material)
- Generally good for irrigation, though care to be taken for values above  $300\mu\text{S/cm}$ , particularly with overhead sprinklers, which may cause leaf, scorch on some salt sensitive plants.
- Suitable for all livestock

#### ***800-2500 ( $\mu\text{S/cm}$ )***

- Can be consumed by humans, although most would prefer water in the lower half of this range if available
- When used for irrigation, requires special management including suitable soils, good drainage and consideration of salt tolerance of plants
- Suitable for all livestock

The Electrical Conductivity Measurement results for the surface and shallow groundwater in the project area are well within acceptable limits ( $<800\mu\text{S/cm}$ ).

## **4.2.2 Air Pollution**

Air samples were collected for  $\text{PM}_{10}$ ,  $\text{NO}_x$  and  $\text{SO}_x$  analysis to assess the baseline status of the project area.

### **Air Quality Measurement Methodology**

#### ***Particulate Matter ( $\text{PM}_{10}$ )***

Exposure to dust contaminants was determined by use of static sampling where a battery powered sampling pump (Minivol) connected by tubing to a substance specific sample holder, was clamped and positioned in selected areas of concern. Air was drawn through the particle size separator and then through a filter medium. Particle size separation was achieved by impaction at a flow rate of 5 l/min. The sampled filter papers were taken to our accredited laboratories for gravimetric weighing after around 24 hours of exposure time.

**Sulphur Dioxide (SO<sub>2</sub>) & Nitrogen Dioxide (NO<sub>2</sub>)**

Sampling of SO<sub>2</sub> and NO<sub>2</sub> was done as per ISO 16200-2:2000 for the sampling and analysis of volatile compounds where the pollutants are passively sampled into diffusion tubes packed with adsorbents. The adsorption cartridges for the gases were mounted at about 1.5 - 2 meters above the ground surface. The duration of the measurements was between 21 and 23 hours. The tubes were consequently dispatched to affiliate laboratories in Spain for analysis.

**Air Baseline Analysis Results**

Baseline air samples were collected by SGS during the ESIA Study field assessment for analysis of Sulphur Oxides (SO<sub>x</sub>), Nitrogen Oxides (NO<sub>x</sub>) and Particulate Matter (PM<sub>10</sub>). The analysis results are presented in **Table 10**. Measurement and Analysis Reports are in **Annex 9**

**Table 10: Baseline Air Quality Analysis Results**

No	Location/sampling date	Location Coordinates	PM <sub>10</sub> (µg/m <sup>3</sup> )	SO <sub>x</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )
NA 01.	Substation Site – Home of Pastor Benson Savai near Mwangala Primary School 2018/4/16-17	0565996, 9549494	15	BDL	BDL
NA 02.	Near Kiteje Secondary School 2018/4/17-18	0565855, 9545251	15	BDL	BDL
NA 03.	Near Mwanda Dispensary 2018/4/18-19	0548000, 9570150	31	BDL	BDL
NA 04.	At Katundani Shopping Centre 2018/4/18-19	0552400, 9556600	19	BDL	BDL
NA 05.	Near Shangia Primary School 2018/4/19-20	0545149, 9579529	11	BDL	BDL
<b>Detection Limit</b>				1.7µg/sample	0.17µg/sample
<b>WHO guideline values (µg/m<sup>3</sup>)</b>			<b>50</b>	<b>20</b>	<b>40</b>
<b>EMC Limits for residential, rural &amp; other area (µg/m<sup>3</sup>)</b>			<b>100</b>	<b>80</b>	<b>80</b>

**Source:** Panafcon/SGS - ESIA Study 2017 – 2018

- All the 5 Air Sampling sites had PM<sub>10</sub> results that are below the EMC Air Quality Regulations, 2014 and WHO Air Quality Guidelines Global Update, 2005
- All the 5 Air Sampling sites had SO<sub>2</sub> and NO<sub>2</sub> results that are Below Detection Limits (BDL) of the respective analytical methods used in each case.



**Plate 1: Particulate Matter Measurements (Minivol) and SO<sub>x</sub>/NO<sub>x</sub> - May 2018**

### 4.2.3 Noise Pollution

Baseline noise level measurements were carried out during the ESIA Study.

#### Baseline Noise Measurement Methodology

The Noise measurements were carried as per the ISO 1996 Parts 1, 2 and 3 standards, entailing the following:

- Inspection of the vicinity and the implicated activities
- Verification/Calibration of the sound level meter before and after the measurements.
- Meteorological conditions during the measurement - Measurements of temperature, wind speed and relative humidity were taken before the noise level measurements.
- The ISO 1996 does not define the length of measuring period and only advises on the measuring time that covers the changes in operation of the noise source. Measurements were taken at an interval of 10minutes.
- Noise levels are expressed in decibels, A-weighted sound pressure level (dBA).

The measurement results are expressed as follows:

- Leq, Value of A-weighted sound pressure level of a continuous steady sound that is within a specified interval, has the same mean square sound pressure as a sound under consideration whose level varies with time.

#### Instrumentation

The following instruments were used during the measurement:

- Larson and Davis Noise Meter: A Type 1, Data logging, precision impulse, Integrating sound level meter, with a microphone (and windshield) mounted on a tripod at 1.5m above the ground level and >3m from any façade.
- GPS, Garmin eTrex 12-Channel

Calibration certificates for the noise meter are included in **Annex 9** of this report.

Baseline noise level measurement results are presented in **Table 11**. Measurements and Analysis Reports are in **Annex 9**

**Table 11: Baseline Noise Analysis Results**

No	New No.	Location/sampling date	Location Coordinates	Monitoring Duration	
				Diurnal (LAeq)	Nocturnal (LAeq)
NA 1.	A1	At Substation Site – at the home of Pastor Benson Savai near Mwangala Primary School 2018/4/16-17	0565996, 9549494	79	71
NA 2.	A2	Near Kiteje Secondary School 2018/4/17-18	0565855, 9545251	66	52
NA 3.	A3	Near Mwanda Dispensary 2018/4/18-19	0548000, 9570150	76	48
NA 4.	A4	At Katundani Shopping Centre 2018/4/18-19	0552400, 9556600	69	45
NA 5.	A5	Near Shangia Primary School 2018/4/19-20	0545149, 9579529	66	42
<b>Noise and Excessive Vibrations Pollution Regulations 2009 (Residential outdoor) dB(A)</b>				<b>50</b>	<b>35</b>
<b>Guidelines for Community Noise, World Health Organization (WHO), 1999. (Residential outdoor) dB(A)</b>				<b>55</b>	<b>45</b>

**Source:** Panafcon/SGS - ESIA Study 2017 - 2018

The diurnal and nocturnal noise levels at all the monitoring points surpassed the Noise and Excessive Vibrations Pollution Regulations 2009 of 50 dB and 35 dB respectively. The high noise levels may partly be as a result of activities within the nearby school, shopping centre, household and so on.

#### 4.2.4 Soil Pollution

Baseline soil samples were collected during the ESIA Study for TPH and PAH lab analysis.

##### Soil Sampling Methodology

Soil monitoring at the aforementioned areas was done in accordance to the USEPA SOP on Field Sediment Sampling; document #1215. The SGS K COP-ENV005 method on soil sampling and preservation was incorporated. The samples were collected from beneath the ground at a depth of 0.0-1.5 meters directly using a manual soil sampling augur. The samples were placed in containers (bottles) constructed of inert material and cooled by ice packs at a temperature of <4°C and transported to the laboratory for analysis. The soil analysis results are presented in **Table 12** and Reports are in **Annex 9**.

**Table 12: Baseline Soil Analysis Results (samples collected in April 2018)**

No	Location	Location Coordinates	PAHs (Total) (mg/kg)	TPH (C6-C44) mg/kg
S1.	At Substation Site 1	0565650, 9549577	0.34	0.65
S2.	At Substation site 2	0566451, 9549356	0.29	0.72
S3.	Near Lutsangani	0555700, 9550650	0.63	0.61
S4.	At the Start of Transmission Line in Mariakani	0545200, 9580800	0.44	0.83
S5.	In Mbunguni at homestead of Suwari Kiguru	0563450, 9544549	0.70	0.74
<b>Dutch Intervention Level (DIV) set under Soil Remediation Circular 2013 (mg/kg)*</b>			<b>40</b>	<b>5,000</b>

\*: Dutch standard is referred due to absence of national standard. The standard stringent and recognized by NEMA Kenya.

**Source:** Panafcon/SGS - ESIA Study 2017 – 2018

Traces of TPH and PAH have been detected in the soil samples. However, the traces are insignificant when compared against the Dutch Intervention Values of 5000mg/kg and 40 mg/kg respectively.

#### 4.2.5 Surface/Groundwater Pollution

Baseline water samples were collected from streams/rivers and shallow groundwater sources during the ESIA Study for TPH and PAH analysis.



**Plate 2: Insitu Water Measurement at Mwache River – Bofu – March 2018**

### Sampling Methodology

ISO 5667 Part 1, 2 & 3 and EPA Publication 669 provides guidelines on the principles to be applied to the design of sampling programmes, sampling techniques and the handling and preservation of samples from pits/ and boreholes. SGS Kenya applied these guidelines during the sampling process to obtain a representative and sterile samples for analysis. The samples were stored at controlled temperatures (approximately 40 C) in a cooler box with ice packs. Samples were submitted to SGS laboratory for analysis. The chemicals of concern analyzed in the soil samples were TPH & PAH.

### Analysis Results

The analysis results of the water samples collected from project area streams/ rivers and shallow wells are presented in **Table 13** and the Analysis Reports in **Annex 9**. Samples were collected in April 2018.

**Table 13: Baseline Surface and Groundwater Analysis Results**

No	Location	Location Coordinates	PAHs (Total) (µg/l)	TPH (C6-C44) µg/l
W1.	Well at Boundary of Kaya Mtongwe and Mwangala Sub-locations	0565614, 9548578	<50	290
W2.	Developed Community Well with Pump	0562179, 9544810	<50	410
W3.	Stream Water at the Railway Bridge	0545893, 9577726	<50	230
W4.	Mwache River near Bofu Centre –	0550870, 9562395	<50	200
W5.	Water Pan in Mariakani/Mitangoni -	0545096, 9580880	<50	280
<b>Dutch Target Values set under Soil Remediation Circular 2013 (µg/l)</b>			-	<b>50</b>
<b>Dutch Intervention Values set under Soil Remediation Circular 2013 (µg/l)*</b>			-	<b>600</b>

\*: Dutch standard is referred due to absence of national standard. The standard stringent and recognized by NEMA Kenya.

**Source: Panafcon/SGS - ESIA Study 2017 – 2018**

- TPH concentrations for the five sampled points were above the Dutch target limit of 50µg/l but below the Dutch Intervention values of 600µg/l.
- PAH levels were below their respective analytical detection limits.

#### 4.2.6 Baseline Radiation Measurements

There is evidence that exposure to strong electromagnetic field from transmission lines leads to occurrence of not only some form of cancer, especially leukemia in children, brain and breast cancer, but also the less deadly diseases such as insomnia, blood disorders, weak immune system and reproductive problems. A number of studies suggest that living close to high-voltage power lines can increase the incidence of several kinds of cancer. It is suggested that 0.5 – 1 milliGauss (mG) is the maximum safe amount one should be exposed to where we live/reside. A wayleave corridor of 40m (20m on either side from the centre line has been set for this 220kV Transmission Line (TL). Any dwellings or human activities outside this corridor should be safe.

Baseline Radiation Measurements were done along the TL corridor and substation site by **Radiotech Solutions Limited** based in Mombasa.

The Baseline Radiation measurement results are given in **Table 14** and the report is presented in **Annex 10**.

**Table 14: Baseline Radiation Analysis Results**

No	Location	Location Coordinates	Results in dose rate avg µSv/hr
RM1	The homestead of Nyota Kitale Mnyaka next to Mariakani Substation	0544918 9580574	0.11
RM2	Near Shangia Primary School at the homestead of Ndzuwa Tsuma Kenga	0545149 9579529	0.114
RM3	Near Mwanda Dispensary at the homestead Mvunya Mwandoro Katembe Stream Water at the Railway Bridge	0548038 9569993	0.09
RM4	Homestead of Madziko Rai in Bofu Sub-location, Mtaa Location	0550911 9561684	0.08
RM5	At Katundani Shopping Centre	0552400 9556600	0.13
RM6	Near Lutsangani Shopping Center and DK 7 New	0555700 9550650	0.15
RM7	Near Mbuguni Market at the homestead of Chizi Mazera Mari	0560843 9545458	0.11
RM8	Near Kiteje Secondary School also near DK 10	0565855 9545251	0.10
RM9	At the Substation Site 1 – at the homestead of Joseph Kitutsa Timona near Mwangala Primary School	0565688 9549607	0.12
RM10	At Substation site 2 – at the homestead of Laurence Sammy Kavutsu Dena near Mwangala Primary School	0566451 9549356	0.11
<b>Average dose rate along the line</b>			<b>0.1114-</b>

**Source:** Panafcon/SGS - ESIA Study 2017 – 2018

#### Radiation Dose Calculations

From the above results, the public exposure to natural radiation along the proposed transmission line corridor shows an average of 0.1114 µSv/hr which is a unit of measuring the radiation dose rate, therefore one receives doses as follows:-

1. One day -  $0.1114 \times 24 = 2.6736 \mu\text{Sv}$
2. One month – 2.6736 times avg. 30days = 0.080208 mSv
3. One year – 0.080208 times 12 months = 0.962496 mSv

This concludes that the limits are within acceptable International Atomic Energy Agency (IAEA) standards of 1mSv/yr, however, annual survey is recommended due to soil erosion, weathering of rocks and deforestation.

Given that the whole site location has indicated elevated levels of radiation emanating from soils and rocks due to the presence of Naturally Occurring Radioactive Materials (NORM), the project can be implemented. This is because there is no established relation between NORM and construction of the high voltage transmission line.

### 4.3 Natural Environment

Baseline information of the project area flora and fauna was carried out by using the following approach:

- Desktop review of existing data and literature/reports on the project area flora and fauna
- Field assessment of the project corridor to identify and record flora and fauna
- Consultation with project area community, County/National Government Agencies and other experts.

#### 4.3.1 Desktop Review of Existing Literature/Reports

The following reports were reviewed to obtain the project area baseline information regarding flora and fauna and other physical features:

- Strategic Environmental Assessment for Master Plan for Development of Mombasa Special Economic Zone by Repcon Associates
- ESIA Study of the Proposed Dongo Kundu – Mariakani 400kV Power Transmission Line by E-Cue Associates
- ESIA Study Report for the Proposed Mombasa-Mariakani Road by Aquaclean Services Limited
- Revised RAP Report for Mombasa-Mariakani Road by Panafcon Ltd

#### 4.3.2 Assessment of the Project Area Corridor

The ESIA study ecologist followed the transmission line corridor from Mariakani-Dongo Kundu documenting the flora and fauna encountered and consulting local authorities and community members to obtain the following information:

- The local name of the plant/trees species encountered.
- The main uses of trees and other plants encountered along the corridor
- Presence of any threatened wildlife or plant species within the corridor

**Flora** - The section from Mariakani – Munyenzeni (DK1 – DK5) is composed of shrubs and a few scattered mature trees. The area also has scattered settlements with subsistence farms. Some of the trees/plants encountered include Indian Ashok (*Polyantha langifolia*), *Eucalyptus camaldulensis*, *Grevillea robusta*, Mango Trees, Coconuts, Cashew Nuts, Baobab and *Terminalia mentalis* among others. The area around Gandini (DK6 – DK7) is forested with various species of indigenous trees. The remaining area from DK8 to Dongo Kundu has scattered trees including Cashew Nuts, Palm and Coconut Trees. Observations of the ecology are provided in **Table 15** and **Annex 8**.



**Table 15: List of Flora identified along the TL corridor**

TL corridor	Common/local name	Scientific name	Status as per IUCN Red List	Status as per Wildlife Conservation and Management Act (Sixth Schedule)
DK1-DK2	Mbalibali (Swahili) - Whistling thorn, Ant-galled acacia	<i>Acacia drepanolobium</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Kikwata (Swahili) - Acacia	<i>Acacia mellifera</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
DK2 – DK3	Mbalibali (Swahili) - Whistling thorn, Ant-galled acacia	<i>Acacia drepanolobium</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Kikwata (Swahili) - Acacia	<i>Acacia mellifera</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
DK3 – DK4	Mbalibali (Swahili) - Whistling thorn, Ant-galled acacia	<i>Acacia drepanolobium</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Chachane (Boran) - Acacia	<i>Acacia paoli</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.	<i>Not listed</i>
DK4 – DK5	Mbuyu (Swahili) - Baobab	<i>Adansonia digitata</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Mwembe (Swahili) - Mango	<i>Mangifera indica</i> .	Status: Data Deficient <u>ver 2.3</u> (needs updating)	<i>Not listed</i>
	Mnazi (Swahili) – Coconut palm	<i>Cocos nucifera</i> .	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life:	<i>Not listed</i>
	Mtimbao (Swahili) - Eucalyptus	<i>Eucalyptus camaldulensis</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life:	<i>Not listed</i>
	Kikwata (Swahili) - Acacia	<i>Acacia mellifera</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
DK5 – DK6	Mwembe (Swahili) - Mango	<i>Mangifera indica</i> .	Status: Data Deficient <u>ver 2.3</u> (needs updating)	<i>Not listed</i>
	Mnazi (Swahili) – Coconut palm	<i>Cocos nucifera</i> .	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Mwarubaini (Swahili/Digo) – Neem Tree	<i>Azadirachta indica</i>	<b>Status: Least Concern ver 3.1</b> <b>Population trend: decreasing</b>	<i>Not listed</i>
	Mbuyu (Swahili) - Baobab	<i>Adansonia digitata</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Kikwata (Swahili) - Acacia	<i>Acacia mellifera</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>

TL corridor	Common/local name	Scientific name	Status as per IUCN Red List	Status as per Wildlife Conservation and Management Act (Sixth Schedule)
DK6 – DK7	Mwembe (Swahili) - Mango	<i>Mangifera indica</i> .	Status: Data Deficient <u>ver 2.3</u> (needs updating)	<i>Not listed</i>
	Mnazi (Swahili) – Coconut palm	<i>Cocos nucifera</i> .	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Mwarubaini (Swahili/Digo) – Neem Tree	<i>Azadirachta indica</i>	<b>Status: Least Concern ver 3.1</b> <b>Population trend: decreasing</b>	<i>Not listed</i>
	Kikwata (Swahili) - Acacia	<i>Acacia mellifera</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Kimwea (Kamba) - acacia	<i>Acacia kirkii</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Mnafisi (Swahili)	<i>Bosnia coriacea</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Ubani (Swahili) - Frankincense	<i>Boswellia neglecta</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Myombo (Swahili) - Brachystegia	<i>Brachystegia spiciformis</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.	<i>Not listed</i>
	Mkarakara (Swahili)	<i>Bridelia micrantha</i>	Status: Least Concern <u>ver 3.1</u> Pop. trend: stable	<i>Not listed</i>
	Mkangu (Swahili) - Long-pod cassia	<i>Cassia abbreviata</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.	<i>Not listed</i>
	Msufi (Swahili) - Kapok tree, Silk-cotton tree	<i>Ceiba pentandra</i>	Status: Least Concern <u>ver 3.1</u> Pop. trend: unknown.	<i>Not listed</i>
	Mpeketo (Swahili)	<i>Garcinia livingstonei</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Mnyumbu (Swahili)	<i>Lanea schweinfurthii</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Mkoma (Swahili) – Doum Palm	<i>Hypheane compressa</i>	Status: Least Concern <u>ver 3.1</u> Pop. trend: unknown.	<i>Not listed</i>
	Mvule (Swahili)	<i>Milicia excelsa</i>	Status: Lower Risk/near threatened <u>ver 2.3</u> (needs updating)	<i>Not listed</i>
DK7 – DK8	Mwembe (Swahili) - Mango	<i>Mangifera indica</i> .	Status: Data Deficient <u>ver 2.3</u> (needs updating)	<i>Not listed</i>
	Mnazi (Swahili) – Coconut palm	<i>Cocos nucifera</i> .	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life:	<i>Not listed</i>
	Mwarubaini (Swahili) – Neem Tree	<i>Azadirachta indica</i>	Status: Least Concern <u>ver 3.1</u> Pop. trend: stable	<i>Not listed</i>
	Mtimbao (Swahili) -	<i>Eucalyptus saligna</i>	This taxon has not yet been assessed for the IUCN Red List,	<i>Not listed</i>

TL corridor	Common/local name	Scientific name	Status as per IUCN Red List	Status as per Wildlife Conservation and Management Act (Sixth Schedule)
	Sydney blue gum		but is in the Catalogue of Life	
	Mkanju, mkorosho (Swahili) - Cashewnut	<i>Anacardium occidentale</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Mbalibali (Swahili) - Whistling thorn, Ant-galled acacia	<i>Acacia drepanolobium</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life:	<i>Not listed</i>
	Mtugo (Taita)	<i>Acacia gerrardii</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Mkamasi (Swahili)	<i>Cordia sinensis</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
DK8 – DK9	Mbuyu (Swahili) - Baobab	<i>Adansonia digitata</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Mwembe (Swahili) - Mango	<i>Mangifera indica.</i>	Status: Data Deficient <u>ver 2.3</u> (needs updating)	<i>Not listed</i>
	Mnazi (Swahili) – Coconut palm	<i>Cocos nucifera.</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life:	<i>Not listed</i>
	Mwarubaini (Swahili) – Neem Tree	<i>Azadirachta indica</i>	Status: Least Concern <u>ver 3.1</u> Pop. trend: stable	<i>Not listed</i>
	Mbalibali (Swahili) - Whistling thorn, Ant-galled acacia	<i>Acacia drepanolobium</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Mnyakwaa (Swahili)	<i>Commiphora eminii</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life:	<i>Not listed</i>
	Mbambangoma (Swahili) Abyssinian coral tree	<i>Erythrina abyssinica</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life:	<i>Not listed</i>
DK9 – DK10	Mkanju, mkorosho (Swahili) - Cashewnut	<i>Anacardium occidentale</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Mwembe (Swahili) - Mango	<i>Mangifera indica.</i>	Status: Data Deficient <u>ver 2.3</u> (needs updating)	<i>Not listed</i>
	Mnazi (Swahili) – Coconut palm	<i>Cocos nucifera.</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Mwarubaini (Swahili) – Neem Tree	<i>Azadirachta indica</i>	Status: Least Concern <u>ver 3.1</u> Pop. trend: stable	<i>Not listed</i>
	Mbalibali (Swahili) - Whistling thorn, Ant-galled acacia	<i>Acacia drepanolobium</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>

TL corridor	Common/local name	Scientific name	Status as per IUCN Red List	Status as per Wildlife Conservation and Management Act (Sixth Schedule)
	Mbuyu (Swahili) - Baobab	<i>Adansonia digitata</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Mnguvi (Swahili)	<i>Mimusops obtusifolia</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Mnyakwaa (Swahili)	<i>Commiphora eminii</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Mswaki (Swahili) - Toothbrush tree	<i>Dobera glabta</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
DK10- DK11	Mjunju (Swahili) - Desert Date	<i>Balanites aegyptiaca</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Mwarubaini (Swahili) – Neem Tree	<i>Azadirachta indica</i>	Status: Least Concern <u>ver 3.1</u> Pop. trend: stable	<i>Not listed</i>
	Mbuyu (Swahili) - Baobab	<i>Adansonia digitata</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Mdaa mwitu (Swahili) - Abyssinian diospyros	<i>Diospyros abyssinica</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Mpepeta (Swahili)	<i>Dialium orientate</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the <u>Catalogue of Life</u>	<i>Not listed</i>
	Mnyakwaa (Swahili)	<i>Commiphora eminii</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
DK11- DK12	Mkanju, mkorosho (Swahili) - Cashewnut	<i>Anacardium occidentale</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Mwembe (Swahili) - Mango	<i>Mangifera indica.</i>	Status: Data Deficient <u>ver 2.3</u> (needs updating)	<i>Not listed</i>
	Mnazi (Swahili) – Coconut palm	<i>Cocos nucifera.</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Mwarubaini (Swahili) – Neem Tree	<i>Azadirachta indica</i>	Status: Least Concern <u>ver 3.1</u> Pop. trend: stable	<i>Not listed</i>
	Mbalibali (Swahili) - Whistling thorn, Ant-galled acacia	<i>Acacia drepanolobium</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Mbuyu (Swahili) - Baobab	<i>Adansonia digitata</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Mnyakwaa (Swahili)	<i>Commiphora eminii</i>	This taxon has not yet been assessed for the IUCN Red List,	<i>Not listed</i>

TL corridor	Common/local name	Scientific name	Status as per IUCN Red List	Status as per Wildlife Conservation and Management Act (Sixth Schedule)
			but is in the Catalogue of Life.	
	Mdaa mwitu (Swahili) - Abyssinian diospyros	<i>Diospyros abyssinica</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
DK12- DK13	Mkanju, mkorosho (Swahili) - Cashewnut	<i>Anacardium occidentale</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Mwembe (Swahili) - Mango	<i>Mangifera indica</i> .	<b><i>Mangifera indica</i></b> (Mango) Status: Data Deficient <u>ver 2.3</u> (needs updating)	<i>Not listed</i>
	Mnazi (Swahili) – Coconut palm	<i>Cocos nucifera</i> .	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Mwarubaini (Swahili) – Neem Tree	<i>Azadirachta indica</i>	Status: Least Concern <u>ver 3.1</u> Pop. trend: stable	<i>Not listed</i>
	Mbalibali (Swahili) - Whistling thorn, Ant-galled acacia	<i>Acacia drepanolobium</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Mbuyu (Swahili) - Baobab	<i>Adansonia digitata</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Mjunju (Swahili) - Desert Date	<i>Balanites aegyptiaca</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	DK13- DK14	Mbuyu (Swahili) - Baobab	<i>Adansonia digitata</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life
Mjunju (Swahili) - Desert Date		<i>Balanites aegyptiaca</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
Mwarubaini (Swahili) – Neem Tree		<i>Azadirachta indica</i>	Status: Least Concern <u>ver 3.1</u> Pop. trend: stable	<i>Not listed</i>
Mwembe (Swahili) - Mango		<i>Mangifera indica</i> .	Status: Data Deficient <u>ver 2.3</u> (needs updating)	<i>Not listed</i>
Mbalibali (Swahili) - Whistling thorn, Ant-galled acacia		<i>Acacia drepanolobium</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
Mvumo (Swahili) - African fan palm		<i>Borassus aethiopum</i>	Status: Least Concern <u>ver 3.1</u> Pop. trend: unknown	<i>Not listed</i>
Mkanju, mkorosho (Swahili) - Cashewnut		<i>Anacardium occidentale</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
Mukuyu (Kikuyu) – Sycamore Fig		<i>Ficus sycomorus</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
Mwangati (Swahili) - Siny	<i>Terminalia spinosa</i>	This taxon has not yet been assessed for the IUCN Red List,	<i>Not listed</i>	

TL corridor	Common/local name	Scientific name	Status as per IUCN Red List	Status as per Wildlife Conservation and Management Act (Sixth Schedule)
	terminalia		but is in the Catalogue of Life	
	Kilului(Kambai) - Drooping- Branched Balanites	<i>Balanites glabra</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Lusina (Swahili) - Leucaena, Lead tree	<i>Leucaena leucocephala</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	OI-okii (Masai)	<i>Lycium europaeum</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Mhomba (Swahili) - Cassia spectabilis	<i>Senna spectabilis</i>	Status: Least Concern ver 3.1 Pop. trend: stable	<i>Not listed</i>
DK14 DK15	Mvumo (Swahili) - African fan palm	<i>Borassus aethiopum</i>	Status: Least Concern <u>ver 3.1</u> Pop. trend: unknown	<i>Not listed</i>
	Mbambara (Swahili)	<i>Commiphora africana</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Mhomba (Swahili) - Cassia spectabilis	<i>Senna spectabilis</i>	Status: Least Concern ver 3.1 Pop. trend: stable	<i>Not listed</i>
	Lusina (Swahili) - Leucaena, Lead tree	<i>Leucaena leucocephala</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Mwarubaini (Swahili) – Neem Tree	<i>Azadirachta indica</i>	Status: Least Concern <u>ver 3.1</u> Pop. trend: stable	<i>Not listed</i>
	Mwembe (Swahili) - Mango	<i>Mangifera indica.</i>	Status: Data Deficient <u>ver 2.3</u> (needs updating)	<i>Not listed</i>
	Mbalibali (Swahili) - Whistling thorn, Ant-galled acacia	<i>Acacia drepanolobium</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Mnazi (Swahili) – Coconut palm	<i>Cocos nucifera.</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Mkanju, mkorosho (Swahili) - Cashewnut	<i>Anacardium occidentale</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
DK15- DK16	Mkanju, mkorosho (Swahili) - Cashewnut	<i>Anacardium occidentale</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Mwembe (Swahili) - Mango	<i>Mangifera indica.</i>	Status: Data Deficient <u>ver 2.3</u> (needs updating)	<i>Not listed</i>
	Mnazi (Swahili) – Coconut palm	<i>Cocos nucifera.</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Mbalibali (Swahili) - Whistling thorn, Ant-galled acacia	<i>Acacia drepanolobium</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>

TL corridor	Common/local name	Scientific name	Status as per IUCN Red List	Status as per Wildlife Conservation and Management Act (Sixth Schedule)
	Mkwaju (Swahili) - Tamarind	<i>Tamarindus indica</i>	Status: Least Concern <u>ver 3.1</u> Pop. trend: stable	<i>Not listed</i>
DK16- DK17	Mwarubaini (Swahili) – Neem Tree	<i>Azadirachta indica</i>	Status: Least Concern <u>ver 3.1</u> Pop. trend: stable	<i>Not listed</i>
	Mwembe (Swahili) - Mango	<i>Mangifera indica.</i>	Status: Data Deficient <u>ver 2.3</u> (needs updating)	<i>Not listed</i>
	Mkwaju (Swahili) - Tamarind	<i>Tamarindus indica</i>	Status: Least Concern <u>ver 3.1</u> Pop. trend: stable	<i>Not listed</i>
	Mnazi (Swahili) – Coconut palm	<i>Cocos nucifera.</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Mkanju, mkorosho (Swahili) - Cashewnut	<i>Anacardium occidentale</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
DK17- DK18	Mwarubaini (Swahili) – Neem Tree	<i>Azadirachta indica</i>	Status: Least Concern <u>ver 3.1</u> Pop. trend: stable	<i>Not listed</i>
	Mwembe (Swahili) - Mango	<i>Mangifera indica.</i>	Status: Data Deficient <u>ver 2.3</u> (needs updating)	<i>Not listed</i>
	Mkwaju (Swahili) - Tamarind	<i>Tamarindus indica</i>	Status: Least Concern <u>ver 3.1</u> Pop. trend: stable	<i>Not listed</i>
	Mnazi (Swahili) – Coconut palm	<i>Cocos nucifera.</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Mkanju, mkorosho (Swahili) - Cashewnut	<i>Anacardium occidentale</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
DK18-DK19	Mwarubaini (Swahili) – Neem Tree	<i>Azadirachta indica</i>	Status: Least Concern <u>ver 3.1</u> Pop. trend: stable	<i>Not listed</i>
	Mwembe (Swahili) - Mango	<i>Mangifera indica.</i>	tatus: Data Deficient <u>ver 2.3</u> (needs updating)	<i>Not listed</i>
	Mkwaju (Swahili) - Tamarind	<i>Tamarindus indica</i>	Status: Least Concern <u>ver 3.1</u> Pop. trend: stable	<i>Not listed</i>
	Mnazi (Swahili) – Coconut palm	<i>Cocos nucifera</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life.	<i>Not listed</i>
	Mkanju, mkorosho (Swahili) - Cashewnut	<i>Anacardium occidentale</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
Substation Site	Mkwaju (Swahili) - Tamarind	<i>Tamarindus indica</i>	Status: Least Concern <u>ver 3.1</u> Pop. trend: stable	<i>Not listed</i>
	Mkone (Swahili)	<i>Grewia plagiophylla</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Mkunazi (Swahili) - Jujube	<i>Ziziphus mauritiana</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Mwembe (Swahili) - Mango	<i>Mangifera indica.</i>	Status: Data Deficient <u>ver 2.3</u> (needs updating)	<i>Not listed</i>

TL corridor	Common/local name	Scientific name	Status as per IUCN Red List	Status as per Wildlife Conservation and Management Act (Sixth Schedule)
	Mng'ongo (Swahili)	<i>Sclerocarya birrea</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Mukuyu (Kikuyu) – Sycamore Fig	<i>Ficus sycomorus</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Mnyumbu (Swahili)	<i>Lannea schweinfurthii</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Mtomoko mwitu (Swahili)	<i>Annona senegalensis</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Myombo (Swahili) - Brachystegia	<i>Brachystegia spiciformis</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Lusina (Swahili) - Leucaena, Lead tree	<i>Leucaena leucocephala</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Mbambara (Swahili)	<i>Commiphora africana</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>
	Mbuyu (Swahili) - Baobab	<i>Adansonia digitata</i>	This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life	<i>Not listed</i>



**Plate 3: Mariakani Area showing scattered Shrubs and Trees – July 2017**



**Fauna** - The project area has less wildlife due to expansion of settlements and agriculture. However, according to Kenya Wildlife Service (KWS), the forest cover at DK6-DK7 occasionally hosts migratory birds and wildlife from Mwaluganje Forest Reserve. Animals including elephants use this forested area as a dispersal area only when they escape from Mwaluganje Forest Reserve which happens rarely and KWS always return the animals back to the reserve. It was indicated that the area around DK6-DK7 also experiences disturbances from wild pigs and baboons. Due to the easy access of the community forest by community members, it is less used by wildlife and birds as a habitat. When consulted, **World Wildlife Fund (WWF)** confirmed that from global assessment, there isn't real threat of the project/corridor to critical corridors or habitats however it traverses river systems and wetlands.

### **Birds**

According to **Nature Kenya** the two endangered birds in the project area are Sokoke Pipit (*Athus Sokokensis*) and Spotted Ground-Thrush (*Zoothera Guttata*). They are both classified as "endangered" under the Wildlife Conservation and Management Act and ICUN Red List. Presence of these birds are confirmed in Kaya Gandini and Shimba Hills National Reserve through literature and expert interview. Following are information on Sokoke Pipit (*Athus Sokokensis*) and Spotted Ground-Thrush (*Zoothera Guttata*):

- **Spotted Ground Thrush (*Zoothera Guttata*)**

**Presence** - In Kenya Spotted Ground Thrush (*Zoothera Guttata*) is present at very low densities throughout the Arabuko-Sokoke Forest, but has in the past been known to occur at higher densities in the few tiny patches of thick coastal forest such as Diani, Shimoni and Gede. A few records have been made in **Kaya Gandini**, Kaya Waa, Mrima Hill Forest, Mkongani and Shimba Hills.

**Migration** - It breeds in the forests of southern Tanzania, and then visits coastal Kenya between March and November every year. During this visit it does not breed, but spends most of its time feeding.

**Habitat** - It inhabits low altitude moist evergreen forest with nearly complete canopy cover, deep shade, extensive moist, thick leaf litter and sparse undergrowth. It likes areas of low coral vegetation with dead wood and vine tangles for cover when threatened. The thrush is predominantly a litter forager and since feeding is an important survival tool, the litter layer is an important habitat component for it. It avoids disturbance prone areas. Solitary or in pairs, sometimes in small parties on migration

**Threat** - The main danger facing the bird's survival is destruction and degradation of its forest habitat through various human activities, mainly agriculture, extraction of timber and uncontrolled development into forests.

- **Sokoke Pipit (*Anthus Sokokensis*)**

**Presence** - Sokoke Pipit (*Anthus sokokensis*) has been recorded from several sites along the East African coast in Kenya. It is restricted in its range, mainly to non-closed canopy woodland habitat dominated by *Brachystegia* tree species where it feeds on arthropods on the ground or in the under-storey.

Although the species has been reported to occasionally venture into the forest edge including observations while it fed on termites and sparse grass in open areas, it is essentially restricted to the interior of the *Brachystegia forest*. A few records have been made in Kaya Gandini, Kaya Waa, Mrima Hill Forest, Mkongani and Shimba Hills.

**Migration** - Sokoke Pipit (*Anthus Sokokensis*) is not a migrant.

**Habitat** - It lives mainly on the forest floor, preferring areas with bare ground, high litter-cover, and high densities of ants and termite mounds, feeding among sparse grass on insects, including termites and beetles. The species in general is highly sensitive to disturbance

**Threat** - Population is suspected to be in decline owing to the clearance and degradation of the species's forest habitat, mainly through charcoal burning, agricultural encroachment, logging and pole cutting.

According to National Museums of Kenya document (Bird Migration and Bird Strike Situation in Kenya), approximately 21% of all Kenya's bird species are migratory and about 46% of the migratory species are water birds. The migrants include 171 Palearctic, 55 Afrotropical and 4 Malagasy migrant species. The bulk of migratory birds visiting or passing through Kenya use the Rift Valley, coast, eastern bushlands, central and western grasslands as their flyway. The flyway along the coast, includes the beaches, reefs and mangrove creeks. According to Birdlife International website, large flocks of Common cuckoo (*Cuculus canorus*) and Golden orioles (*Oriolus oriolus*) visit the Shimba Hills National Reserve during March and April. Other migratory birds that visit the Project area mentioned by Nature Kenya are European Honey-buzzard, European Bee-eater and White-throated Bee-eater. None of the birds mentioned above are threatened species. Information on migratory birds around the Project area is summarized in **Table 16**.

**Table 16: Information on migratory birds around the Project area**

Species	Migratory passage	Migratory season to Kenya	Threatened status	Source
European Honey-buzzard	Afro-Palearctic	Northern hemisphere winter season	IUCN: LC Kenya: Not listed	Nature Kenya BirdLife International
European Bee-eater	Afro-Palearctic	Northern hemisphere winter season	IUCN: LC Kenya: Not listed	Nature Kenya BirdLife International
White-throated Bee-eater	Afro-Tropical	Uncertain	IUCN: LC Kenya: Not listed	Nature Kenya BirdLife International
Common cuckoo	Afro-Palearctic	March-April	IUCN: LC Kenya: Not listed	BirdLife International
Golden oriole	Afro-Palearctic	March-April	IUCN: LC Kenya: Not listed	BirdLife International
Spotted Ground Thrush	Tanzania-Kenya	March-November	IUCN: EN Kenya: EN	Nature Kenya

List of fauna identified along the TL corridor from field survey are presented in **Table 17** and **Annex 8**. List of fauna identified in the DK6-7 area through literature and expert interviews are presented in **Table 18**.

**Table 17: List of Fauna identified along the TL corridor**

TL corridor	Common/local name	Scientific name	Status under IUCN Red List	Status under Wildlife Conservation and Management Act (Sixth Schedule)
Substation-DK11	African Grey Hornbill	<i>Tockus nasutus</i>	Status: Least Concern ver 3.1 Pop. trend: stable	<i>Not listed</i>
	Pied crow	<i>Corvus albus</i>	Status: Least Concern ver 3.1 Pop. trend: stable	<i>Not listed</i>
DK2 – DK3	African Grey Hornbill	<i>Tockus nasutus</i>	Status: Least Concern ver 3.1 Pop. trend: stable	<i>Not listed</i>
	Pied crow	<i>Corvus albus</i>	Status: Least Concern ver 3.1 Pop. trend: stable	<i>Not listed</i>
DK3 – DK4	Pied crow	<i>Corvus albus</i>	Status: Least Concern ver 3.1 Pop. trend: stable	<i>Not listed</i>
	Rock Dove	<i>Columbia Livia</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.	<i>Not listed</i>
DK4 – DK5	Pied crow	<i>Corvus albus</i>	Status: Least Concern ver 3.1 Pop. trend: stable	<i>Not listed</i>
	Rock Dove-	<i>Columbia Livia</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life	<i>Not listed</i>
DK5 – DK6	Pied crow	<i>Corvus albus</i>	Status: Least Concern ver 3.1 Pop. trend: stable	<i>Not listed</i>
	Rock Dove-	<i>Columbia Livia</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life	<i>Not listed</i>
DK6 – DK7	Pied crow	<i>Corvus albus</i>	Status: Least Concern ver 3.1 Pop. trend: stable.	<i>Not listed</i>
	Rock Dove-	<i>Columbia Livia</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life	<i>Not listed</i>
	Willow Warbler	<i>Phylloscopus neglectus</i>	Status: Least Concern ver 3.1 Pop. trend: stable	<i>Not listed</i>
DK7 – DK8	Pied crow	<i>Corvus albus</i>	Status: Least Concern ver 3.1 Pop. trend: stable.	<i>Not listed</i>
	Rock Dove-	<i>Columbia Livia</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life	<i>Not listed</i>
	Willow Warbler	<i>Phylloscopus neglectus</i>	Status: Least Concern ver 3.1 Pop. trend: stable	<i>Not listed</i>
DK8 – DK9	Pied crow	<i>Corvus albus</i>	Status: Least Concern ver 3.1 Pop. trend: stable.	<i>Not listed</i>
	Rock Dove-	<i>Columbia Livia</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life	<i>Not listed</i>
	Yellow Throated Long claw	<i>Macronyx croceus</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.	<i>Not listed</i>
DK9– DK10	Pied crow	<i>Corvus albus</i>	Status: Least Concern ver 3.1 Pop. trend: stable.	<i>Not listed</i>
	Rock Dove-	<i>Columbia Livia</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life	<i>Not listed</i>
	African Grey Hornbill	<i>Tockus nasutus</i>	Status: Least Concern ver 3.1 Pop. trend: stable	<i>Not listed</i>
DK10-DK11	Pied crow	<i>Corvus albus</i>	Status: Least Concern ver 3.1	<i>Not listed</i>

TL corridor	Common/ local name	Scientific name	Status under IUCN Red List	Status under Wildlife Conservation and Management Act (Sixth Schedule)
			Pop. trend: stable.	
	Rock Dove-	<i>Columbia Livia</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life	<i>Not listed</i>
	African Grey Hornbill	<i>Tockus nasutus</i>	Status: Least Concern ver 3.1 Pop. trend: stable	<i>Not listed</i>
	Yellow Throated Long claw	<i>Macronyx croceus</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.	<i>Not listed</i>
DK11-DK12	Pied crow	<i>Corvus albus</i>	Status: Least Concern ver 3.1 Pop. trend: stable.	<i>Not listed</i>
	Rock Dove-	<i>Columbia Livia</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life	<i>Not listed</i>
	Yellow Throated Long claw	<i>Macronyx croceus</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.	<i>Not listed</i>
DK12-DK13	Pied crow	<i>Corvus albus</i>	Status: Least Concern ver 3.1 Pop. trend: stable.	<i>Not listed</i>
	Rock Dove-	<i>Columbia Livia</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life	<i>Not listed</i>
	African Grey Hornbill	<i>Tockus nasutus</i>	Status: Least Concern ver 3.1 Pop. trend: stable	<i>Not listed</i>
	Yellow Throated Long claw	<i>Macronyx croceus</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.	<i>Not listed</i>
DK13-DK14	Pied crow	<i>Corvus albus</i>	Status: Least Concern ver 3.1 Pop. trend: stable.	<i>Not listed</i>
	Rock Dove-	<i>Columbia Livia</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life	<i>Not listed</i>
	African Grey Hornbill	<i>Tockus nasutus</i>	Status: Least Concern ver 3.1 Pop. trend: stable	<i>Not listed</i>
	Yellow Throated Long claw	<i>Macronyx croceus</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.	<i>Not listed</i>
DK14-DK15	Pied crow	<i>Corvus albus</i>	Status: Least Concern ver 3.1 Pop. trend: stable.	<i>Not listed</i>
	Rock Dove-	<i>Columbia Livia</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life	<i>Not listed</i>
	African Grey Hornbill	<i>Tockus nasutus</i>	Status: Least Concern ver 3.1 Pop. trend: stable	<i>Not listed</i>
	Yellow Throated Long claw	<i>Macronyx croceus</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.	<i>Not listed</i>
DK15-DK16	Pied crow	<i>Corvus albus</i>	Status: Least Concern ver 3.1 Pop. trend: stable.	<i>Not listed</i>
	Rock Dove-	<i>Columbia Livia</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life	<i>Not listed</i>
	African Grey Hornbill	<i>Tockus nasutus</i>	Status: Least Concern ver 3.1 Pop. trend: stable	<i>Not listed</i>
	Yellow Throated Long claw	<i>Macronyx croceus</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.	<i>Not listed</i>

TL corridor	Common/ local name	Scientific name	Status under IUCN Red List	Status under Wildlife Conservation and Management Act (Sixth Schedule)
	claw		the Catalogue of Life.	
DK16-DK17	Pied crow	<i>Corvus albus</i>	Status: Least Concern ver 3.1 Pop. trend: stable.	<i>Not listed</i>
	Rock Dove-	<i>Columbia Livia</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life	<i>Not listed</i>
	Yellow Throated Long claw	<i>Macronyx croceus</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.	<i>Not listed</i>
DK17-DK18	Pied crow	<i>Corvus albus</i>	Status: Least Concern ver 3.1 Pop. trend: stable.	<i>Not listed</i>
	Rock Dove-	<i>Columbia Livia</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life	<i>Not listed</i>
	African Grey Hornbill	<i>Tockus nasutus</i>	Status: Least Concern ver 3.1 Pop. trend: stable	<i>Not listed</i>
	Yellow Throated Long claw	<i>Macronyx croceus</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.	<i>Not listed</i>
DK18-DK19	African Grey Hornbill	<i>Tockus nasutus</i>	Status: Least Concern ver 3.1 Pop. trend: stable	<i>Not listed</i>
	Pied crow	<i>Corvus albus</i>	Status: Least Concern ver 3.1 Pop. trend: stable.	<i>Not listed</i>
	Speckled Mousebird-	<i>Colius striatus</i>	Status: Least Concern ver 3.1 Pop. trend: increasing	<i>Listed as invasive species</i>
	Red-billed Hornbill-	<i>Tockus erythrorhynchus</i>	Status: Least Concern ver 3.1 Pop. trend: stable	<i>Not listed</i>
	Black-eyed (common) Bulbul-	<i>Pycnonotus barbatus</i>	Status: Least Concern ver 3.1 Pop. trend: increasing	<i>Not listed</i>
	Black headed weaver-	<i>Ploceus Cucullatus</i>	Status: Least Concern ver 3.1 Pop. trend: stable	<i>Not listed</i>
Substation	African Grey Hornbill	<i>Tockus nasutus</i>	Status: Least Concern ver 3.1 Pop. trend: stable	<i>Not listed</i>
	Pied crow	<i>Corvus albus</i>	Status: Least Concern ver 3.1 Pop. trend: stable.	<i>Not listed</i>
	Malachite sun bird	<i>Nectarina famosa</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.	<i>Not listed</i>

**Table 18: List of fauna obtained from existing report and interview with KWS**

TL corridor	Common/local name	Scientific name	Status under IUCN Red List	Status under Wildlife Conservation and Management Act (Sixth Schedule)	Source of Information/ Remarks
DK6 – DK7	Spotted ground thrush	<i>Zoothera guttata</i>	Status: Endangered C2a (i) ver 3.1 Pop. trend: decreasing Not spotted during field work but reported in the Important Bird Areas report to have existed in Kaya Gandini Forest.	Listed as endangered	Important Bird Areas in Kenya by Leon Bennun and Peter Njoroge, 1999
	Plain backed sunbird	<i>Antheptes reichenowi</i>	Status: Near Threatened ver 3.1 Pop. trend: decreasing. Not spotted during field work but reported in the Important Bird Areas report to have existed in Kaya Gandini Forest.	Listed as near threatened	Important Bird Areas in Kenya by Leon Bennun and Peter Njoroge, 1999
	Fischer's Turaco	<i>Tauraco fischeri</i>	Status: Near Threatened ver 3.1 Pop. trend: decreasing	Listed as near threatened	Important Bird Areas in Kenya by Leon Bennun and Peter Njoroge, 1999
	Sokoce Pipit	<i>Anthus sokokensis</i>	Status: Endangered Pop. trend: decreasing	Listed as endangered	Important Bird Areas in Kenya by Leon Bennun and Peter Njoroge, 1999
	Ndovu (Swahili) – African Elephant	<i>Loxodonta africana</i>	Status: Vulnerable A2a ver 3.1 Pop. trend: increasing. Not observed during field work session but reported to use Gandini forest as dispersal area only when they escape from Mwaluganje Forest Reserve. This happens rarely and KWS returns them back immediately.	Listed as endangered	KWS Kwale – Interview with KWS Officer
	Yellow Baboons	<i>Papio cynocephalus</i>	Status: Least Concern ver 3.1 Pop. trend: stable. Not observed during fieldwork but reported to visit Gandini Forest	Not listed	KWS Kwale – Interview with KWS Officer
	Wild Pig	-	Not observed during field work session but reported to visit the Gandini forest area	Not listed	KWS Kwale – Interview with KWS Officer



**Plate 4: Forest Vegetation at DK6 – July 2017**

Based on the findings obtained from expert interviews, literature review and field surveys, as per definition of World Bank OP 4.04 it is concluded that there are no critical habitats along the Project corridor for mainly the following reasons:

- There are no legally protected areas nor sites recognized by local and international authorities as ecologically important within the TL corridor.
- The natural environment along the TL corridor including DK6-7 forest area has been disturbed by human activities such as agriculture and forest exploitation.
- No threatened flora/fauna species were identified along the TL corridor during field survey.

However, there are some protected areas in the surrounding areas which are considered as critical habitats. Refer to 4.3.3 for details of the protected areas.

### **4.3.3 Protected Areas/Sacred Sites (Kaya)**

#### **Kaya Gandini**

Kaya Gandini is located east of DK6 having a total area of 100 ha (see **Annex 7** for the location). The edge Kaya Gandini is around 30 m from the nearest TL. It was gazetted as natural monument in 1992 under the Antiquities and Monuments Act, Notice No. 200. A Kaya is a sacred forest of the Mijikenda people in the former Coast Province of Kenya. The kaya forest is considered to be an intrinsic source of ritual power and the origin of cultural identity. Kaya Gandini is also designated as an Important Bird Area (IBA). Presence of endangered bird species such as Spotted Ground Thrush and Sokoke Pipit are reported by Leon Bennun and Peter Njoroge (1999). According to KWS expert, the area is occasionally visited by mammals such as elephants, baboon and wild pig.

#### **Mwaluganje Forest Reserve**

Mwaluganje Forest Reserve is an area designated for forest conservation and management. The reserve starts approximately 2.5 km south west of DK7. It was gazetted in 1941 under the Forest Act and covers an area of approximately 17 km<sup>2</sup>. According to KWS expert, the forest reserve is a habitat for mammals such as elephants (large families of about 150 residing here), monkeys, warthog, baboon, impala and waterbuck.

Notable birds are Crested Guinea fowl, Brown-hooded Kingfisher, Black-collared Barbet, African fish eagle and Golden palm weaver, which none are IUCN threatened species. Refer to **Annex 7** for the map showing the location of Mwaluganje Forest Reserve.

### **Shimba Hills National Reserve**

Shimba Hills National Reserve is a protected area designated in 1968 under the Wildlife Conservation and Management Act. It has an area of approx. 300 km<sup>2</sup> and is located around 12 km south west of DK8. This reserve hosts the highest density of African elephant in Kenya. Other animal species found in the area are Sable antelope, elephant shrew, bushy tailed mongoose and fruit bats. The forest is also designated as an Important Bird Area (IBA), where endangered species such Spotted Ground Thrush and Sokoke Pipit are present. Migratory birds such as Common cuckoo, Sand martin, Golden orioles and Ringed plover flyover the area mainly in November-April season.

### **Mwaluganje Elephant Sanctuary**

Mwaluganje Elephant Sanctuary is a community-owned elephant park for elephant conservation. It has an area of approx. 36 km<sup>2</sup> and located around 10 km west of DK8. Although the sanctuary has no legal designation, it was formed in the early 1990s to create a wildlife corridor for the movement of elephants between Mwaluganje Forest Reserve to the north and Shimba Hills National Reserve to the south. Elephants use this migratory passageway to access important foliage areas within their natural domain at different times of the year.

### **Kaya Kiteje**

Kaya Kiteje was gazetted as natural monument in 1992 under the Antiquities and Monuments Act, Notice No. 200. It is located at the west coast of Mombasa SEZ with an area of around 10 ha. It is around 500 m from the TL. Figure 6 shows the location of Kaya Kiteje.



**Figure 6: Location of Kaya Kiteje (green area)**



#### 4.3.4 Tree Shrine

The ESIA study assessment has confirmed presence of two tree shrines along the TL corridor (6.1 km from DK4 and 2.1 km from DK5). While these trees do not have any legal status it is a cultural site that was dedicated by the ancestors of the clan that own the site. It is a place of worship and regarded as a holy place used to seek healing and answers to various challenges. The two shrine owners (Mzee Kombo Mangale Nyuni – Kasemeni Location and Mzee Mangale Zuma Mdoe of Mwatate Location) were interviewed. They mentioned that if the TL route is difficult to alter, a shrine transfer ceremony can be conducted to transfer the holy powers of the shrine from one tree to another designated tree/object if the existing one is going to be cut down. They accepted that the trees can be cut down after shrine transfer ceremony has been conducted and their trees compensated. **Table 19** provides what is required and the related cost for each Shrine Ceremony. The total comes to KShs 340,770.00.

**Table 19: Cost of Shrine Transfer Ceremony**

No	Item	Unit Cost (KShs)	No of Units	Total Cost (KShs)
<b>1. Shrine Tree at Chainage 23.5km – Kasemeni Location</b>				
1	Sheep (Black in Colour)	5,000.00	1	5,000.00
2	Chicken (Black in Colour)	1,000.00	1	1,000.00
3	Dressing for 2 Women & 2 Men (Red & Black Dresses)	500.00	4	2,000.00
	Cultural Elders Gracing Ceremony	12,000.00	1	12,000.00
	<b>Total for Kaya 1</b>			<b>20,000.00</b>
<b>2. Shrine Tree at Chainage 17.2 – Mwatate Location</b>				
1	Bulls (Black, Red, White)	60,000.00	3	180,000.00
2	Goats (Black, Red, White)	8,000.00	3	24,000.00
3	Sheep	8,000.00	1	8,000.00
4	Chicken (Roosters) - Black =, Red, White	1,000.00	3	3,000.00
5	Clothes (Black, Red, White)	1,000.00	3	3,000.00
6	Rice	150.00	10	1,500.00
7	Coconuts	50.00	50	2,500.00
8	Potatoes (1 Bag)	4,500.00	1	4,500.00
9	Uto (10 Litres)	1,300.00	2	2,600.00
10	Sugar (10 Kg)	150.00	10	1,500.00
11	Tomatoes (1 Crate)	8,000.00	1	8,000.00
12	Onions (1 Net)	1,200.00	1	1,200.00
13	Drums and Kayamba	15,000.00	1	15,000.00
14	Traditional Elders (4 Experts)	6,000.00	4	24,000.00
15	Mobilizations Fee	41,970.00	1	41,970.00
	<b>Total for Kaya 2</b>			<b>320,770.00</b>
	<b>Grand Total for Kaya 1 and 2</b>			<b>340,770.00</b>



**Plate 5: A Baobab Tree Shrine near approx. 6km to DK4 from DK3 – July 2017**

#### 4.4 Social Environment

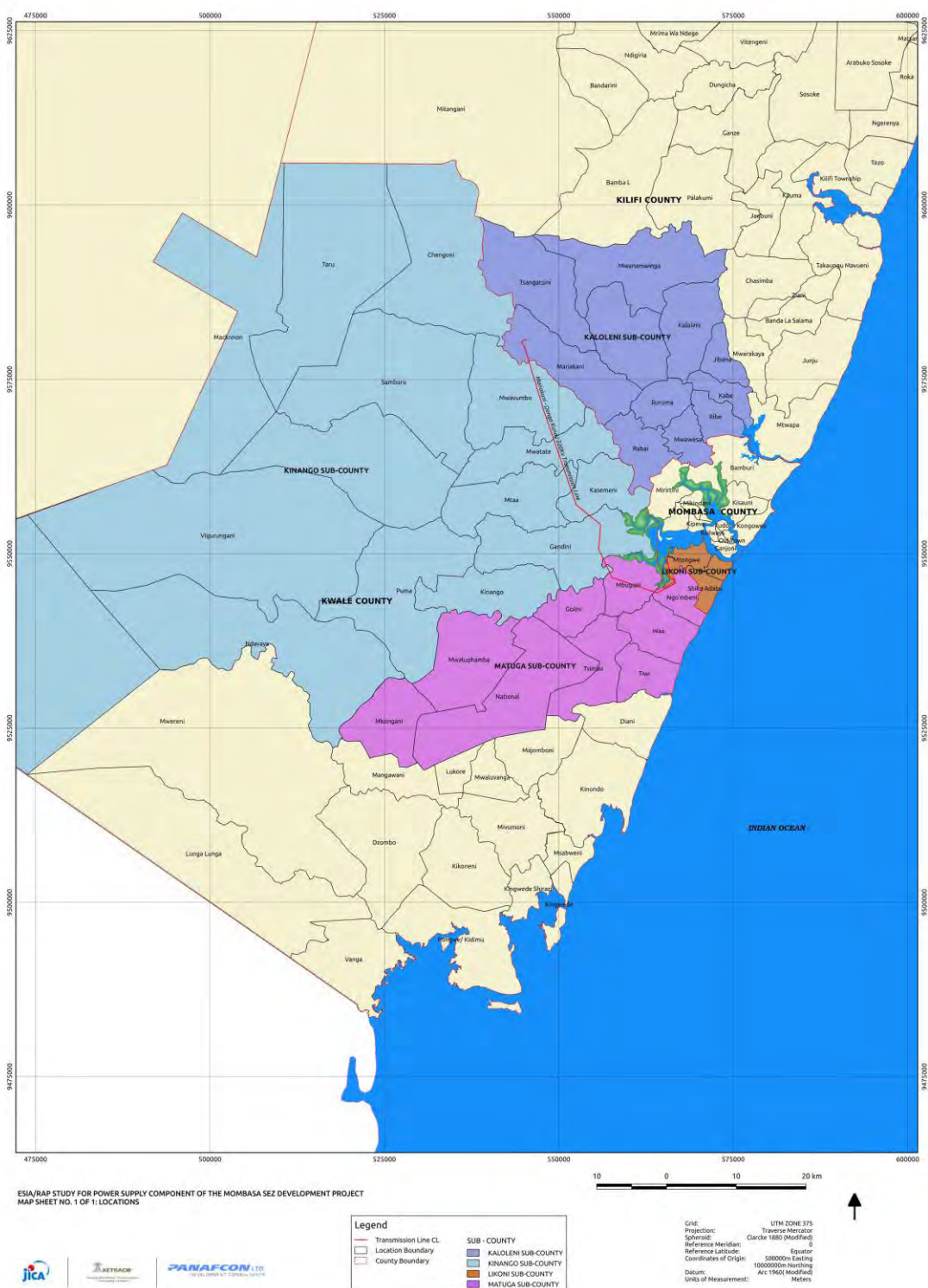
##### 4.4.1 General description

###### **Project Area Community**

The proposed project traverses Kilifi, Kwale and Mombasa Counties. The socio-economic characteristics of the affected population is homogeneous because the project is predominantly located in rural social settings. The project area is inhabited by the Miji Kenda community with each administrative location dominantly habited by a particular Miji Kenda sub-tribe as shown in **Table 20** below. They are engaged mainly in subsistence crop farming and limited animal husbandry. The majority of the population speak Swahili according to the local administration. **Figure 7** shows the administrative boundary of the Project area.

**Table 20: Communities living in the Project area**

County	Sub-County	Location	Community
Kilifi	Kaloleni	Mariakani	Giriama, Duruma and Kamba
Kwale	Matuga	Mbunguni	Duruma
Kwale	Matuga	Ng'ombeni	Duruma
Kwale	Kinango	Kasemeni	Duruma
Kwale	Kinango	Gandini	Duruma
Kwale	Kinango	Mwavumbo & Mwatate	Digo & Duruma
Mombasa	Likoni	Mtongwe	Digo, Duruma, Swahilis, Kamba, Luhya, Luo, Somali, Taita, Kikuyu, Kisii, Pokomo, Meru



**Figure 7: Administrative boundary of the Project area**

### Settlement and Population

The project is located in a rural setting with sparsely distributed settlements/homesteads. The transmission line corridor is going to affect a few homesteads. Population is low and scattered across the project area. The population density in the area between DK1 and DK5 in Kinango Constituency is currently about 67 persons per km<sup>2</sup> while the rest of the area covering Matuga Constituency has a population density of about 189 persons per km<sup>2</sup> as per the first County Integrated Development Plan (2013-2017).

There is a mixture of permanent houses, semi-permanent houses (iron sheet and timber houses) and mud houses.

**Infrastructure**

The social and public infrastructures that were encountered along the project corridor are elaborated in **Table 21**.

**Table 21: Social and Public Infrastructure encountered along Project Corridor**

No	Social Infrastructure	Affected Item	Location
1	Kiteje Secondary School	Land and Trees	In Ng'ombeni location between DK10 and DK11 (at chainage 47km)
2	Kenya Railways (Railway Line)	Land	In Mwavumbo location between DK3 and DK4 (at chainage 5.9km)
3	Water Pipeline	Land	In Mwavumbo location between DK3 and DK4 (at chainage 8.9km)
4	Kenya Pipeline Company Limited (Oil Pipeline)	Land	In Mwavumbo location between DK3 and DK4 (at chainage 10km)
5	Trading Centre	Land	In Mwatate location between DK4 and DK5 (at chainage 15.6km)
6	Matuga Water Supply (Water Valve Manhole)	Structure	In Mbunguni location between DK8 and DK9 (at chainage 42.4km)
7	Kenya Power and Lighting Company (Distribution Lines)	Wayleave Land	In Mbunguni location between DK8 and DK9 (at chainage 42.9km)



**Plate 6: Housing Structures Affected by the TL Corridor – July 2017**

### Land Use

Land use in the higher area between Mariakani and DK5 is largely scanty subsistence farming where maize is grown and also the keeping of domestic animals. There are instances of a few people engaged in quarrying activities. More intense agricultural activities occur in the low-lying areas where majority of the farms have coconut-cassava and cashew nut-cassava combinations. A few farms have maize and beans. Most of the project area fall under the coconut-cassava zone.



**Plate 7: Livestock Pen in one of the homesteads in the project area – July 2017**

### Livelihood

Majority of the project area community members are involved in mixed farming where they grow maize, sorghum, millet, green grams, beans, peas and cassava. Livestock rearing is also practiced in Kinango. Other commercial activities taking place in Kinango include quarrying for building stones and mining.

Fisheries livelihood is mainly carried out along the coastal line (Dongo Kundu area). Formal employment, casual labour, small business/petty trade, and tourism are carried out in urban centers. The semi commercial crops like coconuts and mangos are largely grown in Matuga Constituency. The cash crops grown in this area are cashew nuts, sugarcane, cotton, simsim, bixa and tobacco. The main livestock species kept for both food and income generation include Zebu cattle, goats and sheep.

#### 4.4.2 Socio-economic survey

##### Survey Methodology

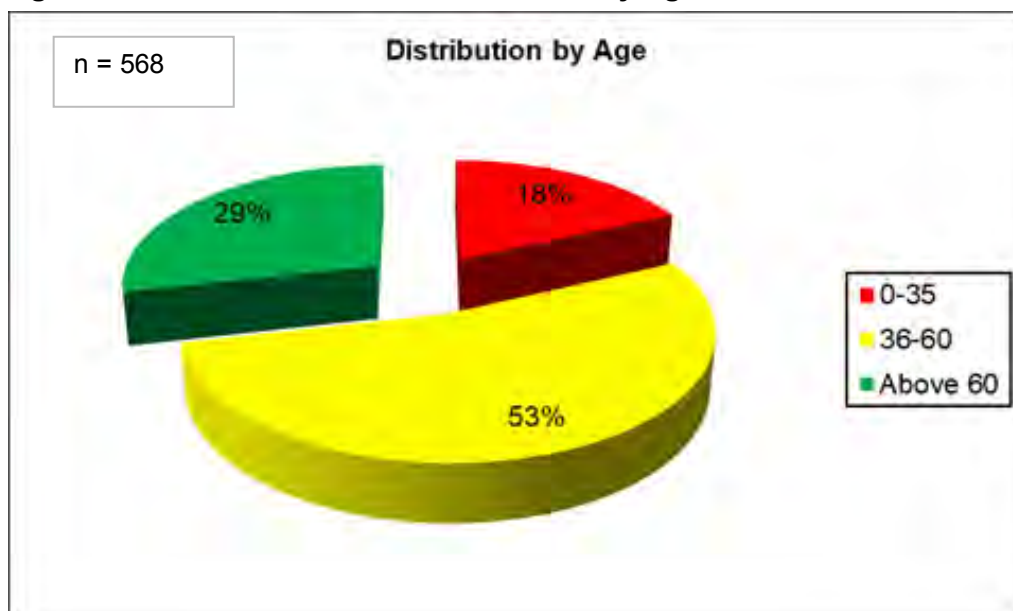
The Consultant developed comprehensive household questionnaires for data collection.

The household questionnaires captured the following information: Level of education of family heads, their source of income, number of children, male and female adults per affected household, type of land tenure, affected land size, number and type of structures per affected household, type of affected crops and trees of economic/medicinal significance. PAP, Stakeholder and Public Sensitization was done as part of participatory approach through household and stakeholder questionnaire administration. Sensitization meetings were organized by the Consultant in collaboration with the local administration. The Consultant made use of maps and GPS Coordinates to identify the ground location of the 40m wide wayleave of the transmission line from Mariakani to Dongo Kundu and the substation site. The questionnaires were administered to the household heads along the transmission line to obtain the socio-economic data. The collected socio-economic data was subjected to statistical analysis that generated the results presented in the pie-charts.

**4.4.2.1 Distribution of Household Heads (HH) by Age**

Age is a major demographic characteristic. A total of 568 HH were interviewed regarding their ages which were distributed into 3 categories as given in **Figure 8**. 53% of the respondents were in the age group of between 36 and 60 years. 29% were above 60 years while 18% were 35 years and below. In rural Kenya, up to 60 year old people are usually in charge of their livelihood affairs, managing their mainly land-based resources and actively making a living. However, those above 60 years of age are generally aging people who are not able to effectively do manual work that is required to support livelihood activities in rural Kenya. 71% of the HH were aged below 60 years. This category of HH are generally considered physically, economically and socially active to command over any compensatory resources and re-organize their livelihoods accordingly in line with project requirements.

**Figure 8: Distribution of Household Heads by Age**

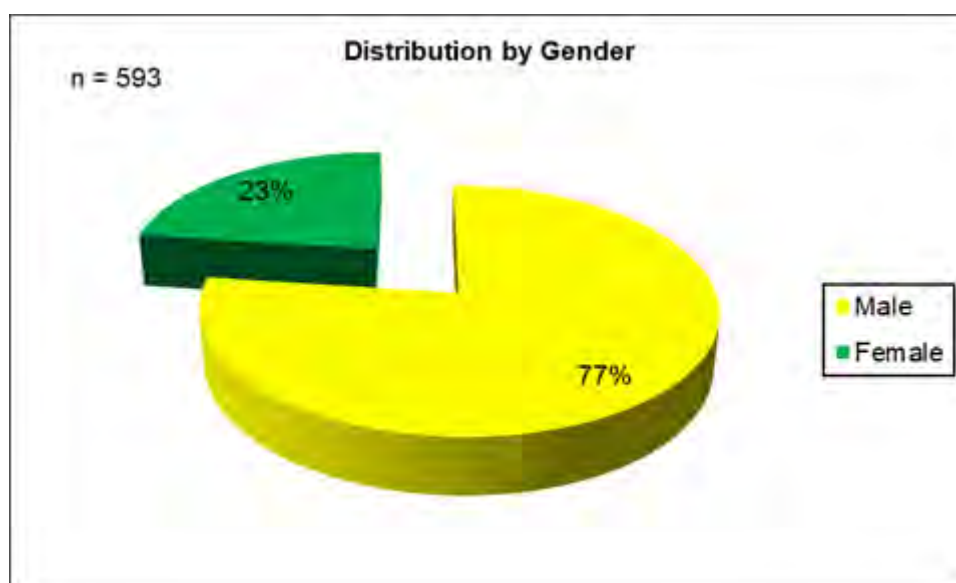


Source: Panafcon – RAP Survey, 2017-2018

#### 4.4.2.2 Distribution of Household Heads by Gender

A gender analysis was carried out on 593 household heads. There were 136 female and 457 male household heads. This translates to 77% of the Household Heads being male while the remainder 23% are female as shown in **Figure 9**. In terms of gender, the Household Heads surveyed defy the normal population pyramid where the number of males nearly equals that of females in the various age groups of any population. Part of the reason for this kind of outlook relates to the fact that the one major population group in the Kilifi, Kwale and Mombasa Counties that host the project are the Miji Kenda who are patriarchal. Hence property in land and structures are socially defined to belong to male adults and thus considered the legal owners and not the women even if the resources/ affected assets have been sourced and secured by the women.

**Figure 9: Distribution of Household Heads by Gender**



Source: Panafcon – RAP Survey, 2017 – 2018

#### 4.4.2.3 Distribution of Household Heads according to Marital Status

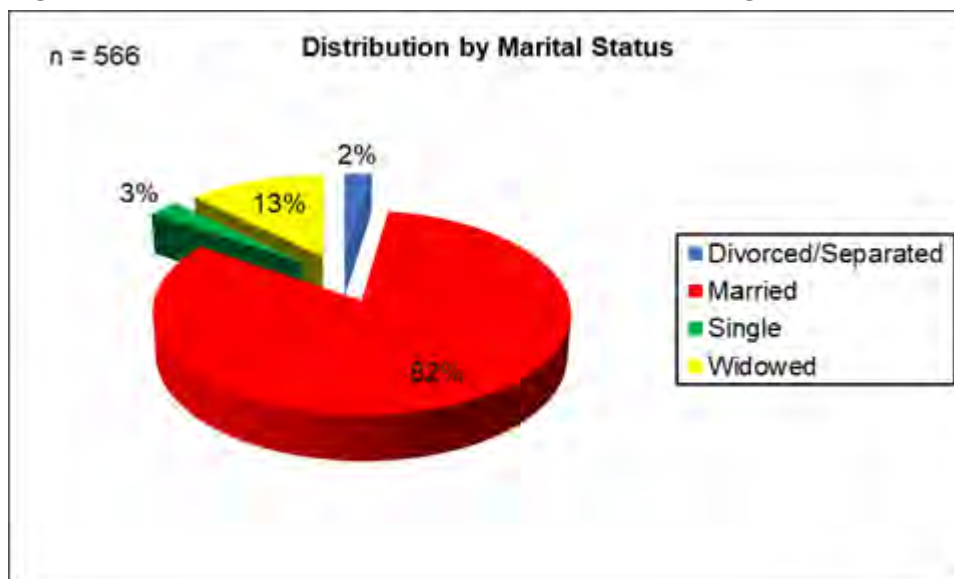
The study also looked into the marital status of the HH. A total of 566 household heads were evaluated under five classes as listed below:

- Married = 465
- Divorced = 11
- Separated = 3
- Single = 16
- Widowed = 71

The above distribution showed that 82% of them were married while 13% were widowed and 3% were single. A combined total of 2 % of the interviewed HH were either divorced or separated. Refer to **Figure 10**.

The implication of the marital status outlook is that most of them are in family set-ups and therefore project mitigations should maintain family unity. There should be minimal disruption to family units.

**Figure 10: Distribution of Household Heads according to Marital Status**



Source: Panafcon – RAP Survey, 2017 – 2018

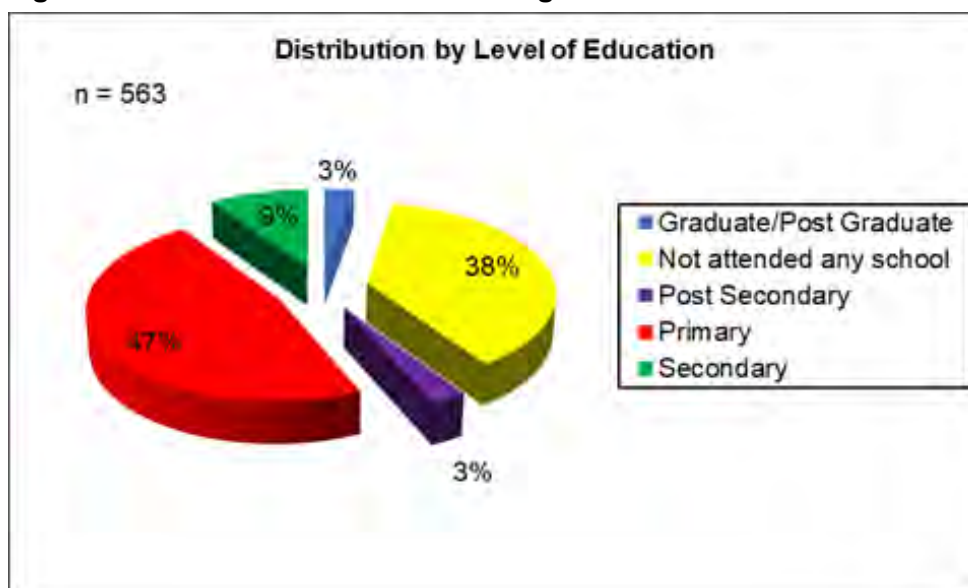
**4.4.2.4 Distribution of Household Heads according to Level of Education**

An assessment on level of education was done for 563 household heads and the findings are presented below:

- Post Graduate = 1
- Graduate = 15
- Post-Secondary = 15
- Secondary = 54
- Primary = 265
- Not Attended School = 213

The above findings translate to the percentages given in **Figure 11** below.

**Figure 11: Household Heads According to Level of Education Attained**



Source: Panafcon – RAP Survey, 2017 - 2018



38% of the household heads had not attended any school at all, 47% had achieved primary level while 9% had achieved secondary school level. 3% had achieved post-secondary and also another 3% had achieved graduate/post graduate education. Post-secondary education refers to skill-based training after secondary school level education. The fact that 62% of the household heads had formal education implies that just above half of the project affected persons are able to participate in meetings and resettlement and mitigation activities of the project.

**4.4.2.5 Socio-economic Characteristics of Household Heads (HH)**

In this section, the study delved into the actual socio-economic characteristics of the HH.

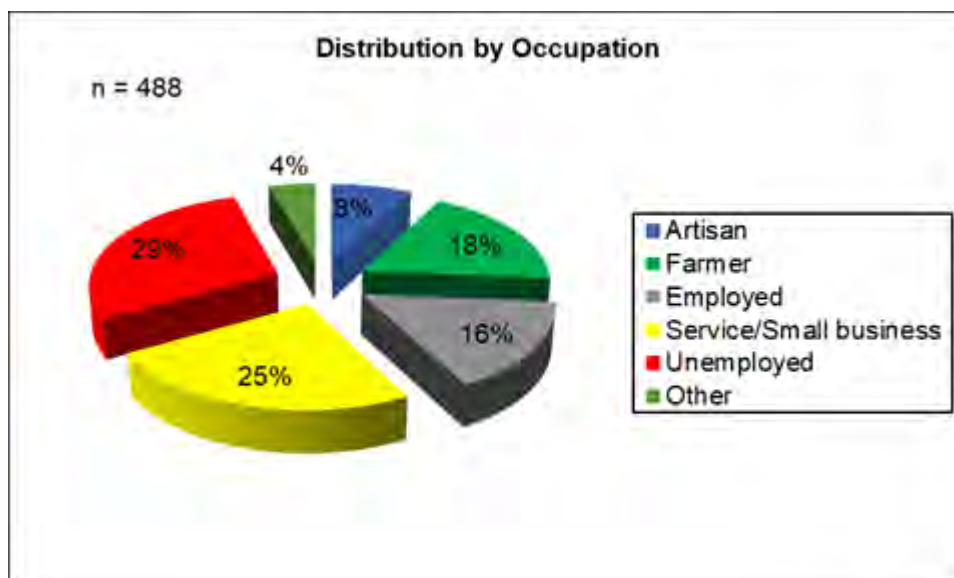
**Occupation of the HH**

The main occupation of 488 household heads are as follows:

- Artisan = 38
- Farmer = 90
- Employed = 78
- Administration = 3
- Service/small business = 120
- Unemployed = 140
- Others = 19

The above figures translate into the percentages presented in **Figure 10**. 25% are running small businesses, 8% are artisans in the informal sector and 18% are involved in farming activities for their livelihood. 16% of the respondents are employed in the formal sector. 29% of the HH considered themselves unemployed since they were not involved in any income generating activities. These were mainly people who had no or limited formal education.

**Figure 12: Distribution of Household Heads According to Main Occupation**



Source: Panafcon – RAP Survey, 2017 – 2018

The HH appreciate the gaps in their social and economic progress that the proposed project would fill in improving their lives and hence offered great support for it on this basis.

Overall, the various occupations and lifestyles of the HH already mentioned imply that most of them were in the natural resource-based livelihoods and any displacement from their current locations would most likely throw their livelihoods off balance. This calls for careful design of resettlement so that PAPs are not relocated to areas that will not suit their farming livelihood styles.

The various occupations described above include the following:

- **Artisan** – Those privately involved in artisanry jobs like Carpentry, mechanics, masonry, painting, weaving and electrical works.
- **Farmer** – Those involved in Farming activities that contributes to their livelihood
- **Employed** – Those having regular jobs like Civil servants, teachers, guards, cooks and account clerks
- **Un-employed** – Those not gainfully employed or engaged in regular income activities
- **Service/Small Business** – Those operating motorbike transport (boda boda), kiosk operators, charcoal vendors, drivers of public transport vehicles and wine tappers.
- **Others** – Those offering Administration Services like Chiefs, Village Elders and Retired persons

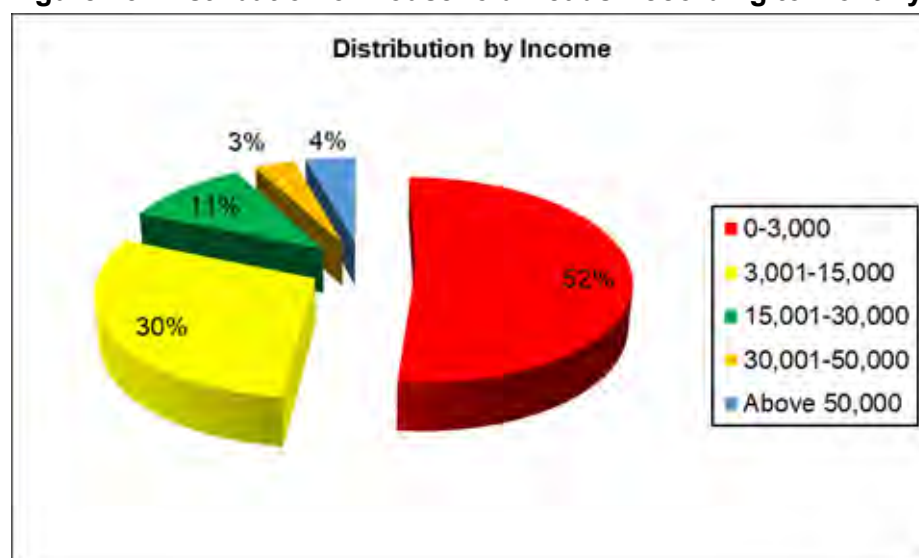
### Income of the HH

The incomes of 598 household heads were distributed into the following 5 categories.

- 0 – 3,000 = 309
- 3,001 – 15,000 = 177
- 15,001 – 30,000 = 65
- 30,001 – 50,000 = 21
- Above 50,000 = 26

The above numbers were translated into percentages presented in **Figure 13**. The results show that 52% either have an income of KShs 3,000 or less or no regular income at all. This suggests that majority of the HH are poor. Those earning between KShs 3,000 and KShs 15,000 form 30% of the population. 11% of the HH earn between KShs 15,000 and KShs 30,000 while only 3% earn between KShs 30,000 and KShs 50,000. The remaining 4% earn above KShs 50,000. See **Figure 13** for Distribution of income among the Household Heads..

**Figure 13: Distribution of Household Heads According to Monthly Income**



Source: Panafcon – RAP Survey, 2017 - 2018

#### 4.4.2.6 Distribution of Household Heads by Source of Energy for Cooking

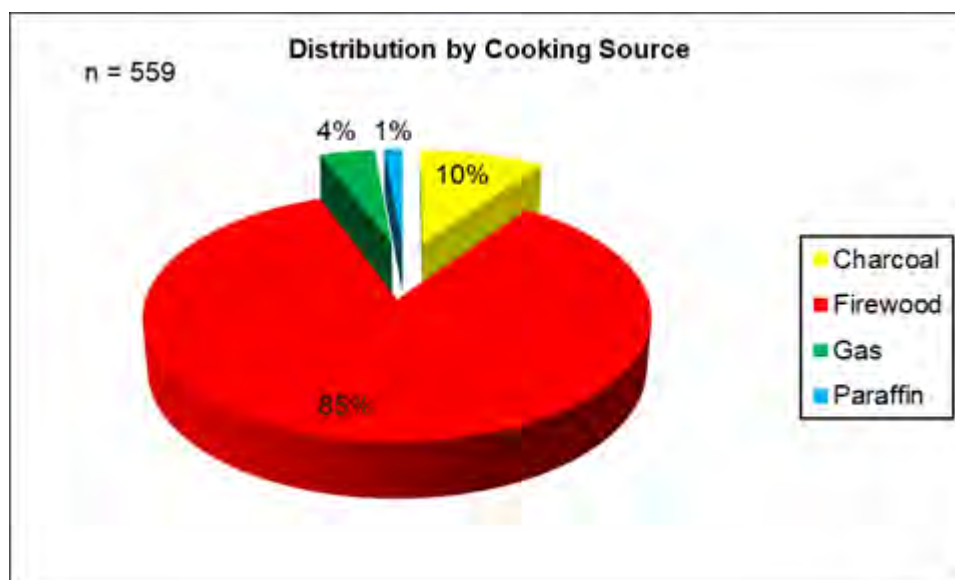
A total of 559 household heads were interviewed regarding their energy sources for cooking and the following results were obtained:

- Firewood = 473
- Charcoal = 54
- Gas = 24
- Paraffin = 8

The above numbers translated to percentages shown in **Figure 14**. 85% use firewood, 10% use charcoal, 4% use gas. While 8% use Paraffin. Users of other sources form 1%. This is a worrying trend when considering conservation of forest resources.

A total of 95% of energy sources are forest resources based (Firewood and Charcoal). Firewood does not only deplete forest resources, it significantly contributes to air pollution resulting in Upper Respiratory Tract Infection (URTI). Sensitisation of the project area community should be carried out to educate them on the impacts of absolute reliance on natural vegetation for cooking energy (destruction of forest resources and health effects) Use of clean energy sources like gas and charcoal briquettes) should be promoted.

**Figure 14: Household Heads by Source of Energy for Cooking**



Source: Panafcon – RAP Survey, 2017 – 2018

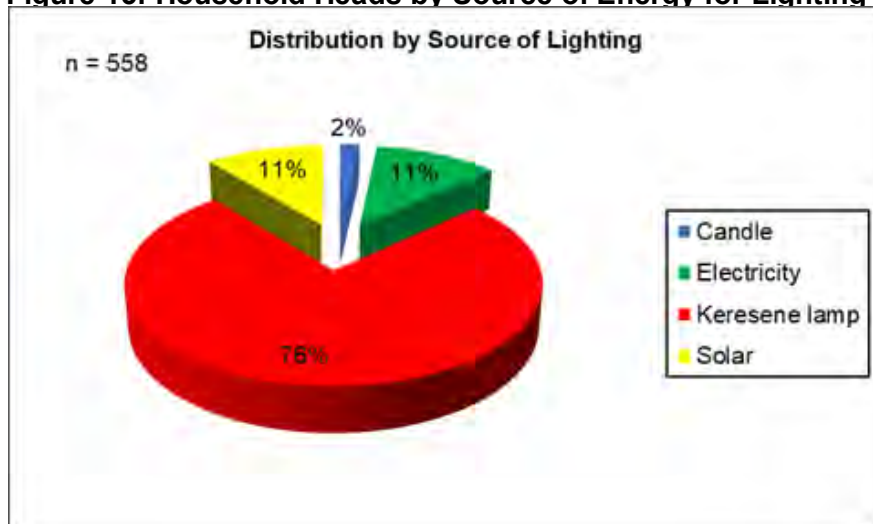
#### 4.4.2.7 Distribution of Household Heads by Source of Energy for Lighting

Out of 558 household heads interviewed regarding sources of energy for lighting, the following results were obtained:

- Electricity = 64
- Candle = 10
- Kerosene Lamp = 423
- Solar = 61

The above numbers translated to the percentages presented in Figure 13. Majority of the project area respondents use Kerosene Lamp (76%). Electricity and Solar Power follow with 11% each. Use of candles and other sources form only 2%.. Use of kerosene lamps is unsafe health-wise and may contribute to respiratory and eye related diseases due to smoke emission.. Project area population should be sensitized on affordable and environmentally friendly sources like solar lanterns.

**Figure 15: Household Heads by Source of Energy for Lighting**



Source: Panafcon – RAP Survey, 2017 - 2018

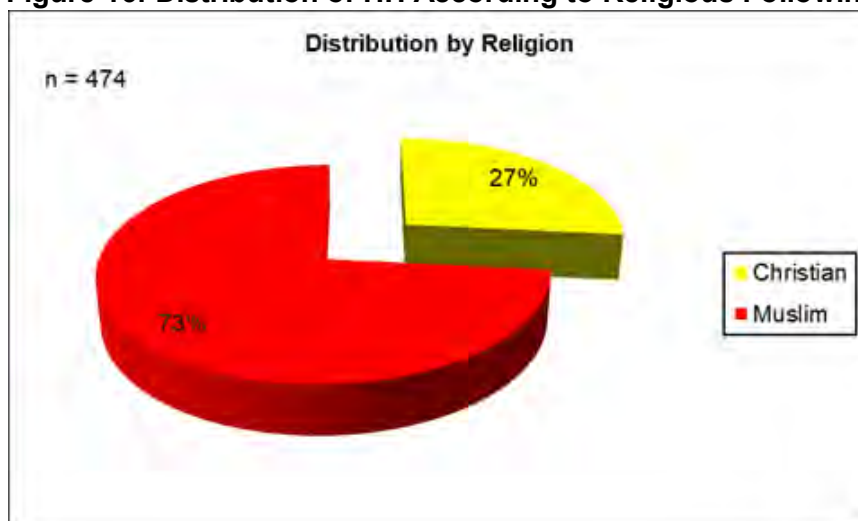
**4.4.2.8 Distribution of Household Heads by Religious Following**

The 474 household heads who indicated their religious following exhibited 2 dominant religious groups as given below:

- Muslim = 348
- Christian = 126

The above data translated to 73% being Muslim followers while 27% being Christian followers as shown in **Figure 16**. It will be important to this into consideration when aspects of resettlement are being discussed with the PAPs.

**Figure 16: Distribution of HH According to Religious Following**



Source: Panafcon – RAP Survey, 2017 – 2018

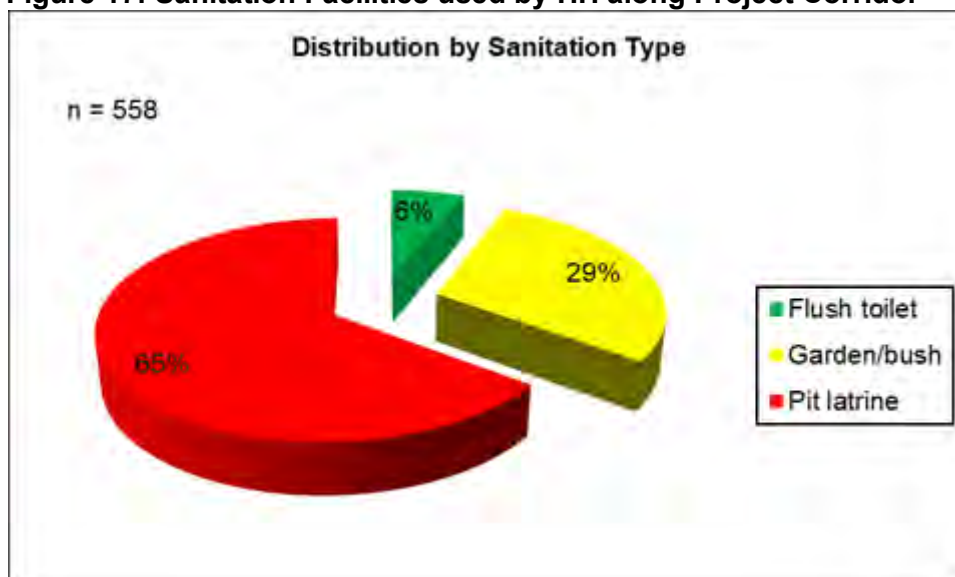
**4.4.2.9 Distribution of HH by Sanitation Type**

The 558 household heads who indicated the type of sanitation facility they use were distributed as follows:

- Flush toilet = 34
- Pit latrine = 362
- Garden/bush = 162

This translates to 65% use pit latrines, 29% use Garden/bush while 6% use flush toilets as shown in **Figure 17**. The 29% do not have any developed sanitary facility (use the bush) to answer the call of nature. A small percentage (6%) use flush toilet facilities. Considering that a significant population (30%, refer to **Figure 18**) use water from boreholes/wells for drinking and given that groundwater is not very deep, there is cause for concern on health and sanitation of the community since the wells are located where the community is settled.

**Figure 17: Sanitation Facilities used by HH along Project Corridor**



Source: Panafcon – RAP Survey, 2017 – 2018

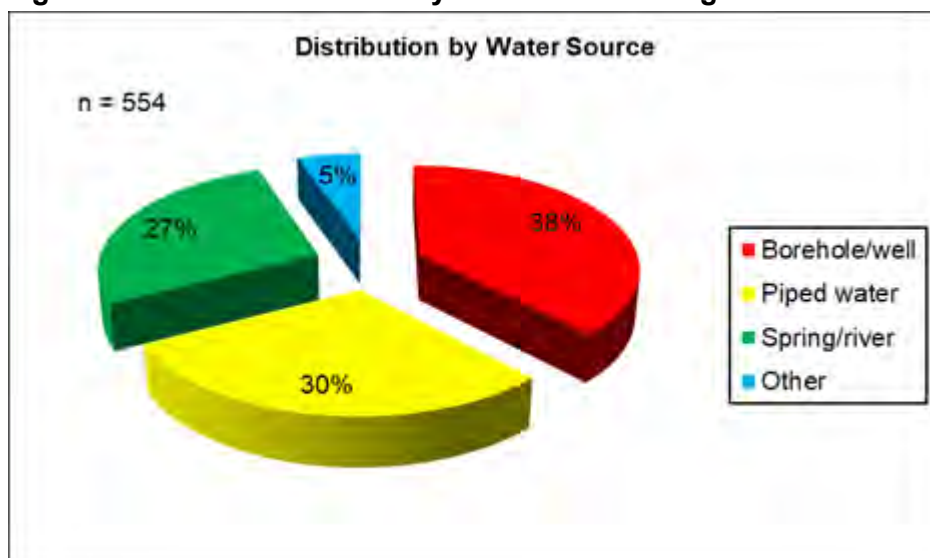
**4.4.2.10 Distribution of HH by Source of Drinking Water**

The 556 household heads who indicated the source of their drinking water along the project corridor are distributed as follows:

- Borehole/well = 210
- Piped water = 163
- Spring/river water = 151
- Others = 30

The above numbers translate to the percentages provided in **Figure 18**. Majority rely on boreholes/wells as a source of drinking water (38%). Piped and spring water sources are also used almost in equal measure (30% and 27% respectively). The significant quantity of piped water use reflects the urban nature of the project area. The 5% who use other sources largely rely on water purchased from water vendors.

**Figure 18: Distribution of HH by Source of Drinking Water**



Source: Panafcon – RAP Survey, 2017 – 2018

**4.4.2.11 Vulnerable HH**

There were 198 HH classified as vulnerable due to being ill, paralysed, poor, women and so on. Among the 198 HH, 136 were headed by women, majority of whom are widows and have not attended school. Vulnerable households will require extra assistance during resettlement.

## 5 ANALYSIS OF PROJECT ALTERNATIVES

During the course of formulating the proposed project, several project alternatives were considered to ensure that the best option of project development is adopted. The consideration of alternatives is one of the more proactive approaches of environmental assessment. This process serves to enhance the project design through an examination of other feasible options instead of only focusing on the more defensive task of reducing adverse impacts of a single design.

### 5.1 The “No Action” Alternative

The ‘No Action’ alternative has been considered where the development of the 220kV transmission line from Mariakani-Dongo Kundu would not be carried out. One possible option will be to use the existing 132 kV TL network in Mombasa, but considering future demand of the Mombasa area, this network does not have sufficient capacity to support demand of Mombasa SEZ. Besides, the Mombasa SEZ will require more reliable 220 kV power supply rather than 132 kV. An alternative option may be to construct a new power station inside or near Mombasa SEZ, but that will likely entail greater environmental and social impacts due to the following reasons:

- A new power station will generate additional pollution risks such as through wastewater discharge, stack emission and hazardous wastes.
- A new power station may further stress the sensitive natural environment in the Dongo Kundu area (e.g. mangroves, mud flats and creeks) through accumulative impacts with the Mombasa SEZ.
- A new power station will require larger resettlement and hence greater social impacts.

In conclusion, the proposed Project is considered as the most appropriate option.

### 5.2 Alternative analysis of TL route

The following alternative analysis was conducted in the process of finalizing the TL route:

- Alternative analysis of shortest TL route between Mariakani substation and Mombasa SEZ substation
- Alternative analysis of TL outside Mombasa SEZ area including route analysis to avoid Kaya Gandini
- Alternative analysis inside Mombasa SEZ area

Results of each analysis are explained below:

#### **(1) Alternative analysis of shortest TL route between Mariakani substation and Mombasa SEZ substation**

The TL route was planned by referring to KETRACO’s route selection criteria. One of its priority criteria is to select as far as possible the shortest route between the pre-determined substations. Therefore, as an initial step, the following two routes between Mariakani substation and Mombasa SEZ substation was considered.

- Option A: TL with the shortest distance from Mariakani substation and Mombasa SEZ substation
- Option B: TL with the shortest distance from Mariakani substation and Mombasa SEZ substation that avoids mangrove area

Figure 19 shows the alignment of the two routes (Option A and B).



**Figure 19: Alignment of Option A (blue line) and Option B (red line)**

**Table 22** compares the two TL options based on natural and social impacts and technical difficulties.

**Table 22: Alternative analysis of Options A and B**

No	Project Aspect	Option A	Option B
1	Route	Mariakani substation – Mombasa SEZ substation	Mariakani substation – south Mombasa SEZ -Mombasa SEZ S/S. <b>Note that the route inside Mombasa SEZ followed the route set through Mombasa SEA Master Plan.</b>
2	Distance	Approx. 38 km	Approx. 50 km
3	Land use	Agriculture	Agriculture
4	Impact on natural environment	Approx. 24 ha of forest clearance necessary including mangrove	Approx. 4 ha of forest clearance necessary
5	Impact on social environment	Resettlement of around 70 HH is estimated.	Resettlement of around 70 HH is estimated.
6	Technical difficulties and other issues	Need to cross over a mangrove/creek area	No notable difficulties
7	Recommended option	Not recommended for the following reasons: <ul style="list-style-type: none"> <li>- It will require large area of forest clearance including mangroves</li> <li>- Some technical issues as TL will need to cross over a mangrove/creek area</li> </ul>	Recommended for the following reasons: <ul style="list-style-type: none"> <li>- Area of forest clearance is less the Option A</li> <li>- No need to cut mangrove</li> <li>- No technical difficulties</li> </ul>

Based on the alternative analysis, Option B was selected as the suitable TL route mainly as it requires less forest clearance and no crossing of mangrove/creek area.

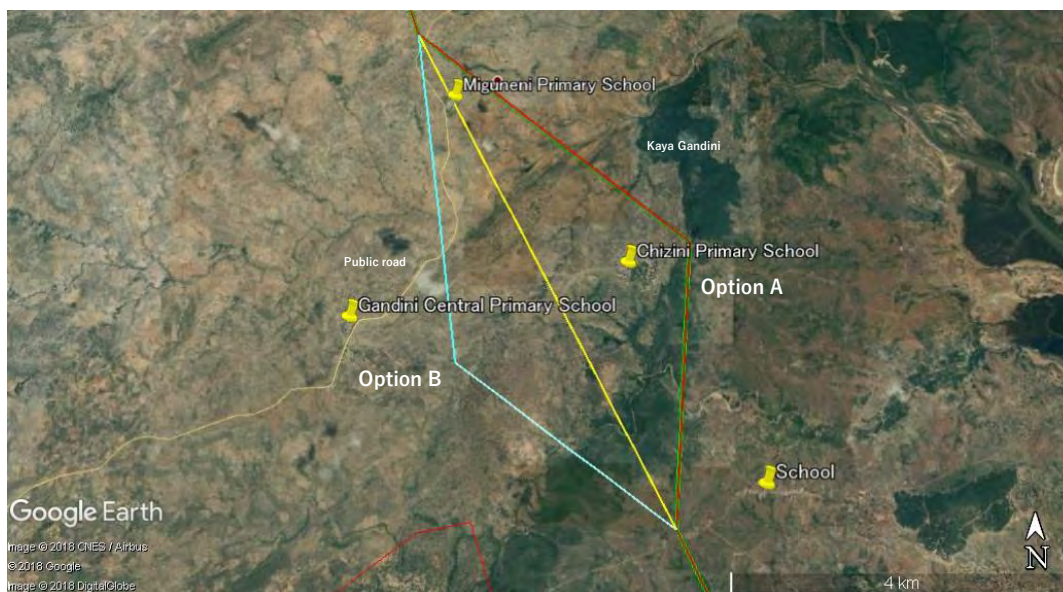
**(2) Alternative analysis of TL outside Mombasa SEZ area**

After selecting Option B, the route was studied in more detail to identify any issues. One major issue was encountered at around 25 km from the Mariakani substation, in which a primary school (Migunemi Primary School) was found inside the TL corridor.



Since KETRACO route selection criteria recommends to avoid such public properties, the following two alternative routes were considered that avoids Migunemi Primary School (see Figure 2 for the alignment of the two routes):

- Option A: The route avoids Migunemi Primary School by diverting to the east direction. The angle of diversion was set in a manner to avoid another school (Chizini Primary School) located in the vicinity. In addition, the route was planned to minimize TL distance and angle point.
- Option B: The route avoids Migunemi Primary School by diverting to the west direction. The angle of diversion was set in a manner to avoid another school (Gandini Central Primary School) located in the vicinity. In addition, the route was planned to minimize TL distance and angle point.



**Figure 20: Two alternative route options to avoid Migunemi Primary School**

**Table 23** compares the two route options based on natural and social impacts and technical difficulties.

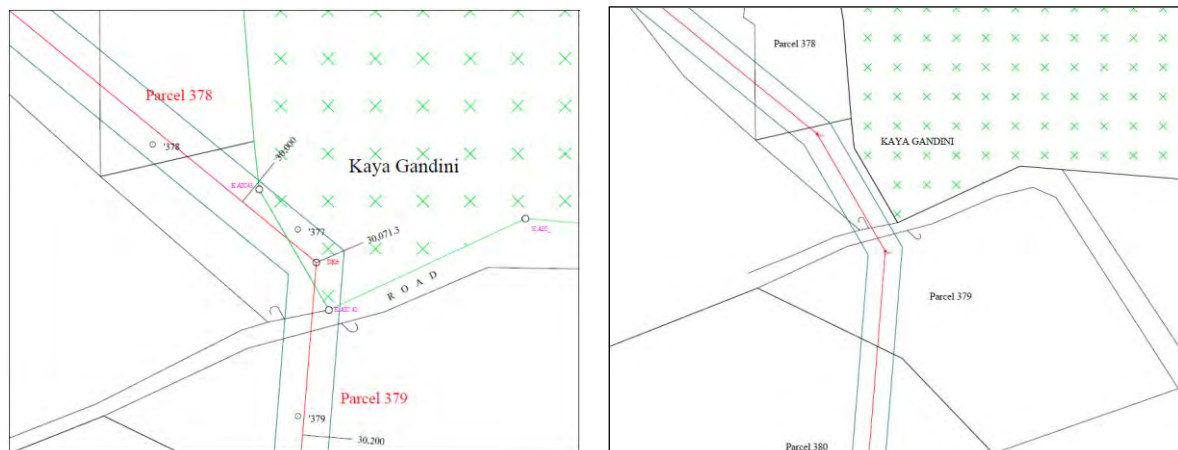
**Table 23: Alternative analysis of route options to avoid Migunemi Primary School**

No	Project Aspect	Option A	Option B
1	Distance	Approx. 8 km	Approx. 8 km
2	Impact on natural environment	Approx. 10 ha of forest clearance is necessary	Approx. 3 ha of forest clearance is necessary
3	Impact on social environment	Less than 10 structures identified along the route	More than 10 structures identified along the route
4	Technical difficulties and other issues	No notable difficulties.	The route crosses the same public road multiple times and also at small angles which needs to be avoided as per KETRACO criteria.
5	Recommended option	Recommended for the following reasons: - Displacement/relocation of homestead/structures will be less than Option B. - No issues on road crossing as in Option B.	Not recommended for the following reasons: - Displacement/relocation of homestead/structures will be greater than Option A. - It requires multiple crossing of the same public road and also crossing at small angles which needs to be avoided as per KETRACO route selection criteria.

The critical difference between Options A and B is that Option B requires multiple crossing of the same public road which needs to be avoided as per KETRACO route selection criteria.

While multiple crossing can be avoided by bending the route at a steeper angle, this will either significantly extend the length of the TL or create more angle points. Therefore, Option A was selected as the suitable option.

After Option A was selected, it was established through field survey that DK6 was touching the edge of Kaya Gandini, which is a gazetted natural monument site. An alternative route to avoid Kaya Gandini was therefore considered. **Figure 21** shows the alignment of the two options. **Table 24** compares the two route options based on natural and social impacts and technical difficulties.



**Figure 21: Alternative route options along Kaya Gandini (Left: kaya affecting route, right: kaya avoiding route)**

**Table 24: Alternative analysis of route option to avoid Kaya Gandini**

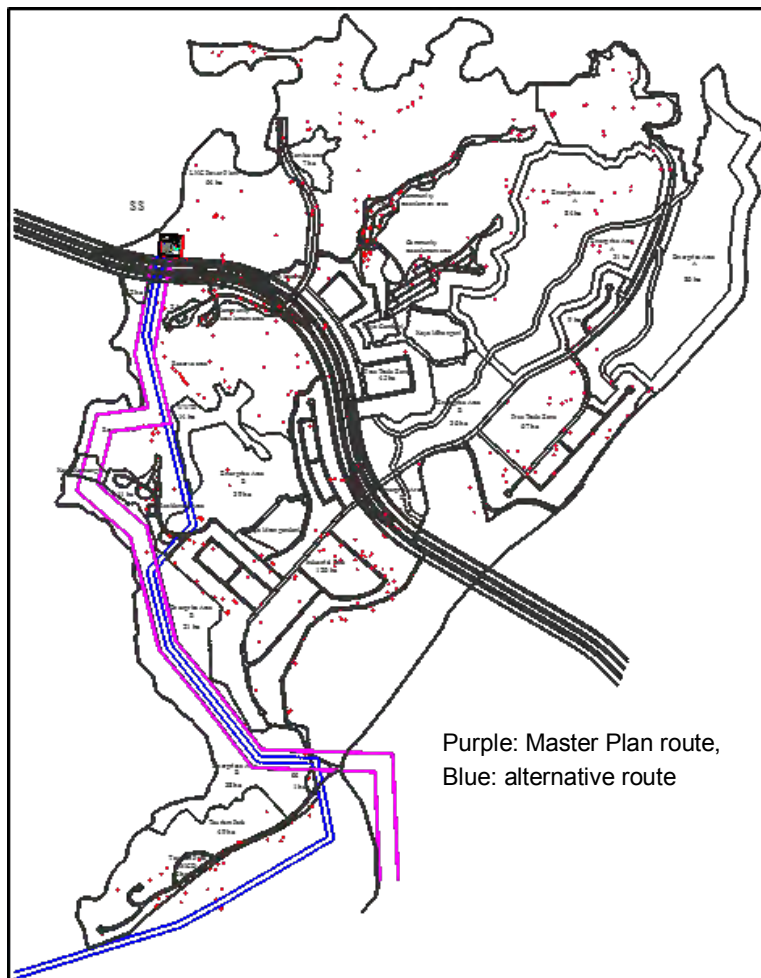
No	Project Aspect	Option A (kaya affecting route)	Option B (kaya avoiding route)
1	Overlapping area with Kaya Gandini	Approx. 0.2 ha	No overlap
2	Impact on natural environment	Some trees inside Kaya Gandini will need to be cut.	Some trees will need to be cut but it will be outside Kaya Gandini.
3	Impact on social environment	<ul style="list-style-type: none"> <li>It will result in partial loss of cultural site used by community.</li> <li>It will occupy more land area than Option B.</li> </ul>	<ul style="list-style-type: none"> <li>It will result in no loss of cultural site used by community.</li> <li>It will occupy less land area than Option A.</li> </ul>
4	Technical difficulties and other issues	No notable difficulties.	Need to install one extra tower but technically not an issue but the cost will increase.
5	Recommended option	Not recommended for the following reasons: <ul style="list-style-type: none"> <li>It will overlap with Kaya Gandini, resulting in loss of trees and cultural site inside Kaya Gandini.</li> </ul>	Recommended for the following reasons: <ul style="list-style-type: none"> <li>Although it will be more costly by installing an extra tower, natural and social impacts are less than Option A and as there will be no technical issues.</li> </ul>

In conclusion, the route to avoid Kaya Gandini (Option B) was selected as natural and social impacts are less than Option A and due to no technical issues.

**(3) Alternative analysis of TL inside Mombasa SEZ area**

The TL route inside SEZ basically follows the route proposed in the Mombasa SEZ Master Plan. However, the route was identified to pass over a kaya (Kaya Kiteje), which socially is not recommended.

Therefore, a new alternative route was considered as shown in **Figure 22**. The alternative route was set in a manner so that it will not affect the planned land use under the Mombasa SEZ Master Plan. **Table 3** shows the results of the alternative analysis. In conclusion, the newly proposed route was analyzed to be the better option, firstly as it avoids the kaya and also due to less number of households in the wayleave, and less number of angle points.



**Figure 22: TL Route alternative**

**Table 25: Alternative Analysis of Route Options inside Mombasa SEZ**

No	Project Aspect	Master Plan route	Alternative route
1	Distance	Approx. 4.3 km	Approx. 4 km
2	Impact on natural environment	TL will pass over Kaya area (Kaya Kiteje) and tall trees inside the Kaya will need to be cut.	Does not pass over Kaya area (Kaya Kiteje avoided) and tall vegetation is limited along the route.
3	Impact on social environment	Four structures identified inside the TL.	One structure identified inside the TL.
4	Technical difficulties and other issues	<ul style="list-style-type: none"> <li>• More angle points than alternative route.</li> <li>• Steeper angle points than alternative route which needs to be avoided as much as possible as per KETRACO criteria.</li> </ul>	Less angle points than Master Plan route.
5	Recommended option	<p>Not recommended for the following reasons:</p> <ul style="list-style-type: none"> <li>- Will pass over Kaya and require cutting of Kaya trees</li> <li>- Displacement/relocation of homestead/structures will be more than alternative route.</li> <li>- More angle points and steeper angle points than alternative route.</li> </ul>	<p>Recommended for the following reasons:</p> <ul style="list-style-type: none"> <li>- Does not pass over Kaya</li> <li>- Displacement/relocation of homestead/structures less than Master Plan route.</li> <li>- Less angle points than Master Plan route.</li> </ul>

## 6 ENVIRONMENTAL AND SOCIAL IMPACTS

### 6.1 ESIA Scoping Exercise

The matrix providing the classification and occurrence of the potential environmental impacts and the actions required during the ESIA Study are outlined in **Table 26** below:

**Table 26: Scoping of Environmental Impacts**

No	Item	Phase	Rating	Rationale	TOR of EIA study
1	Air pollution	C	B-	Construction works may cause air pollution such as through exhaust and fugitive dust emissions from construction vehicles / machines and heavy construction works.	<ul style="list-style-type: none"> <li>Review applicable laws/regulations.</li> <li>Implement baseline air quality survey.</li> <li>Identify construction air pollution sources.</li> <li>Identify sensitive receptors.</li> </ul>
		PC, O	D	There are no notable air pollution sources.	—
2	Water pollution	C	B-	Construction works may pollute surface/ground water through rainwater runoff and discharge of concrete wash water.	<ul style="list-style-type: none"> <li>Review applicable laws/regulations.</li> <li>Implement baseline water quality survey.</li> <li>Collect hydrological information around project area.</li> <li>Identify construction water pollution sources.</li> <li>Identify sensitive receptors.</li> </ul>
		PC, O	D	There are no notable water pollution sources.	—
3	Soil pollution	C	B-	Oil spills and leaks from construction vehicles and machines may cause soil pollution.	<ul style="list-style-type: none"> <li>Review applicable laws/regulations.</li> <li>Implement baseline soil quality survey.</li> <li>Identify construction soil pollution sources.</li> </ul>
		PC, O	D	There are no notable soil pollution sources.	—
4	Waste	PC	B-	Vegetation waste will be generated from forest clearance.	<ul style="list-style-type: none"> <li>Review applicable laws/regulations.</li> <li>Review waste management practices of vegetation wastes.</li> </ul>
		C	B-	Various construction wastes will be generated including excavated soil.	<ul style="list-style-type: none"> <li>Review applicable laws/regulations.</li> <li>Identify type and volume of construction wastes</li> <li>Review waste management facilities.</li> </ul>
		O	B-	Waste will be generated from operation and maintenance activities.	<ul style="list-style-type: none"> <li>Identify type of operation and maintenance wastes</li> <li>Review waste management facilities.</li> </ul>
5	Noise and vibration	C	B-	Heavy construction works and movement of construction vehicles may cause noise and vibration nuisance.	<ul style="list-style-type: none"> <li>Review applicable laws/regulations.</li> <li>Implement baseline noise survey.</li> <li>Identify construction noise/vibration sources.</li> <li>Identify sensitive receptors.</li> </ul>
		PC, O	D	There are no notable noise/vibration sources.	—
6	Ground subsidence	PC, C, O	D	There are no activities that may cause ground subsidence.	—

No	Item	Phase	Rating	Rationale	TOR of EIA study
7	Offensive odor	PC, C, O	D	There are no notable odor sources.	—
8	Bottom sediment	PC, C, O	D	There are no notable sediment pollution sources.	—
9	Conservation area	PC	D	There are no activities that may have adverse impact on conservation areas.	—
		C	B-	Construction works may affect Kaya Gandini and Mwaluganje Forest Reserve.	<ul style="list-style-type: none"> <li>Review applicable laws/regulations.</li> <li>Collect information on Kaya Gandini and Mwaluganje Forest Reserve and consult with kaya elders</li> </ul>
		O	D	There are no activities that may have adverse impact on conservation areas.	—
10	Ecosystem, flora/fauna	PC	B-	Forest along the DK6-DK7 TL corridor will need to be cut.	<ul style="list-style-type: none"> <li>Review applicable laws/regulations.</li> <li>Review existing information and conduct expert interview.</li> <li>Implement flora/fauna survey.</li> <li>Identify presence of threatened species.</li> <li>Estimate area of forest clearance</li> </ul>
		C	B-	Construction works may disturb wildlife along the DK6-DK7 forest area.	<ul style="list-style-type: none"> <li>Review applicable laws/regulations.</li> <li>Review existing information conduct expert interview.</li> <li>Implement flora/fauna survey.</li> <li>Identify type of construction works that may affect wildlife.</li> </ul>
		O	B-	TL generally have risk of bird collision and wildlife electrocution.	<ul style="list-style-type: none"> <li>Review existing information conduct expert interview.</li> <li>Identify wildlife susceptible to collision and electrocution.</li> </ul>
11	Hydrology	PC, C, O	D	While some sections of the TL will cross rivers, adverse impacts on river hydrology are not expected as no structures will be built inside the river.	—
12	Topography	C	D	While the topography at the substation site will change due to cut and fill works, such change is unlikely to entail any impacts.	—

No	Item	Phase	Rating	Rationale	TOR of EIA study
		PC, O	D	There are no activities that may cause alteration of existing topography.	—
13	Involuntary resettlement	PC	B-	Some resettlement will be required but is not expected to be large scale.	<ul style="list-style-type: none"> <li>Review applicable laws/regulations.</li> <li>Review compensation and assistance measures proposed in the RAP.</li> </ul>
		C, O	D	Resettlement will not be required.	—
14	Vulnerable social groups	PC	B-	Vulnerable groups are susceptible to resettlement related impacts.	<ul style="list-style-type: none"> <li>Implement socioeconomic survey and identify vulnerable groups.</li> <li>Review assistance measures proposed in the RAP.</li> </ul>
		C, O	D	There are no activities that may affect vulnerable groups.	—
15	Indigenous/minority people	PC, C, O	C-	Uncertain whether there are any indigenous/minority people	<ul style="list-style-type: none"> <li>Literature review</li> <li>Implement field reconnaissance and interviews</li> </ul>
16	Livelihood, living environment	PC	B-	PAPs may lose income if not appropriately compensated and assisted.	<ul style="list-style-type: none"> <li>Implement socioeconomic survey</li> <li>Identify factors that may result in income reduction.</li> <li>Review assistance measures proposed in the RAP.</li> </ul>
		C	B-	Construction works may restrict some livelihood activities.	<ul style="list-style-type: none"> <li>Implement socioeconomic survey</li> <li>Identify factors that may result in income reduction.</li> <li>Review assistance measures proposed in the RAP.</li> </ul>
		O	D	There are no activities that may affect livelihood activities.	—
17	Land use	PC	B-	Land use at the substation site will change due to land acquisition for substation. There will be some restriction of land use along the TL corridor.	<ul style="list-style-type: none"> <li>Implement socioeconomic survey and identify current land use.</li> </ul>
		C	B-	There will be temporary restriction in land use at the construction site.	<ul style="list-style-type: none"> <li>Implement socioeconomic survey and identify current land use.</li> </ul>
		O	D	There are no activities that will require land use change.	—
18	Local resource	PC, C, O	D	There are no activities that may have adverse impacts on local resources.	—



No	Item	Phase	Rating	Rationale	TOR of EIA study
19	Water use	C	D	No impacts are expected as TL construction (i.e. stringing works) will disturb only a small section of the rivers crossing the TL and will be short-term.	—
		PC, O	D	There are no activities that may affect water use.	—
20	Social infrastructures and services	PC	B-	Social infrastructures along the TL corridor may require relocation.	Implement socioeconomic survey and identify social infrastructures along the TL corridor.
		C	B-	Construction works may temporary affect social infrastructures.	Implement socioeconomic survey and identify social infrastructures along the TL corridor.
		O	D	There are no activities that may have adverse impacts on social infrastructures and services.	—
21	Social institutions	PC, C, O	D	There are no activities that may affect social institution.	—
22	Misdistribution of benefit and losses	PC, C, O	D	There are no activities that may cause misdistribution of benefit and losses.	—
23	Local conflicts of interest	PC, C, O	D	There are no activities that may trigger local conflicts of interests.	—
24	Cultural heritage	PC	B-	Two tree shrines are located inside the TL corridor and may have to be cut.	<ul style="list-style-type: none"> <li>Identify the height of the tree shrine.</li> <li>Consult tree shrine owners.</li> </ul>
		C, O	D	There are no activities that may affect cultural heritage.	—
25	Landscape	PC, C, O	D	The Project will somewhat change the surrounding landscape but such change will not be of any significance because the area of interference of the TL will be minimal and the substation area will become an industrial area under the SEZ.	—
26	Gender	PC	B-	The Project may trigger gender issues due to the patriarchal nature of the society.	Implement socioeconomic survey and identify women HH that may be affected.
		C, O	D	There are no activities that may trigger gender issues.	—
27	Children's rights	C	B-	Construction contractor may exploit children for cheap labor.	<ul style="list-style-type: none"> <li>Review applicable laws/regulations.</li> <li>Review child labour status in Kenya.</li> </ul>

No	Item	Phase	Rating	Rationale	TOR of EIA study
		PC, O	D	There are no activities that may trigger children's rights issues.	—
28	Infectious diseases (HIV/AIDS etc.)	C	B-	There is a certain risk of infectious diseases spreading through influx of construction workers.	<ul style="list-style-type: none"> <li>Review applicable laws/regulations.</li> <li>Assess risk of infectious diseases.</li> </ul>
		PC, O	D	The risk of spreading infectious diseases is low.	—
29	Occupational safety	C, O	B-	There is a certain risk of occupational accidents.	<ul style="list-style-type: none"> <li>Review applicable laws/regulations.</li> <li>Identify high risk works related to TL construction and operation.</li> </ul>
30	Accidents	C	B-	There is a certain risk of accidents (e.g. traffic accidents).	Identify type of works that may cause accidents.
		PC, O	D	The risk of accidents is low.	—
31	Climate change	PC, C, O	B-	Forest clearance along the TL may to some extent enhance global warming through loss of CO <sub>2</sub> storage sources.	Asses impact on climate change by estimating area of forest clearance and consequent loss in carbon storage capacity.

**NB:**

A+/-: Significant positive/negative impact is expected.

B+/-: Positive/negative impact is expected to some extent.

C+/-: Extent of positive/negative impact is unknown.

D: No impact is expected

**Abbreviations**

PC - Pre-construction stage,

C - Construction stage.

O - Operation stage

## 6.2 Potential Positive Impacts

The proposed Mariakani-Dongo Kundu 220kV Transmission Line and substation at Dongo Kundu have notable positive effects that have been identified during this ESIA study. They are included in **Table 27**.

**Table 27: Potential Positive Impacts**

No	Potential Positive Impact	Justification
1.	Supply of adequate power to Special Economic Zone (SEZ)	Make the proposed SEZ realize its objective of attracting investment and developing an industrial and commercial hub in Dongo Kundu area
2.	Availability of affordable power	Facilitate SEZ produce goods and other services at competitive prices for both domestic and export markets
3.	Improvement of income and enhancement of livelihood of project area community	The TL will facilitate SEZ generate job opportunities at Dongo Kundu that will enhance livelihood and economic growth.
4	Enhancement of property value in Dongo Kundu and the surrounding areas	The Transmission Line (TL) will contribute to the appreciation of land and other property within Dongo Kundu and the surrounding areas

## 6.3 Assessment of Potential Negative Impacts and Mitigation Measures

The study has noted that besides the positive effects, there are negative environmental and social implications that are associated with its implementation as highlighted below:

### 6.3.1 Sources of Negative Impacts

The potential sources of negative impacts of the transmission line project include the following:

- **Clearance of Tall Vegetation and Forest** - Clearance of existing vegetation to create the 40m wide Right Of Way (ROW) along the 53km transmission line corridor and to a less extent, the construction of access roads for construction and maintenance;
- **Excavation Activities** - Excavation and disturbance of top soils and geological formation at the proposed substation site and the sites where the pylon bases will be located will cause loosening of the top soil that can easily be blown away or transported by water.
- **Construction Activities** - Construction activities of the proposed transmission line structures and other activities associated with civil works
  - a) Vegetation clearance
  - b) Excavation activities
  - c) Water demand for construction personnel & activities
  - d) Site construction waste generation
  - e) Fugitive dust emission
  - f) Exhaust gas emission from vehicles and machinery
  - g) Noise from construction machinery
- **Displacement of Structures** - Effects of construction activities to human settlement resulting to relocation and resettlement of affected persons
- **Presence of Transmission Lines in Forests:** Presence of Transmission Line in vegetated/forested areas where there are migratory birds and animals that climb structures;
- **Religious and Sacred Sites** – Presence of religious, sacred or cultural sites along the TL corridor (shrines)

- **Steep Slopes within the TL Corridor** – Presence of relatively steep slopes within the TL corridor where construction of pylon bases will take place;
- **Contractor's Construction Camps** – The contractor's camp will accommodate various activities like residential units for caretakers and storage of construction materials that will include fuels, oils and chemicals.
- **Development of Structures in a Natural Environment** – Development of structures that do not conform to the host natural environment.
- **Disruption of socio economic activities** – The project area has some socio-economic activities like growing of commercial plants like cashew nuts, coconuts, mangos, quarrying of building stones etc. which will be disrupted.
- **Disruption of wildlife and migratory bird transitory habitats** – The community forested area of the TL corridor (DK6-DK7) is accessed by elephants when they escape from Mwaluganje Forest Reserve. This rarely happens and if they break the fence, KWS returns them back immediately. Since the area is a community forest, fewer animals and migratory birds use this area.
- **Alteration of Land Use** – The TL will alter land use patterns in the project corridor
- **Working at Heights** – Some of the workers will be working at heights when installing and stringing of conductors and when carrying out maintenance.
- **Greenhouse Effect** – Loss of some forest cover along the TL corridor over a distance of 2.5km
- **Riparian Distance** – There is a requirement that riparian distance from the river water is observed when putting up a development or structure next to a river basin to avoid impacting the river/stream.
- **Increased Water Demand for Construction** – Construction of the Transmission Line infrastructure will require extra supply of water.

### 6.3.2 Assessment of Negative Impacts

The potential negative impacts identified through the scoping exercise (Section 6.1) are predicted and assessed in the ensuing sections. The results of the assessment are rated and summarized in **Table 29**.

#### (1) Air pollution

##### **Construction impacts:**

The main source of air pollution will be exhaust gas and fugitive dust emission especially from heavy construction works (e.g. cut and fill works) at the substation/access road. However, significant impacts are not anticipated as construction activities are temporary and intermittent in character. There may however be certain impacts on the few residential houses located in the vicinity of the construction site especially during dry weather where dust is more readily suspended. Strict air pollution control measure will therefore be required when working near residential houses.

#### (2) Water pollution

##### **Construction impacts:**

Water pollution may occur when large volume of soil from exposed construction areas are eroded and discharged to downstream surface water body via rainwater runoff. Such risk is highest at the substation/access road where soils will be exposed through cut and fill works. According to the catchment map of Mombasa SEZ area, there are no perennial streams in the downstream area. Rainwater runoff will flow through valleys and natural channels and eventually drain towards the extensive mud flat area in Port Reitz as shown in Figure 23.



**Figure 23: Expected passage of rainwater runoff from substation/access road**

Impacts on water quality will likely not be significant for the following reasons:

- Sediment load from rainwater runoff will not increase significantly from present as area of exposed soil is relatively high even as of now.
- The catchment area of the substation/access road is around 100 ha, whereas the area that will be developed for the substation/access road is around 5 ha. The sediment load from the substation/access road is therefore limited compared to the entire catchment area.
- Most of the rainwater from the substation/access road will eventually end-up in the downstream mud flat area. It is likely that most of the sediment will in the process settle before or after discharging to the mud flat area as runoff velocity reduces.

Other sources of water pollution will be concrete wash water which in general has high pH levels. Hence if untreated concrete wash water is discharged it will raise the pH of the receiving water body, but significant impacts are unlikely as it will gradually be neutralized naturally.

### (3) Soil pollution

#### **Construction impacts:**

Oil spill/leaks from construction vehicles/machines and fuel tanks may cause soil pollution. Risk of pollution will be high in case of using old and poorly-maintained vehicles/machines, using maintenance facilities with inadequate pollution control and on-site fueling activities. However, considering that the source of potential oil pollution is limited to construction vehicles/machines and fuel tanks, the extent of soil pollution will be limited to a relatively small area in case of oil spill/leaks events. Therefore, significant impacts are not expected.

### (4) Waste

Wastes will be generated throughout the Project period. As per Environmental Management and Coordination (Waste Management) Regulations 2006, wastes are required to be transported and treated/disposed through NEMA authorized firms.

Non-hazardous wastes are generally disposed at the county’s waste disposal facility. Mombasa has two waste disposal sites namely: Kibarani and Mwakirunge. While Kibarani was closed recently, Mwakirunge is still under operation.

**Pre-construction impacts:**

The main waste during pre-construction will be vegetation remains from forest clearance. However, disposal will not be required as they will be reused locally such as for fuel wood, furniture and building material. Therefore, no impacts are expected.

**Construction impacts:**

During construction, wastes such as excavated soil, packaging material, metal scrap and waste oil will be generated. In terms of volume, excavated soil will be most significant (around 11,600 m<sup>3</sup>), which is the top soil that will be removed during cutting works at the substation/access road. However, since top soil can be reused for other purposes (e.g. agriculture soil), disposal will not be required. Non-hazardous wastes that cannot be reused/recycled will be disposed at the county’s waste disposal sites. In Mombasa there are two waste disposal sites namely Kibarani and Mwakirunge. However, since Kibarani is now closed, wastes from the substation/access site can be disposed only at the Mwakirunge waste disposal site. Due to the limited waste volume, this is not expected to be an issue. Hazardous wastes such as waste oil can be recycled through local NEMA authorized recycling firms. In conclusion, while significant waste impacts are not expected, it will be necessary to consult the county government waste authority when developing the Construction Waste Management Plan (CWMP).

**Operation impacts:**

Wastes during operation stage will be mainly from the substation such as domestic waste from control office and recovered waste oil from oil pits. No significant impacts are expected as the volume of these wastes are limited and can be readily accommodated by the county’s waste disposal site. Hazardous wastes such as waste oil can be recycled through NEMA authorized recycling firms. Therefore, significant waste impacts are not expected.

**(5) Noise**

**Construction impacts:**

The main noise sources will be from construction vehicles/machines especially from pile driving works at the substation and TL towers. Noise impacts of pile driving works was predicted by assuming the use of hydraulic pile-driver, which has a source noise level of 108 dB (Sarsby R.W, 2000). Noise attenuation was calculated using the following standard noise attenuation formula:

$$LA_{eq} = LA_w - 8 - 20 \times \log_{10} r$$

LA<sub>eq</sub> : Equivalent continuous A-weighted sound pressure Level

LA<sub>w</sub> : Source power level

Distance from source

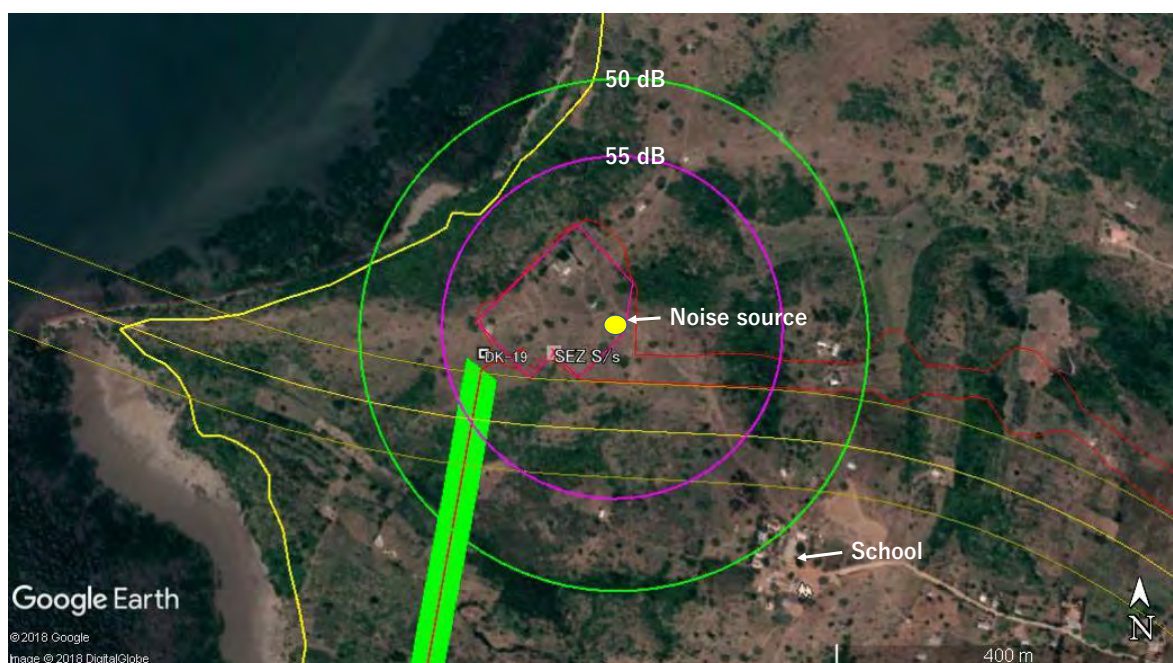
Table 28 shows the prediction results.

**Table 28: Predicted noise attenuation of hydraulic pile-driver**

	Distance from noise source (m)								
	10	20	50	100	150	200	250	300	350
Noise level (dB)	80	74	66	60	57	54	52	51	49

According to the prediction, noise from pile driving works will attenuate to around the same level as the Kenyan noise standard of 50 dB (residential daytime) at a distance of around 300 m. If compared with WHO guideline value (55 dB), noise level will attenuate below the guideline value at a distance of around 200 m.

In the case of substation, there will be some impacts within the 300 m to 200 m zone as there are several residential houses and a school located in the area as shown in Figure 24 (few residential houses that exist in the 0-200 m zone will not be present in the construction stage due to resettlement). While this may cause some nuisance to the residents and school, impacts are not significant considering that the level of exceedance is relatively minor and the fact that the duration of pile-driving works will be limited to few months. The noise level however could be slightly elevated than the prediction if vehicle noise from the Southern Bypass Road are high.



**Figure 24: Predicted noise attenuation from pile-driving works**

Similar noise levels will be experienced during the construction of the TL towers but impacts will be less, as pile-driving works will be of much shorter duration (i.e. 1-2 weeks).

## (6) Vibration

### Construction impacts:

The main source of vibration will be from pile driving works at the substation and TL towers. According to the manual of “Japanese Technical Association for Steel Pipe Piles and Sheet Piles”, vibration levels of hydraulic pile-driver will in general attenuate to below 75 dB (construction site-boundary vibration standard of Japan) after 25 m. No impacts are expected for the substation site as there are no structure within such distance. There may be certain impacts at the TL tower sites in case there are any structures within the 25 m radius. It is therefore recommended to place the TL towers in an area that can maintain a distance of least over 25 m from the nearest structure.

## (7) Protected area

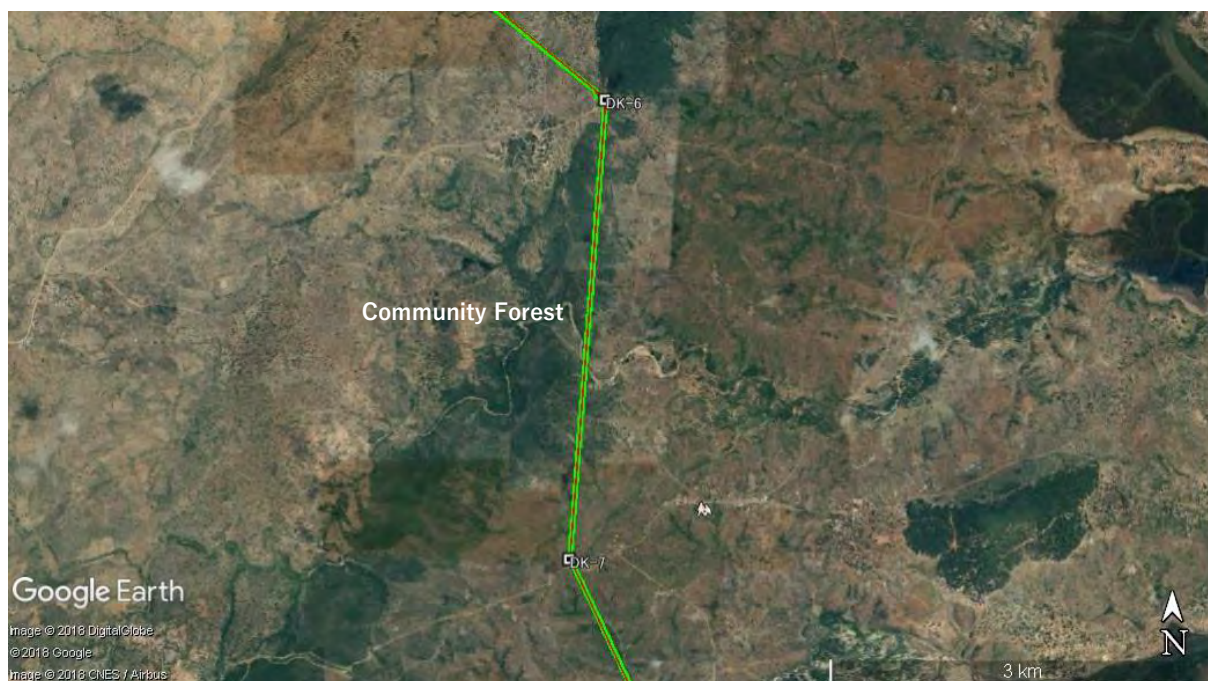
### Construction impacts:

There are four protected areas around the TL route namely: Kaya Gandini, Mwaluganje Forest Reserve, Shimba Hills National Reserve and Kaya Kiteje. Apart from Kaya Gandini, TL construction works will not affect the protected areas as it does involve any activities where impacts can reach over long distances (only tower erection and stringing works). On the other hand, Kaya Gandini may be susceptible to impacts of TL construction works (e.g. noise) due to its proximity to the TL (distance between the edge of Kaya and centre of TL is around 30 m). However, impacts will not be significant as construction will only last for around 1 month in the area.

## (8) Ecosystem

### Pre-construction impacts:

The TL passes through a community forest between the DK6-7 area over a distance of around 2,500 m (see **Figure 25**). Consequently, as per KETRACO policy, the forest trees inside the TL corridor that are or may grow to heights above 12 feet<sup>1</sup> will need to be cut down, which will lead to some degradation and fragmentation of forest habitat. The affected forest area will be around 5 ha (2,500 m x 20 m)<sup>2</sup>, resulting in cutting of around 500 trees.



**Figure 25: Community forest area between DK6-7 TL corridor**

The forest area along the DK6-7 were studied through field surveys and interviews. The main findings are summarized as follows:

<sup>1</sup> According to KETRACO policy, trees inside the TL corridor that may grow beyond 12 ft in height at maturity must be cleared.

<sup>2</sup> To minimize tree cutting, KETRACO will only cut the trees within the 20 m width of the TL corridor instead of the entire 40 m wayleave. Hence the extent of forest tree clearance will be 2,500 m x 20 m = 5 ha.



- A total of 15 tree species were identified consisting of cash crops (e.g. mango and coconut trees) and common indigenous trees (e.g. *Brachystegia spiciformis*, *Bridelia micrantha*, *Cassia abbreviate*). None of the identified trees are classified as nationally or IUCN threatened species.
- As the area lies along the forest edge, tree cover was relatively low and often fragmented compared to the denser inner forest area. Therefore, it can be considered that the TL will have limited fragmentation impacts.
- Apart from some common bird species such as Pied crow, Rock Dove and Willow Warbler, no notable fauna were identified in the area. Threatened bird species such as Spotted Ground-trush and Sokole Pipet that inhabit the nearby Kaya Gandini were also non-existent. This may be because forest birds tend to avoid forest edge where they are more prone to predation.
- According to KWS, the forest area was occasionally visited by elephants, baboons and wild pigs from the surrounding protected areas. However, presence of these animals are now very rare due to fencing of the protected areas and frequent usage by the local community resulting in forest degradation. It was however mentioned that there is risk of electrocution by climbing baboons and hence need for some prevention measures.

Based on the above findings, it can be considered that the affected forest area is not a critical habitat and therefore it is unlikely that forest clearance will have any significant ecological impacts. Nevertheless to mitigate the impacts, KETRACO plans to conduct tree planting in cooperation with KFS and local community.

#### **Construction impacts:**

Construction of the TL along the DK6-DK7 area may disturb wildlife in the forest area mainly through noise and presence of labor force. However, impact will not be significant as TL construction will be short-term (i.e. 1-2 months) and will not involve large labor force (around 20 workers).

#### **Operation impacts:**

There are certain risks that migratory birds will be killed or injured through collision with TL. Information on migratory birds were therefore collected through expert interview and literature review. The main findings are summarized as follows:

- According to National Museums of Kenya publication, around 21% of birds (229 species) in Kenya are migratory, in which around half are waterbirds. These migratory birds use the Rift Valley, coast, eastern bushlands, central and western grasslands as their flyway. In the coast, beaches, reefs and mangrove creeks are used by the migratory birds.
- According to BirdLife International website, vast numbers of Common cuckoo (*Cuculus canorus*) and Golden orioles (*Oriolus oriolus*) visit Shimba Hills National Reserve.
- According to Nature Kenya expert, the threatened Spotted Ground-thrush found in Kaya Gandini and Shimba Hills breed in the forest in south of Tanzania, then migrate to south coast of Kenya from March to November. Other notable migratory species in the area are European Honey-buzzard, European Bee-eater and White-throated Bee-eater, which none are threatened species.

Based on the above findings, it can be considered that there is some risk of bird collision as the TL is relatively close to migratory bird flyway (e.g. coastal and mangrove areas) and also the forest habitat for Spotted Ground-thrush.

Residential forest birds may also be at risk as they fly between forest areas. In conclusion, the risk of bird collision is considered highest between DK5-DK19 area.

## (9) Resettlement

### Pre-construction impacts:

As per RAP study, the Project will result in displacement of 16 households (89 PAPs) and relocation of 60 households (403 PAPs). Impact is considered significant as more than 200 PAPs will require resettlement.

## (10) Vulnerable social groups

### Pre-construction impacts:

Within the PAPs, there are 198 household heads (HH) classified as vulnerable due to being ill, paralyzed, poor, women and so on. Within the 198 HH, 136 HH are classified as poor either not having any regular income or having monthly income of less than 3,000 KES. These PAPs will be vulnerable to resettlement related impacts especially as they often have limited financial resources to cope during the transition period.

## (11) Indigenous/minority people

The majority of people living around the Project area belong to the Mijikenda tribe, which is not considered as indigenous/minority people. No indigenous/minority people were identified along the Project corridor, hence impact on indigenous/minority people are not expected.

## (12) Livelihood, living environment

### Pre-construction impacts:

Land acquisition/easement will mainly have the following impacts on livelihood:

- Loss of income from agriculture activities at the substation/access road site
- Loss of income from cash crops (e.g. mango trees) that requires cutting
- Loss of income from small-scale business (kiosk, quarry, Posho mill) operating in the TL corridor

Impacts should not be significant as for the following reasons:

- Agriculture activities at the substation/access road site is limited
- Felled trees are left for the owner to use, which can be sold.
- Affected small-scale business can be readily relocated and operated at another nearby area

### Construction impacts:

Livelihood activities such as farming will be temporary restricted at the TL construction sites (e.g. tower construction site, temporary construction yard). However, impacts will not be significant as construction works will be spatially limited and short-term (around 1-2 months), and activities can be resumed after construction is completed.

## (13) Land use

### Pre-construction impacts:

The substation/access road site is currently a rural residential area with some farming and livestock rearing activities. Such land use will no longer be possible in this area, but impacts are not significant as the extent of land use alteration is not large scale. There will be no major change in land use along the TL corridor except for certain restrictions such as prohibition of building structures. Impact on land use is overall considered not significant.

**Construction impacts:**

There will be temporary restriction in land use at the construction site (e.g. tower construction site, temporary construction yard). However, impact is not significant as such restriction will be spatially limited and short-term.

**(14) Social infrastructure and services**

**Pre-construction impacts:**

The TL corridor will pass through part of Kiteje Secondary School land parcel which is currently vacant with only few trees, but the area was earmarked for future expansion of school infrastructure. Hence the TL will affect to a certain extent future school operation.

**Construction impacts:**

The TL will cross several roads including Mombasa Road (A109), Southern Bypass Road and other rural roads. Although the use of these roads will be restricted during the stringing process, such restrictions will only be for few hours. The TL also crosses the Mombasa-Nairobi Standard Gauge Railway, but it will not have any impacts as necessary stringing works can be completed within the non-operating hours. Part of Kiteje Secondary School land parcel will be restricted for use during TL construction works but will not hinder school activities as the area is vacant and will only be of short duration.

**(15) Cultural heritage**

**Pre-construction impacts:**

There are two tree shrines located inside the TL corridor. As per KETRACO policy, these trees need to be cut as they are higher than 12 ft. This will deprive the community a place of worship, but it will only be temporary as a tree shrine transfer ceremony can be conducted to transfer the holy powers of the shrine from one tree to another designated tree/object. The trees owners have been consulted and agreed and have provided the requirements for carrying out the shrine tree transfer ceremony. Impacts are therefore not significant.

Note: The TL route will be reconsidered in the detailed design stage for possible options to avoid the shrine trees. If not possible, KETRACO will assist the shrine tree transfer ceremony.

**(16) Gender**

**Pre-construction impacts:**

Within the PAPs, 136 household heads are women. Due to the patriarchal nature of the society, and the fact that most are widows who have limited educational background they will be more vulnerable to resettlement related impacts.

**(17) Children's right**

**Construction impacts:**

Since child labour is relatively common in Kenya, there is a possibility that underage children can be exploited for construction works. Also the majority of the households in the project area have low income levels hence there will be tendency for underage children to look for jobs to help their families.

Kenya is a signatory of ILO Minimum Age Convention 1973 and regulates child labour under the Employment Act as follows:

- Definition of child is a person who has not attained the age of eighteen years (Article 2)
- No person shall employ children under 13 years of age (Article 56).
- Light work is permitted for children between 13 to 16 years of age under certain conditions (Article 56)
- Children between 13 to 16 years of age are restricted to attend machinery (Article 58)
- No person shall employ a child in any opencast workings or sub-surface workings (Article 58)

The Act is consistent with the Minimum Age Convention for light work but does not set any age limits for potentially hazardous works (except machinery and mining), which is set as above 18 years under the Minimum Age Convention. Therefore, there is a certain possibility that children under 18 years can be employed for hazardous construction works. Furthermore, underage children may also be unintentionally employed as children may not have official documents to prove their age. It is therefore important to confirm the candidate's age through local government offices or other means.

### **(18) Infectious diseases**

#### **Construction impacts:**

According to Mombasa County AIDS Strategic Plan 2016-2020, the HIV prevalence rate in Mombasa County is 7.4% (year 2014), which is higher than the national average of 5.6%. HIV prevalence rate is higher with women (10.5%) than men (4.5%). According to Kwale County AIDS Strategic Plan 2016-2019, the HIV prevalence rate in Kwale County is 5.7% (year 2014). Kilifi County AIDS Strategic Plan 2016-2020, the HIV prevalence rate in Kilifi County is 4.4% (NASCOP 2014). HIV patients are relatively high with sex workers, drug users and so on. Considering such situation, there are certain risks that incoming construction workers can become infected by HIV as well as spreading HIV.

### **(19) Occupational safety**

#### **Construction impacts:**

There is a moderate risk of occupational accidents such as falling from height during tower construction, falling into excavation pits and machine operation.

#### **Operation impacts:**

There is a moderate risk of occupational accidents such as electrocution during maintenance work.

### **(20) Accidents**

#### **Construction impacts:**

There is a moderate risk of accidents such as by movement of construction vehicles along public access roads. Risks will be high along commuting roads used by children and intersection with busy roads.

### **(21) Climate change**

TL construction will result in loss of around 5 ha of forest cover. Carbon stock in Kenya forest is estimated at 137 ton per hectare (FAO 2010). Therefore, loss of 5 ha of forest can be roughly estimated to result in reduction of 685 tonnes of carbon stock. This is equivalent to only around 0.00014% of the total forest carbon stock of Kenya, which is 476 million tonnes (FAO 2010). Kenya's NDC under the Paris Agreement aims to increase tree cover to at least 10% of the total land area.

While forest loss from this Project will somewhat hinder in achieving this goal, it will only be a minor negative contribution as the current forest area is 3.467 million ha (FAO 2010). To mitigate the impacts, KETRACO plans to conduct tree planting in cooperation with KFS and local community.

**Table 29: Assessment of Potential Negative Impacts**

No	Item	Rating of scoping			Rating after impact assessment			Rationale
		PC	C	O	PC	C	O	
1	Air pollution	D	B-	D	D	B-	D	<p><b>[Construction]</b> The main source of air pollution will be exhaust gas and fugitive dust emission from heavy construction works at the substation/access road. However, significant impacts are not anticipated as construction activities are temporary and intermittent in character. There may however be certain impacts on the few residential houses located in the vicinity of the construction site especially during dry weather where dust is more readily suspended.</p>
2	Water pollution	D	B-	D	D	B-	D	<p><b>[Construction]</b> Sediment-laden rainwater runoff from substation/access road may pollute downstream surface waters. Significant impacts are not expected mainly due to the limited area of the substation/access road in comparison to the catchment area and the fact that most of the sediment will likely settle before or after discharging to the receiving area (mud flat area in Port Reitz) as runoff velocity reduces.</p> <p>Uncontrolled discharge of concrete wash water may temporarily pollute the receiving water body as concrete wash water often has elevated pH levels. Impacts however will not be significant as pH will be gradually neutralized.</p>
3	Soil pollution	D	B-	D	D	B-	D	<p><b>[Construction]</b> Oil spill/leaks from construction vehicles/machines and fuel tanks may cause soil pollution. Significant impacts are not expected as the magnitude of oil spill/leaks if it occurs will be limited to a relatively small area.</p>
4	Waste	B-	B-	B-	D	B-	B-	<p><b>[Pre-construction]</b> Felled trees will be generated from forest clearance. However, impacts are not expected as these can be reused for other beneficial purposes by the local community (e.g. fuel, building material, furniture).</p> <p><b>[Construction]</b> Significant impacts are not expected as construction wastes can be readily accommodated by the county's municipal waste disposal site or recycled through NEMA authorized recycling firms such as for waste oil.</p> <p><b>[Operation]</b> Significant impacts are not expected as operation wastes can be readily accommodated by the county's municipal waste disposal site or recycled through NEMA authorized recycling firms such as for waste oil.</p>

No	Item	Rating of scoping			Rating after impact assessment			Rationale
		PC	C	O	PC	C	O	
5	Noise/ vibration	D	B-	D	D	B-	D	<p><b>[Construction]</b>  <b>Noise:</b>                      The main source of noise will be from pile driving works at substation and TL tower. According to the noise impact prediction, noise from pile driving works will attenuate to around the same level as the Kenyan noise standard of 50 dB (residential day-time) at a distance of 300 m. Since there are several houses and a school within this 300m zone, pile driving works may cause some nuisance to the residents and school. However, impacts are not significant considering that the level of exceedance is relatively minor and the fact that the duration of pile-driving works will be limited to few months. Similar noise levels will be experienced during the construction of the TL towers but impacts will be less, as pile-driving works will be of much shorter duration (i.e. 1-2 weeks).</p> <p><b>Vibration:</b>                      The main source of vibration will be from pile driving works at the substation and TL tower. According to existing literature, in case of hydraulic pile-driver, vibration levels will in general attenuate to below 75 dB (construction site-boundary vibration standard of Japan) after 25 m. No impacts are expected for the substation site as there are no structure within such distance. There may be certain impacts at the TL tower sites in case there any structures nearby.</p>
6	Conservation areas	D	B-	D	D	B-	D	<p><b>[Construction]</b>                      Kaya Gandini may be susceptible to impacts of TL construction works (e.g. noise) due to its proximity to the TL. However, impacts will not be significant as construction will only last for around 1 month in the area.</p>
7	Ecosystem, flora/fauna	B-	B-	B-	B-	B-	B-	<p><b>[Pre-construction]</b>                      Around 5 ha of forest area (around 500 trees) will be cleared specifically the community forest area between DK6-DK7, inevitably resulting in some degradation and fragmentation of forest habitat. However, impact of forest clearance is considered not significant as trees are either common cash crops or common indigenous trees with no conservation status and no endangered fauna was identified. Also forest clearance will mainly be along the forest edge where tree cover was relatively low, hence fragmentation will be limited.</p> <p><b>[Construction]</b>                      Construction of the TL along the DK6-DK7 area may disturb wildlife in the forest area mainly through noise and presence of labor force. However, impact will not be significant as TL construction will be short-term (i.e. 1-2 months) and will not involve large labor force.</p> <p><b>[Operation]</b>                      Birds can be killed or injured through collision with TL. The risk of bird collision is considered highest between DK5-DK19 area where the TL passes near forest and mangrove areas.</p>

No	Item	Rating of scoping			Rating after impact assessment			Rationale
		PC	C	O	PC	C	O	
8	Involuntary resettlement	B-	D	D	A-	D	D	<b>[Pre-construction]</b> The Project will result in displacement of 16 households (89 PAPs) and relocation of 60 households (403 PAPs). Impact is considered significant as more than 200 PAPs will require resettlement.
9	Vulnerable social groups	B-	D	D	B-	D	D	<b>[Pre-construction]</b> There are 198 household heads (HH) classified as vulnerable and 136 HH are classified as poor since they do not have regular income or have a monthly income of less than 3,000 KES. These HH will be vulnerable to resettlement related impacts especially as they often have limited financial resources to cope during the transition period.
10	Indigenous/m minority people	C-	C-	C-	D	D	D	No indigenous/minority people were identified along the Project corridor, hence impact on indigenous/minority people are not expected.
11	Livelihood, living environment	B-	B-	D	B-	B-	D	<b>[Pre-construction]</b> Land acquisition/easement will mainly have the following impacts on livelihood: <ul style="list-style-type: none"> <li>• Loss of income from agriculture activities at the substation/access road site</li> <li>• Loss of income from cash crops (e.g. mango trees) that requires cutting</li> <li>• Loss of income from small-scale business (kiosk, quarry, Posho mill) operating in the TL corridor</li> </ul> Impacts should not be significant as for the following reasons: <ul style="list-style-type: none"> <li>• Agriculture activities at the substation/access road site is limited</li> <li>• Felled trees are left for the owner to use, which can be sold.</li> <li>• Affected small-scale business can be readily relocated and operated at another nearby area</li> </ul> <b>[Construction]</b> Livelihood activities such as farming will be temporarily restricted at the TL construction sites. However, impacts will not be significant as construction works will be spatially limited and short-term, and activities can be resumed after construction is completed.



No	Item	Rating of scoping			Rating after impact assessment			Rationale
		PC	C	O	PC	C	O	
12	Land use	B-	B-	D	B-	B-	D	<p><b>[Pre-construction]</b> The substation/access road site is currently a rural residential area with some farming and livestock rearing activities. Such land use will no longer be possible in this area, but impacts are not significant as the extent of land use alteration is not significant. There will be no major change in land use along the TL corridor except for certain restrictions such as prohibition of building structures. Impact on land use is overall considered not significant.</p> <p><b>[Construction]</b> There will be temporary restriction in land use at the construction site. However, impact is not significant as such restriction will be spatially limited and short-term.</p>
13	Social infrastructure and services	B-	B-	D	B-	B-	D	<p><b>[Pre-construction]</b> The TL corridor will pass through part of Kiteje Secondary School land parcel which is currently vacant with only few trees, but the area was earmarked for future expansion of school infrastructure. Hence the TL will affect to a certain extent future school operation.</p> <p><b>[Construction]</b> The TL will cross several roads. Although the use of these roads will be restricted during the stringing process, such restrictions will only be for few hours. The TL also crosses the Mombasa-Nairobi Standard Gauge Railway, but it will not have any impacts as necessary stringing works can be completed within the non-operating hours. Part of Kiteje Secondary School land parcel will be restricted for use during TL construction works but will not hinder school activities as the area is vacant and will only be of short duration. Impact is overall considered not significant.</p>
14	Cultural heritage	B-	D	D	B-	D	D	<p><b>[Pre-construction]</b> Two tree shrines are located inside the TL corridor, which need to be cut as they are higher than 12ft. This will deprive the community a place of worship, but it will only be temporary as a tree shrine transfer ceremony can be conducted to transfer the holy powers of the shrine from one tree to another designated tree/object. Impacts are therefore not significant.</p>
15	Gender	B-	D	D	B-	D	D	<p><b>[Pre-construction]</b> Within the PAPs, 136 household heads are women. Due to the patriarchal nature of the society, and the fact that most are widows who have limited educational background they will be more vulnerable to resettlement related impacts.</p>

No	Item	Rating of scoping			Rating after impact assessment			Rationale
		PC	C	O	PC	C	O	
16	Children's right	D	B-	D	D	B-	D	<b>[Construction]</b> Since child labour is relatively common in Kenya, there is a certain possibility that underage children can be exploited for construction works. Majority of the households in the project area have low income levels hence there will be tendency for children to look for jobs to help their families. Impact is not significant providing the Construction Contractor complies with the Kenyan regulations and as necessary the Minimum Age Convention.
17	Infectious diseases (HIV/AIDS etc.)	D	B-	D	D	B-	D	<b>[Construction]</b> Around 20-40 construction workers will be present during construction. Since the Project area has relatively high rate of HIV prevalence, there are certain risks of spreading infectious diseases.
18	Occupational safety	D	B-	B-	D	B-	B-	<b>[Construction]</b> There is a moderate risk of occupational accidents such as falling from height during tower construction, falling into excavation pits and machine operation. <b>[Operation]</b> There is a moderate risk of occupational accidents such as electrocution during maintenance work.
19	Accidents	D	B-	D	D	B-	D	<b>[Construction]</b> There is a moderate risk of accidents such as by movement of construction vehicles along public access roads.
20	Climate change	B-	B-	B-	D	D	D	TL construction will result in loss of around 5 ha of forest cover. Impact on climate change is negligible as such loss of forest cover will have minimal impacts on carbon stock and forest area.

## 6.4 Resettlement Issues

The proposed Mariakani – Dongo Kundu 220kV Transmission Line will occupy a corridor of 40m wide from Mariakani to Dongo Kundu covering 53km. The area that will be occupied by the Transmission line will be 502.19 acres. This will be under easement. The substation/access road will occupy around 17.52 acres. The substation/access road land will be fully acquired by KETRACO. All persons occupying the identified transmission line corridor and substation will be relocated elsewhere to give way for the project. There will be need to carry out resettlement as a result of the project.

### 6.4.1 Transmission Line Easement and Substation Land Acquisition

#### Transmission Line (Easement)

An easement conveys limited rights to KETRACO for a specified use (installation and maintenance of Power Transmission Lines) while the property owner retains the land for other uses within the 40-metre wide wayleave corridor along the entire 53 km. The acquired wayleave corridor for the TL will be under easement by KETRACO where:

- The wayleave corridor may be used for all other purposes except construction of structures and planting of trees which can grow to a height exceeding 12 feet high;
- KETRACO shall pay compensation for loss of use of the wayleave area at 30% upwards of the current cost of the land depending on the magnitude of the impact;
- The encumbered part of the land for the wayleave will still remain the property of the land owner.

#### Substation/access road (Acquisition)

The land that will be used to develop the substation/access road in Dongo-Kundu will be permanently acquired and compensated.

### 6.4.2 Affected Persons and Property

A RAP Study was commissioned to carry out detailed census survey to determine affected persons/homesteads. All affected assets including land structures, Trees, Crops and businesses have been determined and valued for compensation and resettlement.

**Table 30** provides a summary of affected persons and assets.

**Table 30: Impacts on Human Settlements and Assets**

No	Description	Units	Quantity
1	Household Heads	Number	598
2	Project Affected Persons (PAPs)	Number	3,849
3	Land Parcels	Number	565
4	Land Parcels	Total Area in acres	519.71
5	Structures	Number	280
6	Business	Number	3
7	Trees	Number	11,908
8	Crops	Units	9,267
9	PAPs to be relocated	Number	403
10	PAPs for displacement	Number	89

### 6.4.3 Structure and Role of the PAP Committee

PAP Committees have been setup in each of the 9 locations touched by the project. These are Mariakani, Mwavumbo, Mwatate, Mtaa, Kasemeni, Gandini, Mbunguni, Ng'ombeni and Mtongwe Locations.

### Structure of PAP Committee

PAP Committees have been initiated to ensure a timely execution of the whole resettlement process. The committee consists of the following representatives:

1. Youth
2. Men
3. Women
4. Vulnerable Persons
5. County Government (Important Departments)
6. National Government.

### Role of the PAP Committee

The committee's role will include:

- Receiving of any complaints/grievances from PAPs and registering them.
- Resolving of resettlement and compensation issues,
- Ensuring promotion of avenues to address grievances
- Ensuring continuous communication between the PAPs, project proponent (KETRACO) and other stakeholders.

Members of the PAP Committees were elected during the PAP Consultation Meetings held between Monday 23 April – Friday 27 April, 2018. The committee will operate at the location level but base their offices at Kaloleni, Kinango, Matuga and Likoni which are the subcounty headquarters that have several Government Offices.

#### 6.4.4 Summary Cost of the Land and Other Assets

**Table 31** gives the estimate of the amount that will be used to compensate affected persons for loss of land and assets and also facilitate relocation and resettlement.

**Table 31: Cost of Affected Land Assets**

No.	Property	Total Amount (KShs)
1	Land	173,137,125
2	Structures	50,181,343
3	Business	229,500
4	Trees	26,513,305
5	Crops	2,220,975
<b>Total (KShs)</b>		<b>252,282,248</b>
Provision for Assistance to Vulnerable Persons		64,649,350
Monitoring and Evaluation		55,330,000
<b>Gross Total (KShs)</b>		<b>372,261,598</b>
Contingency (10% of Gross Total)		37,226,160
<b>Grand Total (KShs)</b>		<b>409,487,758</b>

Details of the affected persons and resettlement plan is provided in a separate RAP Report (**Resettlement Action Plan Study for the Power Supply Component of the Mombasa SEZ Development Project**)

## 7 PUBLIC CONSULTATION AND PARTICIPATION

Public Consultation and Participation was carried out at different levels and with different stakeholders at the following levels:

1. Initial Key Stakeholder Meetings
2. Sensitization Meetings
3. Consultations with KFS, KWS , NMK and NGOs
4. Consultation with the Project Corridor Community
5. PAP Consultation Meetings
6. Key Stakeholder Questionnaires
7. Public Consultation Meetings

### 7.1 Initial Key Stakeholder Meetings

Initial Key Stakeholder Meetings were convened where the Study team met the leadership in Mombasa, Kilifi and Kwale Counties. The meetings took place from Tuesday July 4, 2017 – Friday July 7, 2017. The main aim of conducting these initial meetings are as follows:

- To inform the project area leadership about the project (transmission line and associated substation in Dongo Kundu).
- Seek the support of the leadership during the implementation of the ESIA and RAP Studies
- Get their views and guidance as the team plans to carry out Sensitization meetings

A list of dates and venues of the Initial Stakeholder Meetings are given in **Table 32** while minutes and attendance registers are provided in **Annex 4**. Summary of the results of the Key Stakeholder Meetings are given below:

#### **County Commissioner of Mombasa:**

- Office will support the project
- Officers within the project area will be mobilized to offer any required support

#### **Governor's Office – Mombasa County**

- There has been an increase in squatters in the area earmarked for the SEZ. This is speculative in nature. This is the main problem anticipated in the project area
- The Dongo Kundu area also has fragile marine ecosystem that needs to be protected
- Majority of the population derive their livelihood from fishing.
- There are fishermen that were previously displaced by KPA. The fishermen PAPs and the County Government however felt that the compensation that was paid was not satisfactory
- KPA is a key stakeholder and therefore there is need to actively engage them
- Sensitization and consultation will be continuous
- There is a tag of war between KPA & PAPs who jointly claim ownership of SEZ land
- JICA and GOK need to protect the buffer zone around SEZ
- Land Policy in Kenya has a specific chapter on the Coastal Province. Land ownership in the 7 former provinces is by Title deed but not in the Coast province
- The Governor's Office will offer support to the project.

**Governor's Office – Kilifi County**

- One of the officers indicated that in a previous KETRACO project, money meant for certain PAPs was paid to the wrong people in Shangilia area in Mariakani. The procedure for compensation was clarified by a KETRACO Officer.
- The Governor's Office offered to support the project

**Matuga Sub-County Kwale County**

- There could be possible incitement of the PAPs from other quarters.
- Members of the public & PAPs are anticipated to co-operative with the survey team
- Compensation packages especially the amount payable per acre may upset the locals if not involved and hence not satisfied
- Land issues will depend on the approach by the survey/ RAP team
- There is lack of Title deeds in some areas which can be difficult
- Where the land is adjudicated and Title Deeds issued; it will be straight forward
- Contacts of many chiefs and locational boundary along the corridor of the transmission line were provided to the study team.
- An officer mentioned that in some areas, chiefs aren't trusted enough by locals so the team should work with both County Government and National Government Officers on the ground
- The main means of livelihood in Kinango is subsistence farming and pastoralism since the area is semi-arid.
- Officers from the sub-County Office offered to support the project activities

**Kaloleni Sub-County – Kilifi County**

- There is approx. 7,500 acres of land at the Mariakini substation where there is a legal tussle between the registered land owner and others who have settled on it
- The DCC requested that there should be transparency and involvement of the local leaders in the entire RAP process
- Local people are generally friendly and like to be listened to
- There are no sacred sites in Mariakani
- Duruma are the majority in population followed by Giriama
- Commonly used radio stations are Bahari and Kaya FM
- Officers from the sub-County Office offered to support the project activities

**Likoni Sub-County - Mombasa County**

- At least 10 days' notice is required to organize for a public meeting in Dongo Kundu
- KPA has at least 3 Title Deeds and the community occupying this land knows this
- At least 2 RAPs have been done; One by KeNHA for the Dongo Kundu bypass and the SEZ RAP. Therefore, this will be the 3<sup>rd</sup> RAP and the RAP team will need to make the affected community understand that this is not a new RAP
- The Team needs to be careful with words during the meetings and the field survey
- The team should avoid answering questions on land
- Officers from the sub-County Office offered to support the project activities

**Table 32: Initial Key Stakeholder Meetings**

No	Date	Project Implementers & Consultants	County	Key Stakeholders	Meeting Venue	Time
1	Tuesday July 4, 2017	Representatives of KETRACO, JICA and Panafcon	Mombasa	Mombasa County Commissioner	Mombasa County Commissioner's Office on Mama Ngina Drive	8.30am–9.30am
2	Tuesday July 4, 2017	Representatives of KETRACO, JICA and Panafcon	Mombasa	Mombasa County Secretary	County Secretary's Office located at the Mombasa County Government Offices Near Mombasa Hospital	10.00am–12.00 Noon
3	Tuesday July 4, 2017	Representatives of KETRACO, JICA and Panafcon	Kilifi	Kilifi County Governor	Governor's Office at the Kilifi County Government's Offices Near Huduma Centre in Kilifi Town	02.00pm–03.00 pm
4	Wednesday July 5, 2017	Representatives of KETRACO, JICA and Panafcon	Kwale	Matuga Sub-County Commissioner/ Governor	Cultural Centre Board Room in Kwale Town	10.00am-11.30am
5	Thursday July 6, 2017	Representatives of KETRACO, JICA and Panafcon	Kilifi	Deputy County Commissioner, Kaloleni	Deputy County Commissioner's Office, Kaloleni Sub County Office in Kizurini; Kaloleni	09/00am-11.00am
6	Thursday July 6, 2017	Representatives of KETRACO, JICA and Panafcon	Mombasa	Likoni Sub County Deputy Commissioner/ Governor	Deputy County Commissioner's Office,	02.00pm-03.00pm
7	Friday July 7, 2017	Representatives of KETRACO, JICA and Panafcon	Mombasa	Chief Mtongwe Location	Chief's Office Mtongwe	02.00pm-03.00pm

## 7.2 Sensitization Meetings

### 7.2.1 Sensitization Meetings Preparation

A total of 7 sensitization meetings were organized and convened in the project area. The purpose of the sensitization meetings was to inform the project area community on:

- Details of the proposed 220kV Transmission Line project from Mariakani-Dongo Kundu and a Substation in Dongo Kundu;
- What will be expected of the community when the assessment team visits them on the ground along the project corridor;
- The activities that will take place during field Environmental Assessment and Census Survey of the persons affected by the project;

Sensitisation Meetings were organised through two steps:

- **Consultations** - Consultation with County Government Offices and the Ministry of Interior and Coordination of National Government. The Meeting Venues were identified with reference to the venues used in earlier ESIA study carried out in 2014. Appropriate dates were selected ensuring a minimum of 1 week notice before any meeting takes place.
- **Announcements** – Meeting notices were announced in English and Kiswahili (main language used by the community) using the following media:
  - Local Radio FM Station
  - Through the Chief’s Office, Local Schools and Churches
  - Pinning of Notices at various accessible locations within the project area
  - Use of mobile vehicles with loud speakers circulating in the project area

The Sensitization Meetings outside Dongo Kundu took place as planned from Wednesday July 12, 2017 to Tuesday July 18, 2017. The Sensitization at Dongo Kundu was held on Tuesday March 20, 2018.

**Table 33** provides dates and venue details of the Sensitization Meetings. A total of 1,560 persons attended the meetings.



**Table 33: Details of the Sensitization Meetings**

No	Date	County	Location	Meeting Venue	Time	No. of Participants
<b>Area Outside Dongo Kundu</b>						
1	Wednesday July 12, 2017	Kilifi	Mariakani Location	Baraza Meeting Area near EMACO Hotel along the Mombasa-Nairobi Highway	10.00am–12.00 Noon	<b>Total=85</b> <i>Men=64</i> <i>Women=21</i>
2	Thursday July 13, 2017	Kwale	Mbunguni Location	Mbunguni Chief's Camp Grounds	10.00am–12.00 Noon	<b>Total=307</b> <i>Men=200</i> <i>Women=107</i>
3	Thursday July 13, 2017	Kwale	Ng'ombeni Location	Kiteje Assistant Chief's Office Ground	02.00pm–04.30 pm	<b>Total=236</b> <i>Men=77</i> <i>Women=159</i>
4	Friday July 14, 2017	Kwale	Kasemeni Location	Mnyenzi Assistant Chief's Office Grounds	10.00am -12.30am	<b>Total=125</b> <i>Men=99</i> <i>Women=26</i>
5	Friday July, 2017	Kwale	Gandini Location	Lutsangani AP Camp Grounds	02.00pm-04.00pm	<b>Total=257</b> <i>Men=192</i> <i>Women=65</i>
6	Tuesday July 18, 2017	Kwale	Mwavumbo and Mwatate Locations	Mwanda Dispensary Grounds	02.00pm-04.00pm	<b>Total=183</b> <i>Men=131</i> <i>Women=52</i>
<b>Dongo Kundu</b>						
7	Tuesday March 20, 2018	Mombasa	Mtongwe Location	Dongo Kundu AP Camp	10.00am – 01.15pm	<b>Total=367</b> <i>Men=258</i> <i>Women=109</i>
<b>Total Number of Participants</b>						<b>1,560</b>

The participants were given a chance to ask questions, give comments and suggestions under item 6 of the Agenda. The minutes and Attendance Register for the Sensitization Meetings are provided in **Annex 5**.

### 7.2.2 Summary of the Main Results of the Sensitization Meetings

**Table 34** presents a summary of the main results of the sensitization meetings that took place in July 2017 and March 2018 for Dongo Kundu

**Table 34: Participant’s Questions and Responses during Sensitization Meeting**

No	Questions by Participants	Response
<b>Mariakani Location Sensitization Meeting</b>		
1	Previous KETRACO project in the neighbouring area had challenges related to release of compensation payment of disputed land which have not been resolved to-date. The community leaders wished to know how KETRACO will ensure this current project doesn't face similar challenges. <b>(Samuel Rimba)</b>	<i>All KETRACO projects are subject to Kenyan law governing power transmission and land acquisition and where the ownership of the affected asset is disputed, KETRACO waits for the dispute(s) to be resolved by the relevant bodies including the courts who determine ownership before KETRACO can disburse compensation money for the affected asset(s).</i>
2	Some PAPS recorded in the previous census may not be the genuine owners of affected assets. How will this be corrected to ensure only genuinely affected people are enumerated and recorded? <b>(Nelson Mundalo)</b>	<i>All the eligible PAPS will be enumerated during the current census survey with the confirmation of ownership of land by a title deed where available or using the established local mechanism to confirm ownership of affected land. The ownership of developments on the land such as structures, trees and crops will be established by the members of the affected household in the presence of the village elders</i>
3	The acquired corridor may divide the parcel of land belonging to one individual PAP into two halves. What will happen to such two portions of land on each side of the corridor; will the PAP be allowed to own both halves though divided by the corridor? <b>(Paul Kitula)</b>	<i>Depending on the portion of land on each side of the corridor, the project may take up the entire parcel of land and physically resettle the PAP on another equal parcel if the remaining portion outside the wayleave corridor is too small for any continued use/ settlement by the PAP. The wholly eased out parcel of land below the transmission line will still belong to the PAP as KETRACO does not own land. If the remaining portions are significantly big for use by the PAPS, the project will only acquire the corridor and leave the rest of the portions to the PAP. Each on above cases will be evaluated by KETRACO RAP implementation teams before drawing a conclusion on how to handle the remaining portions of land</i>
	Will KETRACO therefore withhold compensation money for all disputed land until the dispute is resolved and will still build their line on such land still or the project will be put on hold to await the resolution of disputes so as to construct the line? <b>(Francis Wambua)</b>	<i>The compensation money for the disputed land will be put aside by KETRACO but will not be disbursed to any of the disputing parties until the dispute is resolved and ownership determined. In the meantime, KETRACO will construct the line across such land since government projects cannot be jeopardized by disputes which can sometimes take a long time to resolve.</i>
4	What will happen if there are trees or crops on the land whose ownership is disputed? <b>(Anthony Safari)</b>	<i>The trees, crops or even structures on such land whose ownership is disputed but the ownership of such developments isn't disputed, the developments will be promptly compensated disbursing payments to the established owners KETRACO however pays for trees after felling them. This process however may take time between felling and release of compensation payment</i>

No	Questions by Participants	Response
<b>Mbunguni Location Sensitization Meeting</b>		
5	Many people do not have title deeds for the land they occupy. Who will be compensated for such land; the title holder or the current land occupier <b>(Musa Said)</b>	<i>Land ownership is known whether the land has title deed or not. However, without a title deed it will be difficult to ascertain ownership which cannot be confirmed until one produces a title deed or until it is issued by the relevant government entity. PAPs without title deeds to the land they occupy are encouraged to get them since with a title deed, compensation for affected land will be straightforward and prompt</i>
6	Will he get power in his home or will this power line just pass over him as happened in Ukunda? <b>(Juma Mwakoko)</b>	<i>The transmitted power is high voltage that cannot be connected directly to homesteads. Distribution of power to homesteads is the responsibility of Kenya Power. KETRACO only does power transmissions which is among the first steps that can enable people to access power in their homes. People get power in their homes after distribution is done by Kenya Power from the KETRACO Substations.</i>
7	Will the proposed transmission line affect the whole Mbuguni Location or a section of it only <b>(Hamadi Dafujo)</b>	<i>Only a section of the location will be affected as per the already selected route that has been established through surveying</i>
8	What will happen if the line passed through a place where there are trees and crops? <b>(Juma Shauri Lamwenga)</b>	<i>Trees will be compensated for after they are felled and according to the rates provided by Kenya Forest Service while crops will be compensated as per the guidelines provided by the ministry of Agriculture if/if they are destroyed during the line construction.</i>
9	What will happen if the construction vehicles were to pass through and possibly destroy crops on the land outside the wayleave area? <b>(Mwelo)</b>	<i>Any damage of private property outside eased out wayleave by the transmission line contractors will be compensated.</i>
<b>Ng'ombeni Location Sensitization Meeting</b>		
10	About 50% of land in the whole location has no title deed; what will happen in this case? <b>(Suleiman Magomba)</b> .	<i>The PAPs without title deeds for the land they occupy will be individually consulted and the land authorities including NLC will provide the way forward. However this process can and has been slow from KETRACO's similar experience elsewhere</i>
11	Most of the trees in the project area are indigenous trees which are have medicinal value yet the project/ KFS may be paying for planted exotic trees. How will KETRACO establish/ know the value of these indigenous trees? <b>(Ramadhan Mwalimu)</b>	<i>Project team get the value of all trees (both indigenous and exotic) from the Kenya Forest Service. There is no tree which grows on Kenyan soil that is not known and valued by KFS. Similarly, all crops grown in Kenya have values established by Ministry of Agriculture. Grass is not compensated for</i>
12	Could the project employ local youths in each location/ sub-location and village where the line passes? <b>(Suleiman Saitoti)</b>	<i>The project is expected to create employment opportunities for members of the local communities during construction specifically in areas where the transmission line is expected to pass. Besides the direct employment by the project, other forms of employment are likely to result from the spill-over effects including establishment of local markets for providing goods and services during construction. KETRACO policy requires the contractor to employ youths from the particular location where they are working for the unskilled works. The chiefs and their assistants will need to bear this in mind and ensure it is enforced during the construction phase of the project.</i>

No	Questions by Participants	Response
<b>Kasemeni Location Sensitization Meeting</b>		
13	How will the courts confirm the true heirs of a deceased person's land in the succession process? <b>(Mohamed Hamisi)</b> .	<i>The succession process starts at the local chief's office who know the members of the concerned family and village elders. If unresolved the matter is escalated further up to the courts who make a determination. All interested family members are involved in every step in the succession process</i>
14	During the previous census and asset inventory survey in 2014, he was advised not to continue with the construction of his family house whose construction was active at that time. He stopped construction but this has affected him negatively since the stonework which was incomplete has deteriorated/depreciated due to continued exposure to the weather elements. How will this his case handled whether he is affected by the current line corridor or not <b>(Tungwa Mdoe Njira)</b>	<i>Such cases will be evaluated and determined in a manner not to disadvantage the PAP. He was advised not to remove the house at all until such evaluation are completed and compensation paid out to him</i>
15	Will the PAPs be paid compensation promptly or will they wait till they die waiting as happens in many government projects? <b>(Abdalla Mwaile)</b>	<i>The government (KETRACO) pays promptly upon verification of true owners of affected property more so if the ownership of land or other affected assets is not in dispute.</i>
16	What will happen if the line corridor affects Kaya shrine(s) which are common in the project area <b>(Ndoro Simba Ndoro)</b>	<i>KETRACO route selection criteria aims to avoid public institutions such as shopping centres, schools, health centres and places of worship such as the shrines, churches and mosques. If such facilities were to be found during ground surveys, KETRACO will further aim to avoid them by changing the position of the line corridor in a particular locality</i>
<b>Gandini Location Sensitization Meeting</b>		
17	PAPs should not be oppressed nor disadvantaged in the valuation and compensation process <b>(Hamisi Menza)</b> .	<i>Compensation for the losses will be done at prevailing market value and at the replacement cost for land and structures respectively. Trees will be compensated after they are felled according to the rates of various tree types, sizes, age and value as provided by Kenya Forest Service while crops will be compensated as per the guidelines provided by the Ministry of Agriculture if they are destroyed during the line construction. This way, nobody will be disadvantaged as the compensation will be just and commensurate with the impact on affected asset</i>
18	Will compensation cash be disbursed directly to the PAPs accounts or it will be paid through another government office e.g. through the chief's office. <b>(Hamisi Menza)</b> .	<i>The disclosure of individual compensation packages will be made to the individual persons or households and not to 3rd parties such as the chiefs who are not entitled to know how much individual PAPs gets unless the PAPs choose to disclose their compensation packages to 3rd parties. Compensation cash will be wired directly to the particular PAPs bank accounts.</i>
<b>Mwavumbo Location Sensitization Meeting</b>		
19	Will the PAPs be allowed to salvage any building materials from their affected structures after compensation? <b>(Daniel Dalo)</b>	<i>PAPs will be allowed to salvage any building materials they may consider useful to them within the notice period. Any structures not removed from the corridor by the expiry of the notice period without a good and valid reason will be pulled down by the Contractor and the PAPs will not be</i>

No	Questions by Participants	Response
		<i>able to salvage any materials after that. The felled trees belongs to the PAPs to sell or use them in any manner they deem appropriate.</i>
20	Will the community members be able to get power in their homes from the line or will this power line just pass over them? <b>(Jackson Mambo)</b>	<i>Distribution of power to people's homes is the responsibility of Kenya Power. KETRACO only does power transmissions which is among the first steps for people to access power in their homes after which distribution is done by Kenya Power from the KETRACO substations.</i>
21	Will the compensation rate paid for the land where the pylon/ tower is constructed be the same amount as where the line only passes over the land? <b>(Bagala Dalu)</b>	<i>Yes, the same land compensation rate applies regardless of whether the land will have a tower or towers erected on it or the power line will only pass over it.</i>
22	Will there be a special/ additional payment for the vulnerable group of people such as the physically challenged persons? <b>(Katana Ziro– who looked like he is mildly mentally/ physically challenged but could communicate)</b>	<i>Yes, KETRACO and JICA Resettlement Policies is keen to ensure that the vulnerable groups are identified, considered and provision made for their resettlement assistance during the resettlement implementation phase</i>
<b>Mtongwe Location Sensitization Meeting</b>		
23	People residing in Mwangala area in Dongo Kundu do not have Title Deeds. Will they benefit from the project <b>(Suleiman Said Magomba)</b>	<i>Land will be compensated to the rightful owner. For those without titles the land agencies including NLC will provide a way forward but payment will only be done against a land document that the government can accept.</i>
24	All residents should be involved in the whole process-in meetings, compensation-timely flow of information? <b>(Suleiman Salim Manundu)</b>	<i>Panafcon will ensure all affected persons are duly informed and involved in the process of surveys, compensation and resettlement.</i>
25	Dongo Kundu Community Needs Title Deeds. Where will residents of Dongo Kundu go if they are not compensated for land? There is concern that residents of Dongo Kundu are being called invaders <b>(Abdallah Mwalimu Ali)</b>	<i>The issue of land ownership and land documents is in progress at very high level. NLC office in Mombasa is very ready to assist.</i>
26	How will children, mothers benefit since almost all property is owned by men <b>(Elizabeth Msindi)</b>	<i>The Land Act 2012 protects children, spouses from being denied access to compensation funds<sup>3</sup>.</i>

<sup>3</sup> Section 107 (7) of the Land Act protects the rights of spouses to compensation. Section 27 of the Land Act protects child's right to land.



**Plate 8: Sensitization Meeting in Progress in Ngombeni Location – July 2017**



**Plate 9: Sensitisation Meeting at Mbunguni Location – July 2017**

### 7.3 Consultation Meetings with KFS, KWS, NMK and NGOs

Meetings with Kenya Forest Service (KFS), Kenya Wildlife Service (KWS) and National Museums of Kenya (NMK) and NGOs were convened to achieve the following:

- Inform the departments about the proposed 220kV TL project;
- Provide details of the project including a map showing the route of the TL;
- Seek views, comments and suggestions regarding the proposed project as far as its impact on forest resources, wildlife & avifauna and protected /threatened resources or species;
- Seek support of the departments with regards to access to data and information on forest, wildlife & avifauna resources and information regarding presence and location of sacred or religious sites and protected/threatened flora and fauna;
- Confirm existence of forest along the TL corridor and their significance;
- Establish the status of the affected section of the forest and presence of Kayas;
- Establish the existence of wildlife and their migratory tendencies;

Refer to **Table 35** for details of the meetings.

### 7.4 Consultation with Community along the proposed corridor

During the detailed site assessment and census survey, the Consultant carried out further consultations with individual members of the community. This took place when the Consultant team was collecting detailed data along the project corridor from Mariakani-Dongo Kundu. The following activities were carried out:

- Persons affected by the project were identified
- The PAPs were provided with project details including the potential project impact
- Full biodata information was collected during the detailed census survey;
- The affected land, structures, trees and crops were identified and details recorded;
- A questionnaire was administered.
- The PAPs were given a chance to ask questions or seek clarification regarding the project.

**Table 35: Consultation Meetings with KFS, KWS, NMK and NGOs**

No	Date	Department Visited	Officer (s) in Attendance	Issues Discussed	Status of Forested Area	Recommendations
1	Tuesday July 25, 2017	Kenya Wildlife Service (KWS) - Kwale Office	Mr. Nathan Gatundu	Status of the forest where TL passes	<ul style="list-style-type: none"> <li>The forested area around DK6 is Community Land.</li> <li>Area traversed by TL is just a dispersal area for wildlife from Mwaluganje Forest (though rarely)</li> <li>It is not a Gazetted Game Reserve Area</li> <li>Animals that may be present in the vegetation where TL passes include elephants, baboons and wild pigs</li> <li>Lutsangani Area (DK7) is human/wildlife conflict area due to movement of wildlife from Mwaluganje Forest (Vandalised Fence)</li> <li>Birds found here are migratory</li> </ul>	<ul style="list-style-type: none"> <li>Minimise traverse through forest</li> <li>Conductors should be high enough to avoid risk to elephants</li> <li>Pylons should be fitted with guards that can deter baboons from climbing them</li> <li>Fit pylons with reflector bowls to repel migratory birds.</li> </ul>
2	Wednesday July 26, 2017	Kenya Forest Service (KFS) – Kwale Office	Mr. George Waka – Ecosystem Conservator  and  Mr Vitalis C. Osodo – Forest Manager Kwale Station	Status of the forest cover where TL passes and conservation efforts	<ul style="list-style-type: none"> <li>The forest around DK6 is a Community Forest and requires their participation if anything is to happen around there.</li> <li>Kaya Gandini - The area located immediately north of DK6 is gazetted.</li> <li>National Museums of Kenya (NMK) has mapped out the Kayas.</li> <li>For any survey activities to take place in the forest areas – permission needs to be sought from the Chief Conservator of Forest in Nairobi</li> </ul>	<ul style="list-style-type: none"> <li>The Kwale County Survey Officer and Kaya Elders accompanied the Panafcon Survey Team to the Kaya Gandini forest area</li> </ul>
3	Wednesday July 26, 2017	County Government Office – County Foresters Office	Mr. Joseph Indo – County Forester, Kwale County	Brief on proposed TL project provided to the County Government Team	Input from the County Government Office will only be provided after they receive the Official Letter introducing Panafcon) – No information obtained	County Government office in Kwale will provide required input after receiving official communication requesting for such input.
4	Wednesday July 26, 2017	National Museums of Kenya (NMK) – Ukunda	Mr. Abdulrahman Matano – NMK, Ukunda Office	Gazetted Kayas	<ul style="list-style-type: none"> <li>The Forest area where DK6 lies is community land</li> <li>All Kayas are Gazetted</li> <li>The only Gazetted Kaya close to the line is</li> </ul>	<ul style="list-style-type: none"> <li>Panafcon contacted the Chairman of Kaya Elders (Mwanamwenga Chigaya – to be shown the exact</li> </ul>



No	Date	Department Visited	Officer (s) in Attendance	Issues Discussed	Status of Forested Area	Recommendations
		And World Wildlife Fund (WWF) - Ukunda	and Mr. Elias Kimaru – WWF, Ukunda Office		Kaya Gandini located immediately north of DK6.	boundary on the ground. The Community was consulted regarding the area that the TL will take up
5	Wednesday July 26, 2017	Kenya Wildlife Service (KWS) Kwale	Mr. Benard Ochieng – Research Officer KWS, Shimba Hills National Reserve and Tsavo West National Park	Wildlife and birds in the forest areas	<ul style="list-style-type: none"> <li>The area around DK6 and DK7 is community land.</li> <li>The forest found here is used by wildlife as dispersal area.</li> <li>The animals found in the dispersal area include elephants, baboons and wild pigs. Elephants and wildpigs come here only when they break the Mwaluganje Forest Reserve.</li> <li>The birds found here are migratory.</li> </ul>	<ul style="list-style-type: none"> <li>The Community was consulted regarding the area that the TL will take up and the elders provided guidance</li> <li>Measures to be undertaken have been provided in the report</li> </ul>
6	Thursday July 27, 2017	Kenya Forest Service – Kaloleni District – Mariakani – Kilifi County	Mrs Virginia P. Kingori – Forest Officer – Kaloleni District – Mariakani – Kilifi County	Status of the forest cover where TL passes and conservation efforts	<ul style="list-style-type: none"> <li>There is no forest cover in the Mariakani section of the TL.</li> <li>Trees found within the TL corridor belong to community members</li> <li>Some of the trees require permits from Forest Office before they can be cut down.</li> <li>The Officer provided a list of the common trees grown by community members in the project area</li> <li></li> </ul>	<ul style="list-style-type: none"> <li>Affected trees have been valued using guidance from KFS</li> </ul>
7	Thursday July 27, 2017	Kenya Forest Service (KFS) – Mombasa	Mr. Albert Nyabuti – Ecosystem Conservator – Mombasa County  and Madam Mdamu Jackline – Forester	Status of the forest cover where TL passes and conservation efforts	<ul style="list-style-type: none"> <li>The Dongo Kundu area has mangroves which are considered as Protected/Threatened Species</li> <li>Kaya Kiteje lies within the project area and should be protected</li> </ul>	No trees should be cut down without involvement of the KFS.

No	Date	Department Visited	Officer (s) in Attendance	Issues Discussed	Status of Forested Area	Recommendations
			covering Dongo Kundu Area			
8	Thursday July 27, 2017	Kenya Wildlife Service (KWS) - Mombasa	Fridah Dermmillah Obare – Community Education and Extension Warden - Mombasa	Fish and mangrove in the Dongo Kundu area	The research department at KWS is willing to provide any information related to fish and mangrove in the project area.	KWS Office will provide the required information when required.
9	Friday November 23, 2018	Nature Kenya (Nairobi Office)	Paul Gaceru Species and Sites Manager, Nature Kenya, EANHS.	Birds in the project area	Nature Kenya continues to carry out monitoring birds in the project area. They are willing to provide the information.	There are 2 bird species in the project area that endangered.
10	Thursday November 29, 2018	World Wildlife Fund (WWF) Nairobi Office	Peter Muigai	Wildlife in the project area	Provided an evaluation of the TL route.	From global assessment, there isn't real threat of the project/corridor to critical corridors or habitats however it traverses river systems and wetlands

## 7.5 PAP Consultation Meeting

PAP Consultation Meetings were conducted from Monday April 23 – Friday April 27, 2018, to explain and discuss about RAP related topics. One meeting was done in each of the 9 locations traversed by the TL and substation in Dongo Kundu. Only the Household Heads of the community members affected by the project were invited to attend the PAP Consultation Meetings.

## 7.6 Key Stakeholder Questionnaires

Consultations have been carried out throughout the ESIA Study phase where other stakeholders have been consulted and appropriate questionnaires administered. Key Stakeholder Questionnaires were administered and 9 received back. All the stakeholders supported the project. Some of the positive aspects, concerns and suggestions on the project raised by stakeholders are elaborated below:

### Positive Aspects

- The affected persons will be paid compensation and resettled;
- There will be increased power supply in the region that will support commercial activities and industries;
- The SEZ area will have access to power for development;
- The project will facilitate creation of job opportunities;
- The standard of living of the project area residents/communities will be improved.

### Fears and Concerns

- There will be cutting down of trees along the TL corridor and the substation;
- Similarly, many raised concerns that they may lose land due to lack of appropriate documents or delayed payments resulting from court cases due to disputes.
- Compensation will be delayed leaving many PAPs to spend in the cold and have no livelihoods and thereby leaving them poorer.
- There were also fears that the promise of compensation cannot be fully trusted. They have noted that there are other projects in the area whose compensation payments have not been completed yet the project construction activities are in progress with PAPs still waiting to be settled.
- Will the contractor honour the promise of giving the local community members jobs especially the youth?
- The project area environment will be affected by the project construction and operation activities;
- There may be corruption issues when it comes to compensation of those affected by the project.
- There are cultural and sacred sites that may be interfered with by the project. These include the following:
  - Shrines (2 Shrines encountered)
  - Graves and Graveyards

### Suggestions

- The Local Administration (National Government and County Government) and the clan leadership should be incorporated in the process of identifying who rightfully owns the land where land ownership documents have not been processed or there are succession issues to be resolved.
- Compensation should be carried out before relocation is done.
- Locals should be given priority to do casual jobs such as clearing the transmission line corridor and carrying out other manual jobs.

- Contractor should maintain construction activities along the marked area of the project;
- Contractor should engage local community members to provide local labour for casual jobs during the construction;
- Environmental and Social Management Plan (ESMaP) should be implemented;
- Where there are fragile ecosystems like wetlands and water sources, proper mitigation measures should be applied;
- Replanting of trees that will be cut down should be done in identified areas;
- There should be proper intervention measures to minimize soil erosion;
- Populated and forested area should be avoided;
- There should be involvement of the community /public participation at all stages of the project;
- Community members should be assisted with tree seedlings to plant to replace the cut trees;
- Approvals for powerline towers should be sought from KCAA before construction commences.

**Annex 18** provides a summary of feedback received from Key Stakeholders.

## 7.7 Public Consultation Meeting (PCM)

Public Consultation Meetings (PCMs) were held from Monday June 18 to Friday June 22, 2018. The meetings were announced through the following avenues:

- Chiefs Barazas
- Posters
- Phone calls by Chiefs and the Village Elders
- Vehicles with speakers driving through the project area

Refer to **Table 36** for Public Consultation Meetings (PCMs) Schedule and the number of persons who participated in the meetings at the 9 different locations covering the project area. A total of 1,384 person (men=1,066, women=318) attended the PCMs. A Map showing the locations where PCMs were held is provided in **Annex 16**.

### PCM Agenda

1. Opening Prayers
2. Introduction of Participants
3. Purpose of Conducting the PCM
4. The ESIA Study Activities that were Carried Out
5. Findings of the Study/Project Impacts
6. Proposed Mitigation Measures
7. Questions & Answer Session
8. Closing Remarks
9. Closing Prayers

The PowerPoint Presentation used during the Public Consultation Meetings is presented in **Annex 11**. During the PCM, participants were given an opportunity to give comments, suggestions and also ask questions. Minutes, attendance registers and questions and responses recorded during the PCMs is provided in **Annex 12**. In addition, simplified forms/questionnaires in both English and Kiswahili were distributed to participants to facilitate gathering of feedback information. An evaluation of the feedback forms is presented in **Table 37**. The main points are summarized as follows:

All the respondents indicated support for the project. The issues and comments recorded by the respondents include the following:

- The environment of the project area needs to be protected during construction and operation.
- Project Affected Persons should be paid in good time and adequate amounts that can enable them to relocate and restore their livelihoods.
- KETRACO should facilitate planting of trees in the project area to replace the ones that will be cut down.
- KETRACO should ensure that the Contractor implements the Environmental and Social Management Plan (ESMaP) so as to minimize impacts to the community and also protect the environment.
- Regular consultations with the community should continue and they should be involved in every aspect of the project implementation.
- KETRACO should facilitate support to the community in the areas of water for domestic use, sanitation, energy for cooking and lighting.
- Project area community members requested that they should be given priority for job opportunities on the project.
- The Contractor should enhance Health and Safety during construction and operation.
- Noise and dust/smoke should be suppressed during construction and operation since the project is located in a settlement area.

The feedback forms filled by respondents at the PCMs are provided in **Annex 14**.

**Table 36: Public Consultation Meeting Schedule**

#	Venue	Date	Time	County	Sub-County	Location	No. of Participants
1	Baraza Field near Tiba Petrol Station	Monday June 18, 2018	9:00 AM	Kilifi	Kaloleni	Mariakani	<b>116</b> Men=87 Women =29
2	Mwanda Dispensary	Monday June 18, 2018	2:00 PM	Kwale	Kinango	Mwavumbo	<b>211</b> Men=180 Women=31
3	Mazirizirini Police Station	Tuesday June 19, 2018	9:00 AM	Kwale	Kinango	Mwatate	<b>175</b> Men=116 Women=59
4	Bofu Chief's Camp	Tuesday June 19, 2018	2:00 PM	Kwale	Kinango	Mtaa	<b>86</b> Men=56 Women=30
5	Mnyenzeni Health Centre	Wednesday June 20, 2018	9:00 AM	Kwale	Kinango	Kasemeni	<b>124</b> Men=97 Women=27
6	AP Camp Lutsangani	Wednesday June 20, 2018	2:00 PM	Kwale	Kinango	Gandini	<b>187</b> Men=151 Women=36
7	Mbunguni Chief's Camp Ground	Thursday June 21, 2018	9:00 AM	Kwale	Matuga	Mbunguni	<b>164</b> Men=118 Women=46
8	Kiteje Assistant Chief's Camp	Thursday June 21, 2018	2:00 PM	Kwale	Matuga	Ng'ombeni	<b>103</b> Men=88 Women=15
9	Dongo Kundu AP Camp	Friday June 22, 2018	9:00 AM	Mombasa	Likoni	Mtongwe	<b>218</b> Men=173 Women=45
<b>Total</b>							<b>1,384</b> <b>Men-1,066</b> <b>Women=318</b>



**Plate 10: PCM in Progress at Dongo Kundu AP Camp – June 22, 2018**



**Plate 11: PCM in Progress at Mwanda Dispensary – June 18, 2018**

**Table 37: Analysis of Participant Feedback Forms**

#	Stakeholder Name	Department or Organization	Involvement or Role in Project	Stakeholder benefits, Interest, Goals, and Concerns	Follow-up Actions and Communication	Support for the Project
<b>Mariakani Location</b>						
1.	John Nalo	Sagar Holdings	Land Owner in the Project area - PAP	<ul style="list-style-type: none"> <li>Aware of the project</li> <li>Had plans for the land parcel</li> <li>Project will bring development</li> <li>Impacts have been identified and mitigations proposed</li> <li>There will be economic growth</li> </ul>	<ul style="list-style-type: none"> <li>Implement project to foster development</li> <li>Guard against pollution</li> <li>Minimize noise</li> <li>Put up projects that will benefit community</li> </ul>	Yes
2.	Damaris Kimondo	Ministry of Interior and Coordination of National Government – ACC Mariakani	Local Leader - Administration	<ul style="list-style-type: none"> <li>Aware of the project</li> <li>Project will bring development and benefit community</li> <li>Cutting down of trees will impact environment</li> <li>Disruption of settlements</li> </ul>	<ul style="list-style-type: none"> <li>Implement proposed mitigation measures</li> <li>Compensate affected persons</li> <li>Excavate only necessary areas</li> <li>Maintain project area environment</li> </ul>	Yes
3.	Francis Maoto	Department of Agriculture	Agricultural Officer	<ul style="list-style-type: none"> <li>Aware of the project</li> <li>Project will bring development and benefit community</li> <li>Cutting down of trees will impact environment</li> <li>Disruption of settlements</li> </ul>	<ul style="list-style-type: none"> <li>Implement mitigation measures</li> <li>Compensate affected persons adequately</li> <li>Provide community with tree seedlings</li> <li>Maintain project area environment</li> </ul>	Yes
4.	Joyce Kombe	Ministry of Interior and Coordination of National Government – Chief Mariakani Location	Local Leader	<ul style="list-style-type: none"> <li>Aware of the project</li> <li>Project will bring development and benefit community</li> <li>There will be radiation during operation of the transmission line</li> </ul>	<ul style="list-style-type: none"> <li>Compensate affected persons adequately</li> <li>Give priority to community on employment opportunities</li> </ul>	Yes
5.	Peter Kirigha	Resident	Community Member	<ul style="list-style-type: none"> <li>Not aware of the project</li> <li>Project is good</li> <li>There will be radiation during operation of the transmission line</li> </ul>	<ul style="list-style-type: none"> <li>Project should proceed</li> <li>Destruction of houses and other structures</li> <li>The cutting down of trees</li> </ul>	Yes
6.	Harrison Katana Konde	Ministry of Interior and Coordination of National Government – Assistant Chief Mariakani	Local Leader	<ul style="list-style-type: none"> <li>Aware of the project</li> <li>Project will bring development and benefit to community</li> <li>There will be cutting down of trees</li> <li>Disruption of settlements</li> <li>Powerline passes without community getting connected</li> </ul>	<ul style="list-style-type: none"> <li>Compensate affected persons adequately</li> <li>Give priority to community on employment opportunities</li> </ul>	Yes
<b>Mwavumbo Location</b>						
7.	Mwanjole N. Ndoro	County Government of Kwale	Ward Administrator	<ul style="list-style-type: none"> <li>Aware of the project</li> <li>Project will bring development and benefit community</li> <li>Community is well consulted</li> <li>Cutting down of trees will impact environment</li> <li>Disruption of settlements</li> <li>There is comprehensive consultations with community</li> </ul>	<ul style="list-style-type: none"> <li>Sensitize community on prudent use of compensation money</li> <li>Compensate affected persons</li> <li>Form environment committees</li> <li>Maintain project area environment</li> <li>Involve community members in activities of the project</li> <li>Encourage community participation</li> </ul>	Yes



#	Stakeholder Name	Department or Organization	Involvement or Role in Project	Stakeholder benefits, Interest, Goals, and Concerns	Follow-up Actions and Communication	Support for the Project
8.	Stephen K. Nzomo	County Government of Kwale	Village Administrator	<ul style="list-style-type: none"> <li>Aware of the project</li> <li>Project will bring development and benefit community</li> <li>Community is well consulted</li> <li>Disruption of settlements</li> </ul>	<ul style="list-style-type: none"> <li>Sensitize community on environmental aspects</li> <li>Compensate affected persons</li> <li>Provide community with tree seedlings to plant</li> <li>Involve community in activities of the project</li> </ul>	Yes
9.	Pascal Mumo	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>Project will bring development and benefit community</li> </ul>	<ul style="list-style-type: none"> <li>The TL should be well maintained</li> <li>Implement ESMP</li> <li>Sensitize community on environmental issues</li> </ul>	Yes
10.	Wilson Jackson Mwangale	Resident	PAP	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>Project will bring development and benefit community</li> <li>Economy of the community will be elevated</li> </ul>	<ul style="list-style-type: none"> <li>Dust should be controlled during construction</li> <li>Involve community in ESIA to identify mitigation measures</li> </ul>	Yes
11.	Ruth Mbala Mtuacha	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about project</li> <li>Disruption of settlements</li> <li>Project will bring development and benefit community</li> <li>Concern over health of children from radiation</li> </ul>	<ul style="list-style-type: none"> <li>Compensate affected persons well</li> <li>Sprinkle water to reduce dust</li> <li>Enhance security during construction</li> </ul>	Yes
12.	Daniel Wanini Dalu	Resident	PAP	<ul style="list-style-type: none"> <li>Aware about project</li> <li>My land is affected</li> <li>There will be employment for youth</li> <li>If care is not taken during construction, there may be impacts</li> <li>Disruption of settlements</li> </ul>	<ul style="list-style-type: none"> <li>Enhance security</li> <li>Put up signage during construction</li> <li>There should be no construction before compensation payment</li> </ul>	Yes
13.	Amos Mbovu Katembe	Resident	PAP	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>Project will bring development and benefit community through jobs</li> <li>Disruption of settlements</li> <li>There will be restricted use of land</li> </ul>	<ul style="list-style-type: none"> <li>Project should proceed</li> </ul>	Yes
14.	Rama Karani Mers	Resident	PAP	<ul style="list-style-type: none"> <li>Aware about project</li> <li>There will be restricted use of land</li> <li>Project will bring development and benefit community through jobs</li> </ul>	<ul style="list-style-type: none"> <li>Pay PAPs directly</li> <li>Protect environment</li> <li>Reduce dust during construction</li> <li>Let justice prevail during compensation and resettlement</li> </ul>	Yes
15.	Gwama Mgalla Mbovu	Resident	PAP	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>Project will bring development and jobs for the community</li> <li>The project will separate families</li> </ul>	<ul style="list-style-type: none"> <li>Sensitize community on prudent use of compensation money</li> <li>Project implementers should protect environment</li> </ul>	Yes
16.	Solomon Kuphenya Dallu	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>Project will bring development and benefit community through jobs</li> </ul>	<ul style="list-style-type: none"> <li>Project area community should be given priority on jobs</li> </ul>	Yes
17.	Josephine Chai	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>Community elaborately sensitized</li> </ul>	<ul style="list-style-type: none"> <li>Community should be given priority on jobs</li> <li>Control cutting down of trees</li> </ul>	Yes
<b>Mwatate Location</b>						

#	Stakeholder Name	Department or Organization	Involvement or Role in Project	Stakeholder benefits, Interest, Goals, and Concerns	Follow-up Actions and Communication	Support for the Project
18.	Alex Rai	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> </ul>	<ul style="list-style-type: none"> <li>Compensate affected persons</li> <li>Control cutting down of trees</li> </ul>	Yes
19.	Hassani Mboga Wanini	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>There will be restricted use of affected land</li> <li>There may be pollution of water sources</li> <li>There may be excess noise and dust/smoke</li> <li>Project will provide power to the project area</li> </ul>	<ul style="list-style-type: none"> <li>Provide jobs to project area community</li> </ul>	Yes
20.	Onesmus Chiboko Mgandi	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>Project will provide power to the project area</li> <li>There will be disruption of settlements</li> <li>There will be interference with cultural sites</li> </ul>	<ul style="list-style-type: none"> <li>My Family is affected by the project</li> <li>PAPs to be adequately compensated</li> </ul>	Yes
21.	Amos Nyawa	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware of the project</li> <li>There will be restricted use of affectedr land</li> <li>There will be jobs for the community</li> <li>There will be noise and dust/smoke during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Project should proceed</li> </ul>	Yes
22.	Samson Chale Joho	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware of the project</li> <li>Project will bring development and benefit community through jobs</li> <li>There will be disruption of settlements</li> </ul>	<ul style="list-style-type: none"> <li>Compensation should be paid</li> <li>Project should avoid public institutions</li> <li>KETRACO should provide tree seedlings for planting</li> <li>KETRACO should facilitate construction of Chief's Office</li> </ul>	Yes
23.	Warsib Chirima Mwingo	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>Project will bring development and benefit community through jobs</li> <li>Power cannot be supplied to community directly from the TL</li> </ul>	<ul style="list-style-type: none"> <li>Provide power to the community</li> <li>Project area community should be given priority on jobs</li> </ul>	Yes
24.	Mohamed Luvi Mwero	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>Project will cause air pollution from dust/smoke causing diseases</li> <li>Project will cause displacement of persons</li> <li>Project will generate jobs</li> </ul>	<ul style="list-style-type: none"> <li>KETRACO should consider facilitating community projects</li> <li>Adequate compensation should be paid</li> <li>KETRACO should consider facilitating community projects</li> </ul>	Yes
<b>Mtaa Location</b>						
25.	Tunu K. Beuchi	Resident	Community Member	<ul style="list-style-type: none"> <li>Not aware about the project</li> <li>There will be restricted use of affectedr land</li> <li>Project will bring development and jobs for the community</li> <li>There will be demolition of houses</li> </ul>	<ul style="list-style-type: none"> <li>Adequate compensation should be paid</li> <li>Residents should be alerted during construction</li> <li>KETRACO should consider facilitating community projects</li> </ul>	Yes
26.	Mwamwero Baya Katana	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>Project will bring industrial development and enhancement of the project area economy</li> <li>The high voltage poses safety risk</li> <li>There will be disruption of settlements</li> </ul>	<ul style="list-style-type: none"> <li>Sensitize community on project benefits</li> <li>Pay Adequate compensation Minimise disruption of human settlements</li> <li>Promote justice fairness during project implementation</li> </ul>	Yes

#	Stakeholder Name	Department or Organization	Involvement or Role in Project	Stakeholder benefits, Interest, Goals, and Concerns	Follow-up Actions and Communication	Support for the Project
27.	Joseph N. Nyae	Ministry of Interior and Coordination of National Government – Chief Mtaa Location	Local Leader	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>Project will cause displacement of persons</li> <li>Project will bring development and enhance economy</li> <li>Project will bring development and jobs for the community</li> </ul>	<ul style="list-style-type: none"> <li>Sensitize community on project impacts and benefits</li> </ul>	Yes
28.	Baya Shokoa Gwidi	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about project</li> <li>Project will bring development and enhance economy</li> <li>There will be displacement of persons</li> <li>Potential occurrence of accidents</li> </ul>	<ul style="list-style-type: none"> <li>Involve community in all aspects of project development and implementation</li> <li>Adequate compensation should be paid to PAPs</li> <li>Compensation Payment to PAPs should be done directly</li> </ul>	Yes
29.	James Mwamongo Dena	Resident	community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>Project will bring industrial development and enhancement of the project area economy</li> <li>Cutting down of trees within the TL corridor will impact environment</li> <li>Bushes should not be cleared</li> </ul>	<ul style="list-style-type: none"> <li>Adequate compensation should be paid to PAPs</li> <li>Project area community should be given priority on jobs</li> <li>KETRACO should consider supporting a community project</li> <li>Facilitate tree planting</li> </ul>	Yes
30.	Rodgers Nyawa Ngumuta	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>Project will bring industrial development and enhancement of the project area economy</li> <li>There will be displacement of persons</li> <li>There will be new job opportunities</li> </ul>	<ul style="list-style-type: none"> <li>Adequate compensation should be paid to PAPs</li> <li>Project area community should be given priority on job opportunities</li> <li>Put in adequate safety measures during construction</li> </ul>	Yes
31.	Ibrahim Nzira Charo	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>There will be restricted use of affected land</li> </ul>	<ul style="list-style-type: none"> <li>Adequate compensation should be paid to PAPs</li> <li>Minimize land disputes</li> <li>Community should be given priority on jobs</li> </ul>	Yes
32.	Musena Beja Ngoa	Ministry of Interior and Coordination of National Government – Assist Chief Bofu Sub- Location	Local Leader	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>There will be displacement of persons</li> <li>Project will bring industrial development and enhancement of the project area economy</li> <li>Concerned about radiation during operation.</li> </ul>	<ul style="list-style-type: none"> <li>Compensate and resettle affected persons</li> <li>Inform community on project impacts</li> <li>minimize displacement of persons</li> <li>minimize environmental impacts of the project</li> </ul>	Yes
33.	Juma Mwamdzomba	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>There will be restricted use of affected land</li> <li>Project will create job opportunities</li> </ul>	<ul style="list-style-type: none"> <li>Compensate and resettle affected persons</li> <li>Project area community should be given priority on jobs</li> </ul>	Yes
34.	Sammy Bidu Shadrack	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>There will be displacement of persons/</li> <li>Project will enhance project area economy</li> </ul>	<ul style="list-style-type: none"> <li>Compensate and resettle affected persons</li> <li>Enhance transparency during payment</li> <li>Environmental protection should be enhanced</li> </ul>	Yes
<b>Kasemeni Location</b>						
35.	Tunuwa Mwamula	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>Project will bring development and enhance economy</li> <li>Jobs will be created</li> </ul>	<ul style="list-style-type: none"> <li>Protect environment</li> <li>Project area community should be given priority on jobs</li> <li>Continue creating awareness among the community</li> <li>Facilitate tree planting</li> </ul>	Yes

#	Stakeholder Name	Department or Organization	Involvement or Role in Project	Stakeholder benefits, Interest, Goals, and Concerns	Follow-up Actions and Communication	Support for the Project
36.	Joseph Shumba Tsochizi	Resident	PAP	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>There will be restricted use of affected land</li> <li>Project will bring development and enhance the economy</li> <li>Job opportunities will be created</li> <li>Trees in the corridor will be cut</li> </ul>	<ul style="list-style-type: none"> <li>Compensate and resettle affected persons</li> <li>Sensitize PAPs on prudent and appropriate land use</li> </ul>	Yes
37.	Makanzu Rashid Makanzu	County Government of Kwale – Village Administrator	Local Leader	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>There will be enhancement of economy</li> <li>It will affect people and, loss of trees/other assets</li> <li>Shrines will be affected</li> </ul>	<ul style="list-style-type: none"> <li>Maintain TL</li> <li>Protect shrines and other cultural sites</li> </ul>	Yes
38.	Benson Kalimbo Kokoi	Ministry of Interior and Coordination of National Government – Chief Kasemeri Location	Local Leader	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>It will affect people and, loss of trees/other assets</li> <li>Job opportunities will be created</li> <li>There will be excess dust/noise</li> <li>Project will bring industrial development and enhancement of the project area economy</li> </ul>	<ul style="list-style-type: none"> <li>Compensate affected persons Adequately and resettle them</li> <li>Suppress dust and noise during construction</li> </ul>	Yes
39.	Sarah Waweru	Resident	Community Member	<ul style="list-style-type: none"> <li>No aware about the project</li> <li>Project will open up the area</li> </ul>	<ul style="list-style-type: none"> <li>Exercise fairness</li> <li>Start project soon</li> <li>Keep community informed</li> </ul>	Yes
<b>Gandini Location</b>						
40.	Said Mwetemo Ngao	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>Project will bring development and enhance the economy</li> <li>There will be loss of trees /crops</li> </ul>	<ul style="list-style-type: none"> <li>Compensate affected persons Adequately and resettle them</li> <li>Sensitize PAPs on prudent use of compensation money</li> <li>Avoid cutting down trees/crops</li> </ul>	Yes
41.	Juma Chindoro Kulala	Resident	PAP	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>There will be controlled use of land</li> <li>There will be job opportunities</li> <li>Persons will be displaced and biodiversity/assets affected</li> </ul>	<ul style="list-style-type: none"> <li>Compensate affected persons Adequately and resettle them</li> <li>Sensitize PAPs on prudent use of compensation payments</li> <li>Avoid cutting down trees/crops</li> </ul>	Yes
42.	Mbaruku Juma Baushi	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>Project will bring development and enhance the economy</li> </ul>	<ul style="list-style-type: none"> <li>Compensate PAPs adequately</li> <li>Pay PAPs directly</li> <li>Sensitize PAPs on prudent use of compensation money</li> <li>Avoid cutting down trees/crops</li> </ul>	Yes
43.	Lubando Kajimbi Dheri	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>It will affect people and, loss of trees/other assets</li> <li>Project will bring development and enhance project area economy</li> </ul>	<ul style="list-style-type: none"> <li>Compensate PAPs Adequately and resettle them</li> <li>Prioritize job opportunities for community members</li> </ul>	Yes

#	Stakeholder Name	Department or Organization	Involvement or Role in Project	Stakeholder benefits, Interest, Goals, and Concerns	Follow-up Actions and Communication	Support for the Project
44.	Umazi Mwangolo	Resident	Community Member	<ul style="list-style-type: none"> <li>• Aware about the project</li> <li>• There will be restricted use of land</li> <li>• There will be job opportunities</li> <li>• It will affect people and, loss of trees/other assets</li> <li>• There will be interference with cultural sites (Shrines)</li> </ul>	<ul style="list-style-type: none"> <li>• Control the cutting of trees</li> <li>• Suppress dust by sprinkling water on excavated areas</li> <li>• Protect environment during construction and operation of the TL</li> </ul>	Yes
45.	Munga Ndegwa	Ministry of Interior and Coordination of National Government – Assistant Chief	Local Leader	<ul style="list-style-type: none"> <li>• Aware about the project</li> <li>• There will be restricted use of land</li> <li>• There will be job opportunities</li> <li>• It will affect people and, loss of trees/other assets</li> <li>• There will be interference with cultural sites (Shrines)</li> <li>• There will be enhancement of the economy</li> </ul>	<ul style="list-style-type: none"> <li>• Compensate PAPs adequately and resettle them</li> <li>• Facilitate planting of trees</li> </ul>	Yes
46.	Andersen Beja Baraza	Resident	Community Member	<ul style="list-style-type: none"> <li>• Aware about the project</li> <li>• Project will bring development and enhance the economy</li> <li>• It will affect people and, loss of trees/other assets</li> </ul>	<ul style="list-style-type: none"> <li>• Compensate PAPs adequately and resettle them</li> <li>• Facilitate planting of trees</li> <li>• Improve environment by appropriate waste disposal</li> <li>• Control cutting of trees</li> </ul>	Yes
47.	Mwanamwenga Chigamba Nyanje	Resident	PAP	<ul style="list-style-type: none"> <li>• Aware about the project</li> <li>• Potential negative impacts</li> <li>• Cutting down of trees</li> </ul>	<ul style="list-style-type: none"> <li>• Environment should be protected during construction</li> <li>• Control cutting of trees</li> </ul>	Yes
48.	Dwamwanga Karimbo Mazera	Resident	Community Member	<ul style="list-style-type: none"> <li>• Aware about the project</li> <li>• Project will bring development and enhance the economy</li> <li>• Potential occurrence of accidents</li> </ul>	<ul style="list-style-type: none"> <li>• Environment should be protected during construction</li> <li>• KETRACO should facilitate project area community to get connected to electric power.</li> </ul>	Yes
<b>Mbunguni Location</b>						
49.	Josphat M. Murisa	Resident	PAP	<ul style="list-style-type: none"> <li>• Aware about the project</li> <li>• Project will bring development and enhance the economy</li> </ul>	<ul style="list-style-type: none"> <li>• Compensate PAPs adequately and resettle them</li> <li>• Suppress dust by sprinkling water on excavated areas</li> <li>• Protect environment during construction and operation</li> <li>• Assist project area community get appropriate sanitation facilities</li> </ul>	Yes
50.	Robert Shunet	Ministry of Interior and Coordination of National Government – Assistant County Commissioner	Local Leader	<ul style="list-style-type: none"> <li>• Aware about the project</li> <li>• There will be displacement of persons, loss of trees/other assets</li> <li>• Project will bring development and enhance the economy</li> </ul>	<ul style="list-style-type: none"> <li>• Assist the community as a way of appreciating their support to the project</li> <li>• Protect the environment and conserve biodiversity</li> </ul>	Yes
51.	Suari Mohammed Viro	Resident	PAP	<ul style="list-style-type: none"> <li>• Aware about the project</li> <li>• There will be job opportunities</li> <li>• There will be enhancement of the economy</li> <li>• Persons are affected and loss of trees/other assets</li> </ul>	<ul style="list-style-type: none"> <li>• Protect the environment and conserve biodiversity</li> <li>• Facilitate planting of trees</li> </ul>	Yes

#	Stakeholder Name	Department or Organization	Involvement or Role in Project	Stakeholder benefits, Interest, Goals, and Concerns	Follow-up Actions and Communication	Support for the Project
52.	Juma Matano	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>Persons are affected and loss of trees/other assets There will be excess noise &amp; dust</li> <li>There will be development and enhancement of the economy</li> <li>There will be job creation</li> </ul>	<ul style="list-style-type: none"> <li>Compensate PAPs adequately and resettle them</li> <li>Suppress dust and noise</li> <li>Protect environment</li> </ul>	Yes
53.	Evans M. Mutisa	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>There will be restricted use of land</li> <li>There will be development and enhancement of the economy</li> <li>There will be safety risks</li> </ul>	<ul style="list-style-type: none"> <li>Compensate PAPs adequately and resettle them</li> <li>Facilitate planting of trees</li> <li>Reduce dust and noise during construction and protect environment</li> <li>Project area community should get priority on jobs</li> <li>Construct a learning facility in the project area</li> </ul>	Yes
<b>Ng'ombeni Location</b>						
54.	Athumani Jiti Mwatsengo	County Government of Kwale – Ward Administrator	Local Leader	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>Persons are affected and loss of trees/other assets</li> </ul>	<ul style="list-style-type: none"> <li><b>Compensate PAPs adequately and resettle them</b></li> <li><b>Facilitate planting of trees</b></li> <li>Control cutting of trees</li> <li>Facilitate provision of water to the project area community by drilling boreholes</li> </ul>	Yes
55.	Salama Musa Suleiman	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>Persons are affected and loss of trees/other assets</li> <li>Project will bring development and enhance the economy</li> <li>There may be misuse of compensation funds</li> </ul>	<ul style="list-style-type: none"> <li><b>Compensate PAPs adequately and resettle them</b></li> <li>Sensitize PAPs on prudent use of compensation funds</li> <li>Facilitate planting of trees</li> <li>prioritize job opportunities for the community</li> </ul>	Yes
56.	Mohamed Ali Sibabu	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>Project will bring development and enhance the economy</li> <li><b>Project will enhance land value</b></li> </ul>	<ul style="list-style-type: none"> <li>KETRACO to ensure environmental protection</li> <li>Suppress dust and noise</li> </ul>	Yes
57.	Kishumbo Shee Hamisi	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>Project will bring development and enhance the economy</li> <li>Persons are affected and loss of trees/other assets</li> </ul>	<ul style="list-style-type: none"> <li>Continue with elaborate sensitization of community members.</li> <li>Facilitate tree planting</li> <li>Enhance Health and safety aspects during construction and operation.</li> <li>Facilitate support for schools and health centres in the project area</li> </ul>	Yes
58.	Mohamed Saidi Nyota	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>There will be excess noise and dust during construction</li> <li>Project will bring development and enhance the economy</li> </ul>	<ul style="list-style-type: none"> <li><b>Compensate PAPs adequately and resettle them</b></li> <li><b>Minimize environmental impacts by implementing ESMP</b></li> </ul>	Yes
59.	Athman Hamisi Macheso	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>People will be affected and, loss of trees/other assets</li> <li>There will be excess dust/smoke and noise</li> <li>There will be job creation</li> </ul>	<ul style="list-style-type: none"> <li>Control cutting down of trees and facilitate planting others</li> <li>Implement ESMP</li> <li>Continue sensitizing project area community on environmental issues</li> </ul>	Yes

#	Stakeholder Name	Department or Organization	Involvement or Role in Project	Stakeholder benefits, Interest, Goals, and Concerns	Follow-up Actions and Communication	Support for the Project
60.	Khalid Ali Awadh Said Badel	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>People will be affected and, loss of trees/other assets</li> <li>Project will bring development and enhance the economy</li> </ul>	<ul style="list-style-type: none"> <li>Compensate PAPs adequately and resettle them</li> <li>Minimize environmental impacts by implementing ESMP</li> </ul>	Yes
<b>Mtongwe Location</b>						
61.	Jane. F Machara	Ministry of Interior and Coordination of National Government – Assistant County Commissioner	Local Leader	<ul style="list-style-type: none"> <li>Not aware about the project (New in the area)</li> <li><b>There will be development and enhancement of the economy</b></li> </ul>	<ul style="list-style-type: none"> <li>Enhance safety procedures during construction</li> <li><b>Respect local cultural practices as project is implemented</b></li> <li><b>Involve community and consider their suggestions</b></li> </ul>	Yes
62.	Rasheed Abdalla	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>People will be affected and, loss of trees/other assets</li> <li>Project will bring development and enhance the economy</li> </ul>	<ul style="list-style-type: none"> <li><b>Compensate PAPs adequately and resettle them</b></li> <li>Enhance environment protection</li> </ul>	Yes
63.	Shake Livason Shake	Resident	PAP	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>People will be affected and, loss of trees/other assets</li> <li>Project will bring development and enhance the economy</li> <li>There will be job opportunities</li> </ul>	<ul style="list-style-type: none"> <li><b>Compensate PAPs adequately and resettle them</b></li> <li><b>Consider views of the community members Prioritize provision of jobs to our youth</b></li> <li><b>Regular communication between KETRACO and Community members to continue</b></li> </ul>	Yes
64.	Walter Kirts	Peace Cohesion - Chairman	Leader	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>There will be enhancement of the economy</li> <li>People will be affected and, loss of trees/other assets</li> </ul>	<ul style="list-style-type: none"> <li>Continue consulting community to enhance project ownership</li> <li>Implement ESMP</li> <li>Respond to any questions in good time.</li> </ul>	Yes
65.	Pastor Eliathu Mate Nthiga	Resident	Community Member – Church Leader	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>People will be affected and, loss of trees/other assets</li> <li>Project will bring development and enhance the economy</li> </ul>	<ul style="list-style-type: none"> <li>Inform community how much they will be paid</li> <li>Respect agreement between community and KETRACO</li> <li>KETRACO to fulfill compensation payment obligations</li> </ul>	Yes
66.	Ali Sasab Athman	Resident	Community Member	<ul style="list-style-type: none"> <li>Aware about the project</li> <li>People will be affected and, loss of trees/other assets</li> <li>Project will bring development and enhance the economy</li> </ul>	<ul style="list-style-type: none"> <li>Continue consulting community in every aspect of project</li> <li><b>Compensate PAPs adequately and on time.</b></li> </ul>	•

## 8 ENVIRONMENTAL MITIGATION MEASURES AND MANAGEMENT PLANS

### 8.1 Environmental and Social Management Plan (ESMaP)

The Environment Management Plan is important for ensuring project sustainability and environmental and social protection. Whereas efforts are usually made to develop/predict mitigation measures for projects before implementation, it is during the operation lifespan of the project that actual impacts are noted or experienced.

An environment monitoring and management plan that includes the monitoring of the progress of mitigation measures being implemented will be carried out while also monitoring the project for any new negative impacts that were not earlier considered or anticipated.

The proponent shall ensure that the Contractor understands and implements all specified mitigation measures during the pre-construction and construction period. The proponent's Supervising Engineer will be responsible for assessing the Contractor's Environmental and Social Management Plan and internally implement the Management Plan to ensure that the environmental and social impacts are monitored and managed in an acceptable manner.

Monitoring systems shall be set up by the Proponent during the operational phase, so that potential environmental problem areas can be detected well in advance and the appropriate remedial action taken. The Proponent shall have a checklist of items that need to be monitored as a matter of routine or periodically over agreed intervals, depending on the nature of the aspect to be monitored. The types of parameters that will be monitored include proposed mitigation measures, design features or actual impacts. Depending on the nature or aspect of impact to be monitored, monitoring will be done as part of routine or periodic maintenance. However, socio-economic and ecological parameters shall be effectively assessed over a longer time span.

**Table 38** provides the Environmental and Social Management Plan (ESMaP) developed after carrying out the ESIA Study of the project corridor. The ESMaP shows the planned mitigation measures for items that were assessed to have negative impacts in the impact assessment process.



**Table 38: Environmental & Social Management Plan (ESMaP)**

Item	Potential impact	Mitigation measures	Implementation responsibility	Supervision responsibility	Approx. cost (KSh)
<b>Pre-construction phase</b>					
Ecosystem	Loss of forest trees and habitat due to forest clearance along the TL corridor	<ul style="list-style-type: none"> <li>The width of forest clearance along the wayleave will be reduced to 20 m to minimize forest clearance.</li> <li>Forest clearance to be conducted as far as possible outside of migratory season (March-November) of Spotted Ground-thrush.</li> <li>In case bird nests are found, they will be relocated to a nearby area/tree.</li> <li>KETRACO will support local/regional afforestation programs through consultation with KFS and local communities.</li> </ul>	KETRACO	KFS	Approx. 1,200,000
Resettlement	Displacement/ relocation of persons, structures, trees due to land easement/acquisition	<ul style="list-style-type: none"> <li>Carry out fair and adequate compensation as per RAP and provide livelihood restoration assistance to PAPs until that their livelihoods are restored to pre-project levels or better.</li> <li>Implement internal and external monitoring to ensure the RAP is implemented appropriately.</li> <li>A grievance redress mechanism (e.g. establishment of PAP Committee) will be put in place to address all emerging complaints and grievances from the PAPs and project area community.</li> </ul>	KETRACO NLC	-	409,487,758 (as per RAP report)
Vulnerable social groups	Vulnerable people are susceptible to resettlement related impacts	<ul style="list-style-type: none"> <li>Vulnerable HH to be provided with extra assistance as per RAP (e.g. sourcing host land, support with dismantling of structures, moving and building new structures).</li> </ul>	KETRACO NLC	-	64,649,350 (as per RAP Report)
Livelihood	Loss of income due to land acquisition or easement	<ul style="list-style-type: none"> <li>TL tower shall be located as far as possible outside of farming areas.</li> <li>Provision of compensation and assistance as per RAP until income are restored to pre-project levels or better.</li> </ul>	KETRACO NLC	-	Included in RAP budget
Land use	Alteration of land use due to land acquisition	<ul style="list-style-type: none"> <li>Provision of compensation and assistance as per RAP until incomes are restored to pre-project levels or better.</li> </ul>	KETRACO NLC	-	Included in RAP budget

Item	Potential impact	Mitigation measures	Implementation responsibility	Supervision responsibility	Approx. cost (KSh)
Social infrastructure and services	Disturbance to Kiteje Secondary school operations	<ul style="list-style-type: none"> <li>Provision of compensation as per RAP so that the school can obtain replacement land adjacent to the school to allow future expansion.</li> <li>KETRACO to ensure the school obtain replacement land.</li> </ul>	KETRACO NLC	-	Included in RAP budget
Cultural heritage	Cutting of tree shrine due to TL corridor	<ul style="list-style-type: none"> <li>Support implementation of tree shrine transfer ceremony (in case the tree shrine cannot be avoided).</li> </ul>	KETRACO	NMK	Approx. 350,000 (Shrine transfer ceremony)
Gender	Women are susceptible to resettlement related impacts	<ul style="list-style-type: none"> <li>Women household heads to be provided with extra assistance as per RAP.</li> <li>Hold women focused group meetings as necessary.</li> <li>Allocate women representative in the PAP committee.</li> </ul>	KETRACO NLC	-	Included in RAP budget
<b>Construction phase</b>					
Air pollution	Fugitive dust and exhaust emissions from construction vehicles	<ul style="list-style-type: none"> <li>Implement regular maintenance and vehicles emitting visible pollutants (e.g. black soot) to be removed from operation until repaired as per Environmental Management and Co-ordination (Air Quality) Regulations 2014.</li> <li>Construction vehicles without inspection certificate will not be allowed to operate.</li> <li>Slow driving on dusty roads within the community area.</li> <li>Regular water spraying of access road.</li> <li>Cover truck loading bed when transporting loose materials such as rock, sand and mud.</li> <li>Avoid to the extent possible passing through sensitive areas (e.g. residential area, schools).</li> </ul>	Construction contractor	Supervising consultant KETRACO	Included in construction base cost
	Fugitive dust emission from heavy civil works	<ul style="list-style-type: none"> <li>Regular water spraying of exposed surfaces.</li> <li>Cover exposed cut and fill surfaces and unused stockpiles.</li> </ul>	Construction contractor	Supervising consultant KETRACO	Included in construction base cost
Water pollution	Sediment-laden rainwater runoff from construction site	<ul style="list-style-type: none"> <li>Exposed cut and fill slopes at the substation/access road to be protected (e.g. by shotcrete) as soon cut and fill works are completed.</li> <li>Install temporary erosion control measures (e.g. sheet cover, sedimentation pond) as necessary.</li> <li>Stockpiles (e.g. topsoil) to be covered by sheet.</li> </ul>	Construction contractor	Supervising consultant KETRACO	Included in construction base cost

Item	Potential impact	Mitigation measures	Implementation responsibility	Supervision responsibility	Approx. cost (KSh)
		<ul style="list-style-type: none"> <li>Temporary construction yard to be located as far as possible from surface water bodies and wetlands.</li> </ul>			
	Uncontrolled discharge of concrete wash water	<ul style="list-style-type: none"> <li>Discharge of untreated concrete wash water to the environment to be strictly prohibited.</li> <li>Concrete wash water to be treated at designated facilities (e.g. facilities with wash water treatment system).</li> <li>Acquire effluent discharge license from NEMA in case of discharge to environment. Effluent quality (e.g. pH) to comply with discharge standard set under Environmental Management and Coordination, (Water Quality) Regulations 2006.</li> </ul>	Construction contractor	Supervising consultant KETRACO	Included in construction base cost
Soil pollution	Accidental spillage of oil to the ground	<ul style="list-style-type: none"> <li>Regular inspection of vehicles and machines for oil and fuel leaks. Leaking vehicles and machines to be removed until repaired.</li> <li>Maintenance activities to be conducted at designated facilities with appropriate pollution control.</li> <li>Spill response kit (e.g. absorbents) to be readily available at the construction site.</li> <li>Fuel tanks to be installed on an impermeable base with bunds.</li> </ul>	Construction contractor	Supervising consultant KETRACO	Included in construction base cost
Waste	Generation of construction waste	<ul style="list-style-type: none"> <li>Minimize waste generation through reuse and recycling.</li> <li>Wastes to be stored in designated areas and with containers specialized for each waste type.</li> <li>Wastes to be collected and disposed only by NEMA-authorized firms.</li> <li>Construction contractor to prepare a Construction Waste Management Plan (CWMP) through consultation with the county government, which identifies the different wastes that will be generated and their proposed storage and disposal procedure.</li> </ul>	Construction contractor	Supervising consultant KETRACO NEMA	Included in construction base cost
Noise	Noise from construction vehicles/machine and	<ul style="list-style-type: none"> <li>Equip vehicles and machines with exhaust mufflers and carry out regular maintenance/inspection.</li> <li>Prohibit using vehicles that exceed 84 dBA when</li> </ul>	Construction contractor	Supervising consultant KETRACO	Included in construction base cost

Item	Potential impact	Mitigation measures	Implementation responsibility	Supervision responsibility	Approx. cost (KSh)
	pile driving works	<p>accelerating as per Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations 2009.</p> <ul style="list-style-type: none"> <li>• Avoid to the extent possible using roads that pass through sensitive areas. If unavoidable, drive slowly when passing through sensitive areas and avoid raving of engines and unnecessary idling.</li> <li>• Use to the extent possible low-noise pile driver. Conduct pile-driving works in a manner so that noise levels do not exceed the construction site noise standard set under Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations 2009.</li> <li>• In principal, pile-driving at nighttime shall not be allowed.</li> </ul>			
Vibration	Vibration from pile driving works	<ul style="list-style-type: none"> <li>• Locate towers at least over distance of 25 m from the nearest structure.</li> <li>• Conduct pile-driving works in manner so that vibration levels do not exceed the construction site vibration standard set under Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations 2009.</li> </ul>	Construction contractor	Supervising consultant KETRACO	Included in construction base cost
Conservation area	Indirect disturbance to Kaya Gandini	<ul style="list-style-type: none"> <li>• Before commencement of construction, hold meetings with Kaya elders to inform about the construction schedule and works, and consult for necessary mitigation measures.</li> <li>• Prohibit entrance of construction workers inside the Kaya.</li> <li>• Establish temporary construction yard as far as possible from the Kaya.</li> <li>• Use as far as practical low-noise construction machines.</li> </ul>	KETRACO Construction contractor	Supervising consultant KETRACO NMK	Included in construction base cost
Ecosystem	Disturbance to forest fauna along DK6-DK7	<ul style="list-style-type: none"> <li>• Implement induction programs for the construction workers regarding prohibition of activities such as hunting, poaching, plant collecting, littering and fire burning.</li> <li>• Construction to be conducted as far as possible outside of migratory season (March-November) of Spotted Ground-thrush.</li> <li>• Use as far as practical low-noise construction machines.</li> <li>• Surround noisy non-mobile equipment (e.g. generator) with</li> </ul>	Construction contractor	Supervising consultant KETRACO KWS	Included in construction base cost

Item	Potential impact	Mitigation measures	Implementation responsibility	Supervision responsibility	Approx. cost (KSh)
		noise barrier.			
Livelihood	Temporary loss of income due to construction-related disturbances	<ul style="list-style-type: none"> <li>Establish temporary construction yard/road as far as possible outside of farmland.</li> <li>Compensation to be provided to affected persons depending on the degree of impact.</li> <li>Inform well in advance the affected persons about the construction plan so that they can harvest their crops and their request can be incorporated into the plan.</li> <li>All casual labor to be resourced from the local community.</li> </ul>	Construction contractor KETRACO	Supervising consultant KETRACO	Included in construction base cost
Land use	Temporary restriction in land use due to construction	<ul style="list-style-type: none"> <li>Establish temporary construction yard/road as far as possible where land use is non-existent or limited.</li> </ul>	Construction contractor	Supervising consultant KETRACO	-
Social infrastructure	Temporary restrictions on road use	<ul style="list-style-type: none"> <li>Prepare Road Use Restriction Plan and obtain permission from the road authority (KeNHA, KeRRA).</li> <li>Inform in advance the local community regarding road use restrictions.</li> </ul>	KETRACO Construction contractor	<ul style="list-style-type: none"> <li>Supervising consultant</li> <li>KETRACO</li> <li>KeHNA, KeRRA</li> </ul>	Included in construction base cost
	Temporary restrictions at Kiteje Secondary School	<ul style="list-style-type: none"> <li>Inform in advance the construction schedule and necessary safety restrictions.</li> </ul>	KETRACO Construction contractor	Supervising consultant KETRACO	Included in construction base cost
Children's right	Employment of underage children	<ul style="list-style-type: none"> <li>As per Employment Act 2007, children under 13 years of age will not be employed.</li> <li>As per Employment Act 2007, children between 13 and 16 years of age will not be employed for works that are potentially harmful and prejudice the child's attendance at school.</li> <li>Prohibit employment of children under 18 years of age for potentially harmful works.</li> </ul>	Construction contractor	Supervising consultant KETRACO	-
Infectious diseases	Proliferation of infectious diseases due to influx of construction workers	<ul style="list-style-type: none"> <li>Construction contractor to prepare HIV/AIDS Prevention/Awareness Plan in accordance to Kenyan laws and regulations. The plan shall among others include the following: <ul style="list-style-type: none"> <li>✓ Planned awareness programs for construction workers</li> <li>✓ Code of Conduct to be complied by the construction</li> </ul> </li> </ul>	Construction contractor	Supervising consultant KETRACO County government	Included in construction base cost

Item	Potential impact	Mitigation measures	Implementation responsibility	Supervision responsibility	Approx. cost (KSh)
		workers ✓ Other measures (e.g. counselling and testing)			
Occupational safety	Risk of occupational accidents (e.g. falling from height, falling into pits, machine operation)	<ul style="list-style-type: none"> <li>• Use of safety harness during working at height.</li> <li>• Install barriers around excavated pits.</li> <li>• Engage only qualified operators.</li> <li>• Use of PPE.</li> <li>• Construction contractor to prepare an Occupational Health and Safety Plan in accordance to Kenyan laws and regulations. The plan shall among others include the following: <ul style="list-style-type: none"> <li>✓ Risk assessment and planned safety measures</li> <li>✓ Training plan for construction workers</li> <li>✓ Organizational structure</li> <li>✓ Emergency response plan</li> </ul> </li> </ul>	Construction contractor	Supervising consultant KETRACO DOSHS	Included in construction base cost
Accidents	Risk of traffic accidents	<ul style="list-style-type: none"> <li>• Strict compliance to speed limits.</li> <li>• Avoid to the extent possible using roads with high risk of accidents.</li> <li>• Vehicle motion alarm to be installed on all construction vehicles</li> <li>• Placement of warning signs and traffic control officers at high risk areas.</li> </ul>	Construction contractor	Supervising consultant KETRACO	Included in construction base cost
<b>Operation phase</b>					
Waste	Generation of operation waste (e.g. leaked transformer oil, domestic waste)	<ul style="list-style-type: none"> <li>• Use transformer oil free of PCBs.</li> <li>• Wastes to be handled and disposed only by NEMA-authorized firms.</li> <li>• Waste disposal containers to be provided onsite for each waste category.</li> <li>• Oil pit to be regularly emptied and kept in containers for disposal by NEMA approved firms.</li> <li>• Preparation of Waste Management Plan (WMP) that identifies the different wastes that will be generated and their proposed disposal procedure.</li> </ul>	KETRACO	NEMA	Included in operation base cost

Item	Potential impact	Mitigation measures	Implementation responsibility	Supervision responsibility	Approx. cost (KSh)
Ecosystem	Bird collision with TL	<ul style="list-style-type: none"> <li>Installation of avian flight diverters (during construction) along the TL passing through forest area.</li> </ul>	Construction contractor (for installation)	KWS	Included in construction base cost
	Electrocution from live TL	<ul style="list-style-type: none"> <li>Installation of guards (during construction) on the TL tower in the forested area to deter climbing animals like baboons.</li> </ul>	Construction contractor (for installation)	KWS	Included in construction base cost
Occupational safety	Risk of occupational accidents for maintenance activities	<ul style="list-style-type: none"> <li>Maintenance contractor to prepare an Occupational Health and Safety Plan in accordance to Kenyan laws.</li> </ul>	Maintenance contractor	KETRACO	Included in operation base cost
<b>Decommission Phase</b>					
Decommissioning activities	Risk of causing disturbance to project area community during decommissioning activities	<ul style="list-style-type: none"> <li>Preparation of a Decommissioning Plan 3 months in advance.</li> <li>Informing NEMA and County Government about the intended decommissioning</li> <li>Informing project area community regarding the intended decommissioning activities and sharing the activities plan</li> <li>Engaging NEMA and County Government Approved Decommissioning and Waste Disposal Firm</li> </ul>	<ul style="list-style-type: none"> <li>KETRACO</li> <li>Decommissioning contractor</li> </ul>	Supervising consultant	To be estimated in D/D stage
Noise	Noise from decommissioning vehicles and activities	<ul style="list-style-type: none"> <li>Equipping vehicles and machinery with exhaust mufflers and carry out proper maintenance.</li> <li>Instructing truck and machinery operators to avoid raving of engines.</li> <li>Avoiding as much as possible use of roads that pass through sensitive areas.</li> <li>Avoiding as much as possible the conducting of noisy works during nighttime.</li> </ul>	<ul style="list-style-type: none"> <li>KETRACO</li> <li>Decommissioning contractor</li> </ul>	Supervising consultant	To be estimated in D/D stage

Item	Potential impact	Mitigation measures	Implementation responsibility	Supervision responsibility	Approx. cost (KSh)
Waste	Generation of decommissioning waste	<ul style="list-style-type: none"> <li>Wastes to be stored in designated areas and with containers specialized for each waste type.</li> <li>Wastes to be collected and disposed only by NEMA-authorized firms.</li> <li>Decommissioning contractor to prepare a Waste Management Plan (WMP) that identifies the different wastes that will be generated and their proposed storage and disposal procedure.</li> </ul>	<ul style="list-style-type: none"> <li>KETRACO</li> <li>Decommissioning contractor</li> </ul>	Supervising consultant	To be estimated in D/D stage
Soil pollution	Accidental spillage of oils and other hazardous chemicals to the ground	<ul style="list-style-type: none"> <li>There should be careful handling of transformers during decommissioning to avoid oil spillage.</li> <li>Regular inspection of vehicles and machines for oil and fuel leaks. Leaking vehicles and machines to be removed until repaired.</li> <li>Spill response kit (e.g. absorbents) to be readily available at the decommissioning site especially where transformers are located.</li> <li>Hazardous substances to be stored only in designated storage facility with impermeable base and away from sensitive areas (e.g. groundwater wells, surface water) and secured from the public.</li> <li>Hazardous materials are only to be handled by trained staff.</li> </ul>	<ul style="list-style-type: none"> <li>KETRACO</li> <li>Decommissioning contractor</li> </ul>	Supervising consultant	To be estimated in D/D stage



## 8.2 Environmental and Social Monitoring Plan (ESMoP)

Most of the environment where the proposed transmission line is designed to cross is largely virgin and requires that environmental protection is enhanced to ensure that there are no adverse effects occurring from its construction and operation phases. Environmental monitoring is an integral part of the environmental management process. It rationally completes the process that begins with, establishing the environmental baseline condition followed by Carrying out the Environmental and Social Impact Assessment then Implementation of mitigation measures and Monitoring the success of those measures.

Environmental and Social monitoring is envisioned as an important process in project management. The monitoring programme will reveal changes and trends brought about by the presence and operations of the project. Such information will be useful in the formulation of sustainable project management and operation strategies. The basic activities for a sound-monitoring programme for the transmission line once it starts operating should at least include the following parameters:

- Collection and analysis of relevant environmental and social data of the site including:
  - Evaluation of the type and quantity of solid waste generated at the construction site
  - Inspection of the materials being used
  - Evaluation of the construction practices
  - Monitoring of the ROW maintenance activities to ensure proper vegetation control methods, prevent invasion by exotic species and support decisions which take advantage of possible benefits to wildlife
  - Evaluation of noise and other effects emanating from the construction sites to wild animal behaviour within vicinity of the route
  - The amount of water consumed during the construction of the tower pads and other structures and how the runoff water is directed
  - Seasonal variation of the presence of disease vectors (mosquitoes)
  - Effects of Vehicle and Human Traffic to wildlife
  - Quality of life of the resettled persons
  - Change in health trends of persons in the project area
- Identification of unexpected environmental impacts
- Formulation of counter-measures to mitigate against the unexpected negative impacts and comparing them with actual impacts as identified during the audit

### 8.2.1 Monitoring plan

The ESIA study has revealed that the proposed 220kV Transmission Line from Mariakani – Dongo Kundu and the substation at Dongo Kundu will generate project impacts that require mitigation during construction period. These impacts will also require close monitoring during construction and post construction period.

Monitoring will involve measurements, observations, evaluations, assessment and reporting on various variables during construction and operation. It shall therefore be important that KETRACO to institute monitoring of the success of the mitigation measures and also the level of as this will assist in improving operations of the Transmission Line and environmental protection.

Arising from the study, the aspects to be monitored are given in **Table 39**.

**Table 39: Environmental and Social Monitoring Plan (ESMoP)**

Category	Aim	Method	Frequency	Implementation responsibility	Estimated cost (KHz)
<b>Preconstruction phase</b>					
Ecosystem	To check the progress and effectiveness of tree afforestation program	Confirm the growth status (e.g. height, survival, health) of planted trees.	<ul style="list-style-type: none"> <li>• 2/year until 5 years after plantation</li> </ul>	KFS KETRACO	To be estimated in D/D stage
Involuntary resettlement	To check the progress and effectiveness of RAP implementation	<b>[Internal monitoring]</b> <ul style="list-style-type: none"> <li>• Assess whether compensation and other entitlements are being delivered in line with the RAP.</li> <li>• Assess whether agreed measures to restore or enhance livelihood and sources of income are being implemented.</li> <li>• Identifying any conflicts or problems, issues, or cases of hardship resulting from the resettlement process.</li> </ul>	<ul style="list-style-type: none"> <li>• 1/month during RAP implementation</li> <li>• Quarterly after RAP implementation for 1 year</li> </ul>	KETRACO PAP Committee	Approx. 2,300,000
		<b>[External monitoring]</b> <ul style="list-style-type: none"> <li>• Assessment of compliance with RAP actions</li> <li>• Assessment of pre- and post-resettlement socio-economic situation of the affected households</li> <li>• Reviewing records of grievances and following up whether or not appropriate corrective actions have been undertaken and outcomes are satisfactory.</li> </ul>	<ul style="list-style-type: none"> <li>• Every 6 months during RAP implementation</li> <li>• Once a year after resettlement for 2 years</li> </ul>	Independent agency	Approx. 4,300,000
Vulnerable social groups	To check the effectiveness of assistance measures for vulnerable PAPs	Implement as part of RAP monitoring.	<ul style="list-style-type: none"> <li>• 1/month during RAP implementation</li> <li>• Quarterly after RAP implementation for 1 year</li> </ul>	KETRACO PAP Committee	Included in RAP monitoring budget
Livelihood, living environment	To check the effectiveness of livelihood recovery measures	Implement as part of RAP monitoring.	<ul style="list-style-type: none"> <li>• 1/month during RAP implementation</li> <li>• Quarterly after RAP implementation for 1 year</li> </ul>	KETRACO PAP Committee	Included in RAP monitoring budget

Category	Aim	Method	Frequency	Implementation responsibility	Estimated cost (KSh)
Land use	To check the effectiveness of livelihood recovery measures	Implement as part of RAP monitoring.	<ul style="list-style-type: none"> <li>1/month during RAP implementation</li> <li>Quarterly after RAP implementation for 1 year</li> </ul>	KETRACO PAP Committee	Included in RAP monitoring budget
Social infrastructure and services	To check the land acquirement and usage status of Kiteje Secondary School	Implement as part of RAP monitoring.	<ul style="list-style-type: none"> <li>1/month during RAP implementation</li> <li>Quarterly after RAP implementation for 1 year</li> </ul>	KETRACO PAP Committee	Included in RAP monitoring budget
Cultural heritage	To check the usage status of the transferred tree shrine	Confirm usage status of the transferred tree shrine through interviews and field reconnaissance.	<ul style="list-style-type: none"> <li>Once a year after transfer for 3 years</li> </ul>	KETRACO	Approx. 300,000
Gender	To check the effectiveness of assistance measures for women HH	Implement as part of RAP monitoring.	<ul style="list-style-type: none"> <li>1/month during RAP implementation</li> <li>Quarterly after RAP implementation for 1 year</li> </ul>	KETRACO PAP Committee	Included in RAP monitoring budget
<b>Construction phase</b>					
Air pollution	To check whether excessive dust and exhaust gas are not emitted from the construction sites	Visual inspection of: <ul style="list-style-type: none"> <li>Fugitive dust emissions from construction sites</li> <li>Exhaust gas emissions from construction vehicles and machines</li> </ul>	Daily	Construction contractor	Part of construction base cost
		Field measurement of air quality (PM <sub>10</sub> ) at sensitive receptors near the substation/access road sites (3 sites). Results to be compared with national ambient air quality standard.	Once before construction 1/week during heavy construction works	Construction contractor	Approx. 3,000,000
Water pollution	To check whether rainwater runoff from construction sites are not causing water	<ul style="list-style-type: none"> <li>Visual inspection of rainwater runoff flow pattern (e.g. check whether there is any inflow of sediment-laden runoff from construction site).</li> <li>In case there is significant inflow of sediment-laden</li> </ul>	Before and after mitigation	Construction contractor	Approx. 500,000

Category	Aim	Method	Frequency	Implementation responsibility	Estimated cost (KHz)
	pollution	rainwater runoff, measure water quality (turbidity and TPH) of the receiving water body before and after mitigation.			
	To check the water quality of treated concrete wash water	Measurement of pH of treated concrete wash water. Results to be compared with national effluent standard.	Prior to discharge.	Construction contractor	Approx. 500,000
Soil pollution	To check of any oil leaks from construction vehicles/machines and fuel tank.	Visual inspection of oil leaks from construction vehicle/machines and fuel tanks.	Daily	Construction contractor	Part of construction base cost
	To check the soil quality of top soil at substation/access road	<ul style="list-style-type: none"> <li>• Sampling and analysis at 3 sites</li> <li>• Parameter: PAHs and heavy metals (As, Cd, Cr+6, Hg, Pb, Ni, Zn)</li> <li>• Results to be compared with Dutch Soil Remediation Circular 2013</li> </ul>	Once before construction	Construction contractor	Approx. 500,000
Noise	To check whether excessive noise is not emitted from the construction sites	<ul style="list-style-type: none"> <li>• Field measurement of noise level (LAeq) at construction site boundary. Results to be compared with national construction site noise standard.</li> <li>• Field measurement of noise level (LAeq) at sensitive receptors (e.g. homestead, school, hospital). Results to be compared with national ambient noise standard.</li> </ul>	Once before construction 1/week during heavy construction works	Construction contractor	Approx. 00,000
Vibration	To check whether excessive vibration is not emitted from the construction sites	<ul style="list-style-type: none"> <li>• Field measurement of vibration level at construction site boundary. Results to be compared with national construction site vibration standard.</li> </ul>	Once before construction 1/week during heavy construction works	Construction contractor	Part of construction base cost
Waste	To check whether wastes are stored and handled in accordance to the contractor's CWMP	<ul style="list-style-type: none"> <li>• Visual inspection of waste storage sites and construction sites.</li> <li>• Confirm records of waste treatment/disposal</li> </ul>	Daily 4/year	Construction contractor Construction supervisor	Part of construction/supervision base cost
Conservation area	To check whether there are any impacts on Kaya Gandini	Hold meetings with Kaya Elders and check of any adverse impacts.	1/month	Construction contractor KETRACO	Part of construction base cost

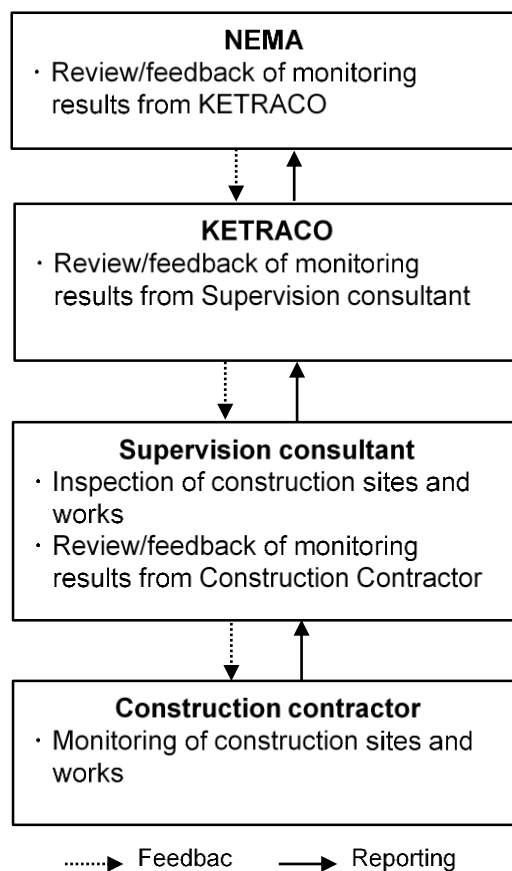
Category	Aim	Method	Frequency	Implementation responsibility	Estimated cost (KHs)
Ecosystem	To check impacts on forest flora/fauna	<ul style="list-style-type: none"> <li>Conduct surprise inspection of construction workers to check of any possession of forest flora/fauna.</li> <li>Visual inspection of any dead wildlife.</li> </ul>	1/week	Construction contractor	Part of construction base cost
Livelihood, living environment	To check impacts on livelihood due to acquisition of land for construction works	Implement as part of RAP monitoring.	1/month	KETRACO PAP Committee	Included in RAP monitoring budget
Land use	To check impacts on land use due to acquisition of land for construction works	Confirm construction land use plan prior to commencement of construction.	Once before construction	KETRACO	Included in RAP monitoring budget
Social infrastructure and services	To check impacts on operation of Kiteje Secondary School	Interview manager of Kiteje Secondary School	Once during stringing works TL	Construction supervisor KETRACO	Part of supervision base cost
Children's right	To check whether there are any child labour	<ul style="list-style-type: none"> <li>Checking of employment registration of the Contractor.</li> <li>Confirmation of accuracy of employment registration with local administration office.</li> </ul>	Monthly	Construction supervisor KETRACO	Part of supervision base cost
Infectious diseases	To check implementation status of HIV/AIDS Prevention/Awareness Plan	Confirmation of implementation records of awareness programs, counselling and so on.	2 times/year	Construction supervisor KETRACO	Part of supervision base cost
Occupational safety	To check whether safety procedures are implemented in accordance to OHSP (All sites)	Visual inspection of work safety procedures and equipment.	Daily	Construction contractor Construction supervisor	Part of construction base cost
Accident	To check status of accidents	Confirm status of accidents through weekly meetings	Weekly	Construction supervisor	Part of supervision base cost

Category	Aim	Method	Frequency	Implementation responsibility	Estimated cost (KHz)
<b>Operation phase</b>					
Waste	To check operation wastes are stored and handled in accordance to the Waste Management Plan	Inspection of oil leakages and waste management practices at the substation.	4 times/year (Quarterly)	KETRACO	Included in KETRACO's operation and maintenance budget
Ecosystem	To check whether any bird collision incidences have occurred along the TL corridor especially along the forest area	Field reconnaissance and community interview along the TL corridor.	2 times/year for 2 years	KETRACO	Included in KETRACO's operation and maintenance budget
	To check whether any animals have been electrocuted along the forest area	Field reconnaissance and community interview along the TL corridor.	2 times/year for 2 years	KETRACO	Included in KETRACO's operation and maintenance budget
Occupational safety	To check whether safety procedures are implemented in accordance to OHSP	Visual inspection of work safety procedures and equipment.	During maintenance work	KETRACO	Included in KETRACO's operation and maintenance budget

### 8.3 Implementation structure

KETRACO will establish Project Implementation Team (PIT) consisting of two environmental specialists and two social safeguards specialists. They will supervise and coordinate implementation of the ESMaP, conduct additional studies where necessary and addressing any grievances. PIT will also be responsible for taking procedures for obtaining necessary licenses (e.g. ESIA License) and reporting monitoring results to NEMA during construction and operation phases.

During the construction stage, the construction contractor will be mainly responsible for implementing the ESMaP/ESMoP under the supervision of the supervising consultant. The construction contractor shall allocate at least one Health, Safety and Environment (HSE) officer for the substation and one for the transmission line. The HSE officer will be responsible among others for preparing construction specific environmental related plans (e.g. environmental management plan, waste management plan, health and safety plan), obtaining necessary permits, education of workers, supervision, review of monitoring results, reporting and so on. The supervising consultant will also need to allocate Health, Safety and Environment (HSE) officers for the substation and transmission line, who will be responsible for inspection and supervision of the construction contractor’s environmental performances, review/feedback of monitoring results and assist KETRACO as necessary. **Figure 26** shows the implementation and reporting/feedback structure of the EMoP for the construction stage.



**Figure 26: Implementation and reporting/feedback structure of EMoP**

During the operation stage, KETRACO will be responsible for implementing ESMaP and ESMoP and reporting to NEMA.

#### 8.4 Project's Decommissioning Phase

In the event of decommissioning & demolition of the transmission line infrastructure, the Proponent shall be required to restore the host environment close to its original state.

The demolition exercise shall involve the following:

- Inform NEMA and the Local Authority through a 3-month notice;
- Provide NEMA and the Local Authority with a detailed Decommissioning Plan;
- Demolish and remove all the concrete works, transmission line and associate structures;
- Demolish and remove the tower structures, electrical fittings and associated cables;
- Demolish and carefully handle components that contain chemicals like the transformers;
- Ensure proper handling of the demolished materials and have an authorized and guided transportation and disposal away from human settlement, water bodies and riparian areas;

KETRACO shall submit a decommissioning plan to NEMA in good time prior to decommissioning. The decommissioning plan shall include a restoration plan.

The host environment shall be rehabilitated and restored to its former state through:

- Approved and appropriate landscaping methodology.
- Planting of indigenous vegetation.

Removal of any soils that may have been impacted by oils or fuels for offsite (away from the project area) remediation.

Impact Significance of Decommissioning Activities is provided in **Table 40**.



**Table 40: Impact Significance of Decommissioning Activities**

No	Aspect	Environment, Health And Safety Impact	Significance Level
1.	Noise	Reduced hearing due to high noise from decommissioning activities	Low
2	Air Pollutants (Exhaust Emissions)	Respiratory disease caused by CO <sub>2</sub> , CO, NO <sub>x</sub> , and VOCs released by combustion engines and machines during demolition and transportation of recovered materials at the project site	Low
3	Air Pollutants (Fugitive Dust)	Respiratory disease caused by pollutants (cement, dust), caused by demolition of transmission line tower pad and structure	Low
4	Water Pollutants	Public health problems as a result of consuming heavy metal and other chemicals like oils, grease and other petroleum products released to the ground contaminating rivers and drinking water wells.	Low
5	Traffic Accidents	Traffic related mortality and morbidity from transportation activities	Low
6	Physical Hazards	Injuries resulting from demolition activities	Low
7	Ergonomic Hazards	Injuries due to poor ergonomic considerations such as pains caused by prolonged or over-exertion while moving or otherwise handling bulky and heavy loads/equipment; visual discomfort and eye problems caused by inadequate illumination and eyestrain; development of lumbago due to poor vehicle suspension/ uncomfortable seat, etc.	Low
8	Wild animals	Injuries resulting from attacks by wild animals (elephants, baboons, wild pigs) as a result of decommissioning activities within the habitat of such animals	Low

## 9 CONCLUSIONS AND RECOMMENDATIONS

During the ESIA study phase project components have been evaluated through review of the following aspects: project literature, preliminary field assessment, and collection of baseline information sample collection and lab analysis, identification of project impacts, identification possible mitigation measures and monitoring plan. The information obtained provides adequate information regarding the salient ecological and socio-economic features of the study area and the potential impacts of the proposed transmission line project.

### 9.1 Conclusions

As per the ESIA Study, the proposed Project is unlikely to generate any irreversible or permanent negative impacts, providing that the proposed mitigation measures and monitoring are implemented appropriately. The Project should be allowed to proceed when the process of compensation and resettlement is successfully concluded as per the RAP.

### 9.2 Recommendations

The following aspects and commitments are to be considered in the ensuing Project stages:

- The TL tower shall be placed to the extent possible in an area with no land-based activities such farming.
- The TL tower shall be placed to the extent possible far from sensitive environment such as rivers, school and houses.
- To mitigate the impacts of forest clearance, a detailed afforestation program should be developed through consultation with KFS and local community. Candidate afforestation area will be the periphery of the DK6-7 forest area. KETRACO will facilitate the afforestation program and actual planting will be implemented by KFS and local community.
- The TL route along the tree shrine area shall be reconsidered whether it is possible to avoid cutting the tree shrines.
- Measures should be considered so that the affected local communities will gain more benefits through the Project such as providing employment opportunities.
- The proposed Environmental and Social Management Plan (ESMaP) and Environmental and Social Monitoring Plan (ESMoP) should be updated in line with any changes in plan and design of the Project.

**10 ESIA STUDY TEAM**

No	Name/Position	Task Assignment
1.	Mr. Joshua Patrick Oyieko	Team Leader /Environmental Lead Expert
2.	Irene Muchoki	Socio Economist
3.	Fredrick Maseno	Safety and Occupational Health Professional
4.	Charles Ataya	Ecologist

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## 12 COLOPHON

JICA/ESIA Study for the Power Supply Component of the Mombasa SEZ Development Project  
Pan-17-038

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Client	: JICA Design Team (JDT) / KETRACO
Project	: ESIA Study for Power Supply Component of the Mombasa SEZ) Development Project
File	: Water & Environment'
Length of report	: 157 pages
Author	: PANAFCON Ltd.
Project Manager	: Joshua Oyieko
Project Director	: OKELLO, Richard O.
Date	: January 2019
Name/Initials	: oro/im/jp

---

**ANNEXES**

**Annex 1: NEMA EIA License for Panafcon and Lead Expert**





**NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY(NEMA)  
THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT**

**ENVIRONMENTAL IMPACT ASSESSMENT/AUDIT (EIA/EA) PRACTICING LICENSE**

License No : NEMA/EIA/ERPL/7210

Application Reference No: NEMA/EIA/EL/9941

M/S **Panafcon Ltd**  
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P.O. Box 53147-00200, Nairobi

is licensed to practice in the

capacity of a (Lead Expert/Associate Expert/Firm of Experts) **Firm of Experts**  
registration number **0184**

in accordance with the provision of the Environmental Management and Coordination Act Cap 387.

Issued Date: **2/13/2018**

Expiry Date: **12/31/2018**

Signature.....

(Seal)

**Director General**  
**The National Environment Management**  
**Authority**

P.T.O.



ISO 9001: 2008 Certified

FORM 7

(r.15(2))



**nema**  
mazingira yetu | uhai wetu | wajibu wetu

**NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY(NEMA)  
THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT  
ENVIRONMENTAL IMPACT ASSESSMENT/AUDIT (EIA/EA) PRACTICING LICENSE**

License No : NEMA/EIA/ERPL/6998

Application Reference No: NEMA/EIA/EL/9937

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in accordance with the provision of the Environmental Management and Coordination Act Cap 387.

Issued Date: **2/6/2018**

Expiry Date: **12/31/2018**

Signature.....

(Seal)

**Director General**

**The National Environment Management  
Authority**

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ISO 9001: 2008 Certified



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No. **9690** Date: 09/10/19

Received from..... Palmagcon Ltd

The sum of Shillings Five Thousand Only

Being payment of EIK Subscription - Firm - 184

With thanks

Kshs. 5000/= Received by Selina  
Cash/Cheque No.



P.O. Box 5087 - 00506 Nairobi Kenya Tel: 0774 239 594  
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No. **9689** Date: 09/10/19

Received from..... Joshua P. Ogutu

The sum of Shillings Two Thousand Only

Being payment of EIK Subscription - Ind - 009

With thanks

Kshs. 2000/= Received by Selina  
Cash/Cheque No.



**Annex 2: NEMA Approved ToR**

ESIA Study ToR

**ESIA Study for the Proposed  
Mariakani-Dongo Kundu 220kV  
Transmission Line and Sub-  
Station at Dongo Kundu**

**Terms of Reference (ToR) for the ESIA Study**



**ESIA Project Report RE: NEMA/PR/5/2/18,828**

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Final February 2018

**ORIGINAL**



**ESIA Study ToR**

# **ESIA Study for the Proposed Mariakani-Dongo Kundu 220kV Transmission Line and Sub- Station at Dongo Kundu**

Terms of Reference (ToR) for the ESIA Study

Kenya Electricity Transmission Company  
(KETRACO)

file Environment

registration number Pan-17-038

version 1

Final February 2018

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## 1 INTRODUCTION

### Proposed Terms of Reference (ToR) for the Environmental and Social Impact Assessment (ESIA) Study of the Proposed Mariakani-Dongo Kundu 220kV Transmission Line and Sub-Station at Dongo Kundu

According to the Government of Kenya long-term development plan “Vision 2030”, Kenya aims to be a middle-income country by 2030 and the development of the Mombasa Special Economic Zone (hereinafter referred to as “Mombasa SEZ”) is mentioned as a priority project to achieve this goal. The Mombasa SEZ will be developed in the Dongo Kundu area of Mombasa County (part of the SEZ is also inside Kwale County), which will cover an area of approximately 1,200 ha. The Mombasa SEZ is planned to consist from free trade zone, industrial park, residential zone, tourism zone among others and are planned to be developed through three phases.

There are no 132 kV or 220 kV lines in the SEZ area. The existing 11 kV distribution lines are used for local consumer only and not for industrial load. Since the load of the SEZ will be increased considerably, the existing 11 kV distribution lines will not be able to meet the load demands. The transformer capacity of existing substations will also become insufficient.

New power supply facilities will need to be developed to serve the Mombasa SEZ hence the proposed construction of the Mariakani-Dongo Kundu 220kV Transmission Line that will tap power from the Nairobi-Mombasa 400kV line at Mariakani.

#### 1.1 Project Components

The proposed power supply facilities for the Mombasa SEZ will be developed by Kenya Electricity Transmission Company Limited (KETRACO). They will consist of the following components:

- Development of 220 kV Transmission Line (TL) from Mariakani 400/220 kV substation to Mombasa SEZ (note that Mariakani 400/220 kV substation is not included in the Project scope and will be constructed through another project)
- Development of 220/33 kV substation inside Mombasa SEZ
- Development of 33 kV distribution line inside Mombasa SEZ from 220/33 kV substation

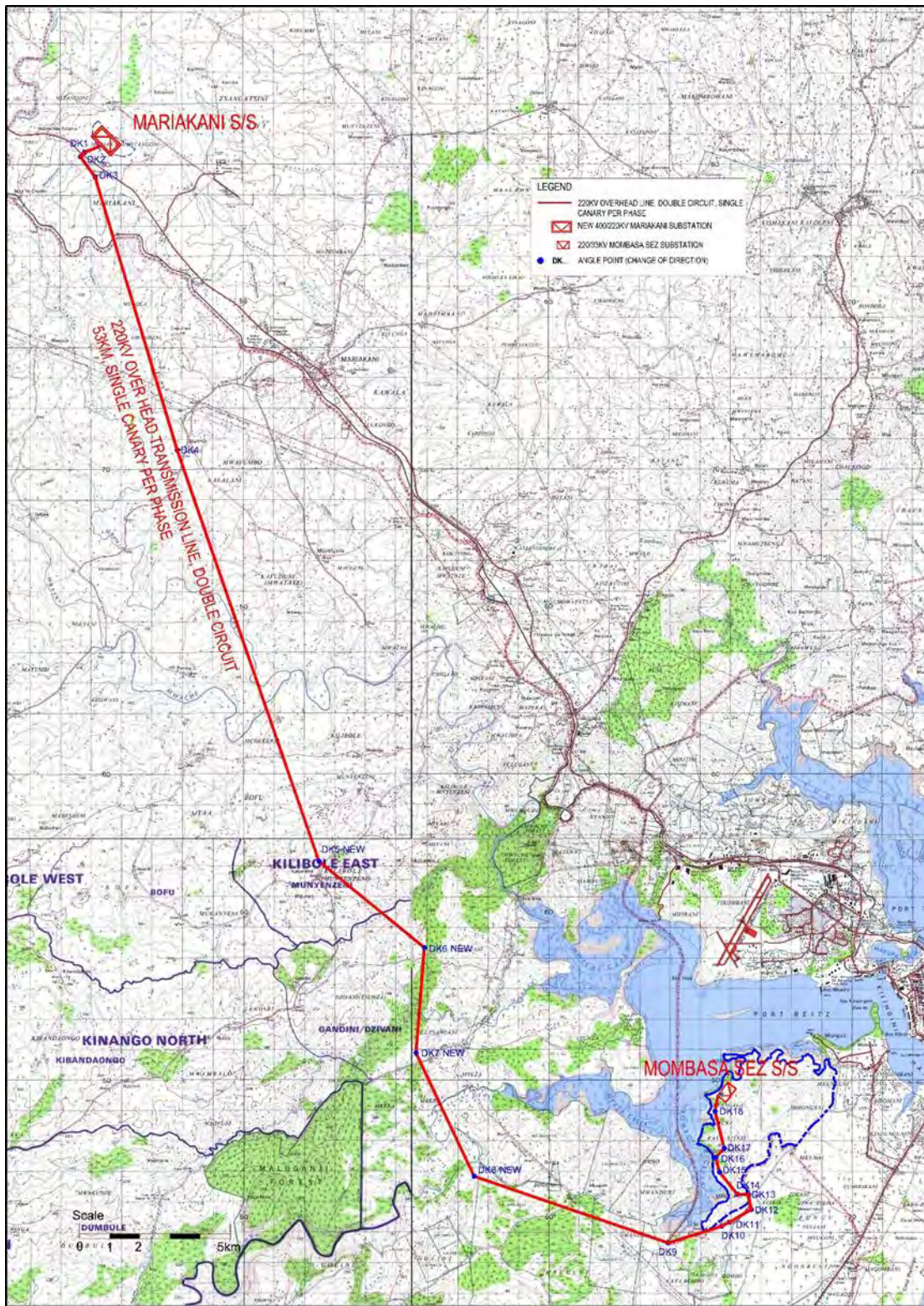
#### 1.2 Location of the Proposed Mariakani-Dongo Kundu 220kV Transmission Line

The 220 kV transmission line from Mariakani 400/220 kV substation to Mombasa SEZ 220/33 kV substation is approximately 53 km in distance, which will traverse through three counties namely Kilifi, Kwale and Mombasa. A 40 m wayleave will be secured along the transmission line route (20m on either side from the center of 220kV transmission line).

The Mombasa SEZ 220/33 kV substation will be located in Likoni Sub-County, Mombasa County over a hilly terrain adjacent to the new Southern Bypass Road. **Map 1** shows the route of the 220 kV transmission line. **Map 2** shows the location of the Mombasa SEZ 220/33 kV substation.

The 33 kV distribution line will run from Mombasa SEZ 220/33 kV substation to the new port to be developed inside the Mombasa SEZ. The distance is approximately 6.5 km. The distribution line will be installed along the right-of-way of the new Southern Bypass Road and new port access road.





Map 1: Location of the Proposed Mariakani-Dongo Kundu 220kV TL



**Map 2: Location of the Mombasa SEZ 220/33 kV Substation**

### 1.3 Scope of the Proposed Project Activities

The proposed 220kV Transmission Line and Sub-Station will consist of overhead double-circuit transmission line supported by a steel-lattice type transmission towers. The 220/33 kV substation will mainly consist of transformers (75 MVA x 2 units), switchgear (220 kV), control building and access road. The area of the substation will be approximately 18,800 m<sup>2</sup>, which includes some vacant space for future expansion.

#### 1.3.1 Transmission line and tower

Construction of transmission lines will typically involve the following works:

- a) Clearance of vegetation along the transmission line corridor and within the footprint of the transmission tower base. Low-lying vegetation along the transmission line corridor will be maintained.
- b) Construction of concrete foundation of the transmission tower. This will include excavation of tower base, concrete placement and backfilling. The concrete mix will be prepared at the site.
- c) Erection of transmission tower (assembling of prefabricated components of the lattice structure)
- d) Stringing of transmission cable. Transmission cable will be installed by installing a winch at one end of the line section, and a tensioner and cable drum at the other end.

#### 1.3.2 Substation

Construction of substation will typically involve the following construction works:

- a) Clearance of vegetation within the substation site
- b) Grading works (cutting and filling) to level the site
- c) Construction of concrete foundation
- d) Construction of control house and installation of equipment and steel structures

### 1.3.3 Workers and Construction Facilities

#### (1) Construction Workers

Around 20 workers (e.g. mason, supervisor, unskilled laborer) are expected daily to be working at the substation construction sites. Around the same number of workers will also be working at the transmission line sites. Most workers will be procured locally, although skilled foreigners may be hired for highly technical works. The entire recruitment process for the workers will be managed by the contractors in accordance with Kenya labor laws.

Normal working hours are planned to be from around 08:00-17:00 from Monday to Saturday. Works outside of normal working hours will require permission from KETRACO and relevant local authorities.

#### (2) Construction Machines

**Table 1** shows the main construction machines that will be required for construction of the transmission line and substation.

**Table 1: Main Machines for Construction of TL and Substation**

Type	Quantity	Type	Quantity
Truck (3 ton)	1	Excavator	6
Truck with crane (2 ton)	2	4-wheel tractor	1
Mobile crane (20 ton):	1	Light truck	4
Power shovel	1	Dump truck (10 ton)	10
Hydraulic rotary drilling rig	1	Water tank truck	1
Pile driving equipment	1	Concrete mixing machine	10
Back hoe	1	Diesel engine generator	8
Stringing winch	1	Welding machine	4
Stringing tension	1	Cutting machine	6

#### (3) Construction Materials

Construction works will require raw materials such as cement, aggregates, gravel, wood, bricks and reinforcing steel bar. Most will be procured from Kenya from licensed suppliers, and there will be no need for the Project to develop any new quarries.

#### (4) Temporary Construction Facilities

Temporary construction facilities such as stockyard are planned to be established within the site boundary of the substations and corridor of the transmission lines. Other temporary construction facilities may include concrete batching plant, access road and workers camp. The requirement and locations of these facilities will be considered in more detail in the detailed design stage.

#### (5) Construction schedule

Construction works is expected to take around 2 years.

## 1.4 Project ESIA Study Components

### 1.4.1 Further Review of Project Background

- Purpose/Objective of the Project
- Project Route Selection
- Project Execution

#### 1.4.2 ESIA Study of the Proposed Transmission Line and Sub-Station

- Further Field Data Collection;
- Consultation and Interviews with Key Stakeholders and Project Area Community;
- Administration of Questionnaires and Collection of Project Area Baseline Environmental and Socio-Economic Data;
- Detailed Assessment of the Project Area Environment especially the Marine Environment, focussing on Identification of Existing Marine Life, the Potential Impacts that the Project may generate during Construction, Operation and Decommissioning Activities.
- Convening of Public Consultation Meeting within the Project Area during the ESIA Study;
- Review of any other relevant project in progress that has environmental effect on the current project;
- Review of Project Alternatives that may be adopted to eliminate or reduce impacts;
- Identification of Project Impacts, Cost Effective and Appropriate Mitigation Measures;
- Preparation of Project Environmental and Social Management Plan (ESMaP);
- Preparation of Project Environmental and Social Monitoring Plan (ESMoP);
- Preparation of ESIA Study Report.

#### 1.5 Resettlement Action Plan (RAP) Study

A Resettlement Action Plan (RA) Study was commissioned in July 2017 and is currently at an advanced stage. 90% of the study is complete. The RAP study is being carried out to identify persons and property affected by the project for Compensation of affected land and property and resettlement of those found within the 40m wide transmission line corridor and the sub-station site.

The RAP Study is intended to achieve the following:

- Identify the land parcels affected by the 40m wide Transmission Line corridor from Mariakani-Dongo Kundu and Substation in Dongo Kundu
- Identify the households affected by the project
- Identify the structures, trees and crops affected by the project
- Carry out valuation of land for easement and acquisition compensation
- Carry out valuation of structures, trees and crops for compensation

The RAP Study is being carried out through the following steps:

- Convening of Public Sensitisation Meeting with project area community to inform them about the project and its potential impacts.
- Carrying out detailed Census Survey to identify:
  - The affected households,
  - The affected parcels of land,
  - The structures
  - The affected trees and Crops
- Valuation of affected land and property
- Convening of a Project Affected Persons (PAPs) Meeting to disclose project impacts to the PAPs
- Preparation of a RAP Report that contains compensation amounts for each PAP

## 2 TASKS TO BE ACCOMPLISHED DURING ESIA STUDY

### 2.1 Task 1: Provide Description of Proposed Project and Associated Activities

This task will endeavour to provide a full description of the project and its existing setting, using maps at appropriate scales including the following information:

- Location of the 220kV Transmission Line and Sub-Station;
- Elaborate on the Project Components and their location of installation;
- Elaborate on the salient features of the project.

### 2.2 Task 2: Description and Baseline Measurements and Lab Analysis of Samples

#### 2.2.1 Description of the Baseline Environment

Under this task, there will be collection and Evaluation of Site Baseline Data including the anticipated changes before project commencement. The study will cover the following:

##### **Physical Environment:**

- Project Area Site Topography
- Climate and Meteorology
- Ambient Air and Noise Quality
- Geology
- Soils
- Surface Water Resources closest to site and within the project area (Rivers and Streams etc)
- Groundwater Resources (Boreholes, Wells etc)
- Sources of Existing Air and Noise Emissions
- Existing Infrastructure (Road Network, Railways, Electricity, Water and Sewerage Facilities)
- Any Existing Water Pollution Discharges
- Landscapes (Visual Impacts, Compatibility with surrounding area)

##### **Biological Environment:**

- Flora (Existing vegetation that shall be affected by the project activities)
- Fauna (Any potential wildlife in the project area that shall be affected by the project.
- Bird Species in the project area and impact of the project on their livelihoods;
- Any rare or endangered species in the project area;
- Sensitive Habitats (Wetlands etc)
- Any significant Natural Sites
- Species of Commercial Importance
- Species that become a nuisance, vectors or dangerous.

##### **Socio-Economic and Cultural Environment:**

- Projected Expansion and Population Growth of the project area;
- Socio-economic activities of the project area;
- Current Land Use and Planned Infrastructure Development ;
- Employment Opportunities and Influence of the project;
- Historical, Cultural or Sensitive Sites within the project area including Kayas and Shrines

## 2.2.2 Baseline Environment Measurements and Sample Analysis

Under this task, there will be Evaluation of Baseline Environment including Collection and Lab Analysis of samples to establish the current status of the project site. The study will cover the following:

### a) Insitu Measurements

Potable Conductivity and pH Meters will be used to collect insitu measurements of the waters in the project area. The parameters that will be measured include:

- Electrical Conductivity (EC) in  $\mu$ siemens or millisiemens/per cm of the water
- pH of the water
- Temperature

### b) Sampling and Lab Analysis of Water

Both surface and shallow groundwater samples will be collected at various places of the project site at the following locations:

- Sub-station site
- Near settlements;
- Near School or other Public Institutions;

The water samples will undergo analysis of Total Petroleum Hydrocarbons (TPH), and Polycyclic Aromatic Hydrocarbons (PAHs).

### c) Sampling and Lab Analysis of Soil

Soil samples will be collected at various locations of the project area at the following locations:

- At the sub-station site
- At the proposed location of the pylon base
- At the proposed contractor camp site

The soil samples will undergo analysis of Total Petroleum Hydrocarbons (TPH) and Polycyclic Aromatic Hydrocarbons (PAHs)

### d) Noise Level Measurements

The noise levels will be measured in the project area to establish the baseline noise levels. Baseline noise level measurements will be carried out at the following locations:

- At the sub-station site
- Near Settlements
- Near School or any other Public Institution located close to the Transmission Line Route or Sub-station site.

### e) Air Quality Measurements

Air quality of the project area will be evaluated by carrying out baseline air measurements where the following parameters will be analysed:

Particulate Matter (PM), oxides of Sulphur ( $SO_x$ ), oxides of Nitrogen ( $NO_x$ ) and Hydrocarbons (HC).. Air quality measurements will be carried at the following locations:

- At the sub-station site
- Near Settlements
- Near School or any other Public Institution located close to the Transmission Line Route or Sub-station site.

**Table 2: Samples for Lab Analysis**

Nr	Medium	Source	Location and No of Samples	Analysis/ Measurements	Total No of Samples
1	Water	Streams/Rivers	a) Near Sub-Station - 1	TPH and PAH	5
			b) Near Settlements - 2		
			c) Near School - 1		
		Shallow Groundwater/Wells	d) Near Settlement - 1		
2	Soil	Contractor's Camp, Pylon Base and Substation	a) At Sub-Station Site - 2	TPH and PAH	5
			b) Along TL Corridor at Pylon base located near wet land/River – 2r		
			c) Contractor Camp Site - 1		
3	Noise	Selected Project Area Sites	a) At Sub-Station Site - 1	Baseline Noise Level Measurements	5
			b) Near School - 1		
			c) Near Settlements - 3		
4	Air	Selected Project Area Sites	a) At Sub-Station Site - 1	Particulate Matter (PM <sub>10</sub> ), Oxides of Sulphur (SO <sub>x</sub> ) Oxides of Nitrogen (NO <sub>x</sub> )	5
			b) Near School - 1		
			c) Near Settlements - 3		

### 2.3 Task 3: Legislative and Regulatory Framework

There are project site activities that will trigger Legislative Requirements:

- Project corridor clearing of vegetation
- Project Site Construction and Operation Activities;
- Health and Safety of Project Development Persons (workers) and project area operators during the project cycle (During Construction and Operation Phases);
- Presence of sensitive features like Wetlands, Shallow Groundwater and Natural Vegetation;
- Presence of gazetted cultural sites like Kayas and Shrines.
- Current Land Use and Future Land Use Planning and Control;
- Rights of Local People, any relevant Authorities at Local and Regional level and project area business operators.

Particular attention shall be paid to the following legislation:

- Constitution of Kenya 2010;
- Environmental Management and Coordination Act (EMCA) 1999 and Subsequent NEMA Regulations
  - The Environmental (Impact Assessment And Audit) Regulations, 2003;
  - Environmental Management and Coordination (Water Quality) Regulations, 2006;
  - Environmental Management and Coordination (Waste Management) Regulations, 2006;
  - Environmental Management and Coordination (Wetlands, River Banks, Lake Shores and Sea Shore Management) Regulation, 2009;
  - Environmental Management and Coordination, (Conservation of Biological Diversity and Resources, Access to Genetic Resources, Benefit Sharing (BD) Regulations, 2006;
  - Environmental Management and Coordination Draft Air Quality Regulations, 2008;
  - Environmental Management and Coordination (Noise and Excessive Vibration Pollution Control) Regulations, 2009;

### **Other Kenyan Legislation**

- Other Acts that will be reviewed in relation to the proposed project include;
  - The Land Act, 2012 – Land Acquisition and Public Rights of Way
  - Forests Act, 2005
  - Energy Act, 2006
  - Electrical Power Act 1997
  - The Land Registration Act, 2012 (No. 3 of 2012)
  - Land Adjudication Act, Cap. 284
  - Public Roads and Roads of Access Act (Cap. 399)
  - The Standards Act Cap 496
  - The Wildlife Conservation and Management Act, 2013
  - The Occupational Safety and Health Act, 2007
  - The Public Health Act, Cap 242
  - The Water Act, 2002
  - Physical Planning Act Cap 286
  - Employment Act No 11 of 2007
  - Labour Institutions Act No. 12 of 2007
  - Building Code 1997
  - Use of Poisonous Substances Act Cap 247
  - Traffic Act Cap 403
  - The National Museums and Heritage Act, Cap6;

### **World Bank Guidelines (Safeguard Policies) especially**

- OP 4.01 Environmental Assessment and
- OP 4.12 Involuntary Resettlement
- OP 4.36 Forests
- OP 4.04 Natural Habitats
- OP 4.11 Physical Cultural Resources

### **JICA Guideline for Environmental and Social Consideration**

## **2.4 Task 4: Potential Impacts of Proposed Project**

The Study shall evaluate the following potential Environmental and Social Impacts:

### **Impacts on Natural Environment**

- Impacts on Flora & Fauna;
  - Potential impacts of project on natural vegetation including mature trees and forest cover;
  - Potential impacts of project on habitats for migratory birds
  - Potential impact of project on dispersal area for wildlife from Mwaluganje Forest
  - Potential impact of project on birds within the project area;
- Landscape Visual Impacts (alteration of land use)
- Potential interference with cultural sites like Kayas and Shrines
- Potential impacts on Water Resources;
- Generation of Solid and Liquid Waste Impacts;
- Impacts of Site Decommissioning Activities and Residues.

### **Impacts on Social Environment**

- Potential displacement of persons within the project corridor
- Potential loss of shelter (Involuntary resettlement)
- Potential loss of livelihood
- Potential pollution of air affecting settlements



- Potential generation of excess noise affecting settlements
- Potential pollution of water sources
- Potential generation of electromagnetic fields that could cause health risks after long time exposures
- Potential impact on vulnerable groups/persons
- Potential Impact on Social Infrastructure like schools, hospitals etc.
- Potential disruption of social institutions due to influx of workers into the project area
- Potential triggering of Gender issues
- Potential increase in spread of communicable diseases like HIV etc
- There is some degree of occupational risks associated with working at heights during construction and operation
- There is potential risk of accidents occurring during construction and from machinery/vehicles.

The study shall distinguish between the following impacts:

- Significant Positive and Negative Impacts;
- Direct and Indirect Impacts;
- Short Term, Medium Term and Long Term Impacts;
- Cumulative Impacts.

The evaluation of the above impacts shall look into:

- Safety and Security of project personnel and project area operators (Construction & Operation Phases);
- Effect of Project on bird and wildlife
- Effect of Project on Soil and Land;
- Effect of Project on Water Resources (Surface, Groundwater and Wetlands);
- Effect of Project on Vegetation (Trees and Natural Vegetation);
- Effect of Project on Project Area Population, their sensitivity to project activities during construction and operation;
- Effect of Project on Local Population and Commercial Operators(Socio-Economic Impact);
- Effect of Project Solid and Liquid Waste (Sewerage and Oil Wastes from Machinery and Vehicles) generated during construction and operation phases;
- Effect of project on Local Weather Patterns;
- Effect of project and its products on Health and safety of Local Community and Operators;
- Types of potential impacts (Temporary or Permanent, Short Term or Long Term, Cumulative and Residual Impacts);
- Effects of decommissioning activities.

Identification of unavoidable or irreversible impacts and any information gaps shall be done. As much as possible, impacts shall be described quantitatively in terms of environmental costs and benefits and the assignment of economic values where feasible.

## **2.5 Task 5: Analysis of Alternatives to the Proposed Project**

Description of alternatives identified during the course of developing the proposed project shall be elaborated and identification of other alternatives that would achieve the same objective provided.

**Project Alternatives evaluation shall cover the following:**

- Transmission Line route alternatives;

- Design Technology for Different Components;
- Construction Techniques for Different Components;
- Operation and Maintenance Procedures;
- Evaluation of a “No Project Scenario”.

#### **Alternative to Location of Transmission Line and Sub-station**

The Design Consultant has already evaluated some alternative routes to minimise impact on settlements and some cultural sites (Kaya Kiteje). Further alternative on Transmission Line route is going to be done to avoid cultural sites like Shrines and Kayas.

#### **Alternative to Project Designs**

Similarly, alternatives to component designs have been considered by Design Consultant. Since there are migratory birds and baboons within the forested section of the transmission line design alternatives will need to be considered to minimise impacts. These will be elaborated in the ESIA Study Report.

#### **Project Alternatives shall be compared in terms of:**

- Potential Environmental Impacts
- Capital & Operating Costs
- Suitability under local conditions
- Institutional, Training and Monitoring Requirements.
- The alternative of not implementing the project shall also be reviewed and highlighted in order to demonstrate environmental conditions without the Project.

### **2.6 Task 6: Mitigation Measures for Potential Impacts (Task 4)**

The impacts identified under Task 4 will be provided with appropriate and cost effective Mitigation Measures. The Mitigation Measures will cover all phases of the project namely:

- Pre-construction activities (Design and Site Preparation)
- Construction activities
- Operation activities
- Decommissioning activities

Further elaboration will be done on the mitigation measures already identified and listed in Chapter 7 of the Project Report under **NEMA/PR/5/2/18, 828**.

### **2.7 Task 7: Development of Environmental and Social Management Plan (ESMaP)**

Recommendation of Feasible and Cost-Effective Mitigation Measures to prevent or reduce significant negative impacts to acceptable levels shall be provided.

The study shall estimate the impacts and costs related to the mitigation measures required and the institutional and training requirements to implement them. The Consultant shall prepare a management plan that shall include proposed work programs, budget estimates, schedules, staffing, training requirements and other necessary support services to implement the ESMaP.

The ESMaP shall be elaborated through further elaboration of the ESMaP Matrix Table provided in Table 14 of the Project Report and layout shown in **Table 3**. The components include project activities, impacts, mitigation measures, implementing institutions and the associated cost of implementing the measures.

#### **Table 3: Environmental and Social Management Plan**

#	Project Activity	Negative Impact	Mitigation Measure	Responsibility	Performance Indicators	Cost (KES)

The ESMaP Matrix Table will cover all the 4 Phases of the project namely:

- Pre-Construction
- Construction
- Operation and
- Decommissioning

Activities to be evaluated and ESMaP prepared include the following:

- Clearing of Existing Vegetation of project area;
- Soil Erosion associated with Soil Excavation to facilitate construction of the pylon bases and the substation;
- Protection of the cultural sites including Kayas and Shrines;
- Activities related to construction of the pylons, stringing of conductors and construction of the substation
- Solid and Liquid Waste Management during Construction and Operation;
- Pollution of Soil, Sea Water by generated Solid & Liquid Wastes, , Fuels and Oils from machines and equipment;
- Health Issues and Safety of Workers, Community Members and Commercial Operators in the project area. This includes use of machinery and equipment during construction;
- Handling, Storage and Disposal of Used Fuels, Oils, Waste Water and Solid Waste;
- Storage, Transportation and Disposal of Sanitary Waste;
- Excessive Noise and Air Pollution from Construction and Operation Activities;
- Site Cleaning and Restoration after Construction Activities;
- Demolition of site facilities during Decommissioning;
- Site Cleaning and Restoration after Decommissioning Activities;
- Identification and Mitigation of Residual Impacts from Decommissioning Activities.

## 2.8 Task 8: Institutional Needs to Implement ESMaP Recommendations

The Study will review the KETRACO institutional requirements to effectively implement the proposed ESMaP. Involvement of other Institutions and Lead Agencies (Water, Energy, Health, Lands, and Environment), Administration at the Local, County and National Levels in the implementation of ESIA recommendations will also be evaluated and recommendations provided. The ESMaP findings and recommendations of the ESIA Study will be included in the ESMaP Matrix Table.

## 2.9 Task 9: Development of Environmental and Social Monitoring Plan (ESMoP)

The study shall prepare a detailed Environmental and Social Monitoring Plan (ESMoP) to monitor project impacts and the effectiveness of the proposed mitigation measures in all phases of the project (preconstruction, construction, operation and decommissioning phases). The monitoring Plan shall also include monitoring the success of the mitigation measures and identification of any other or new impacts not anticipated during the ESIA Study but has emerged during project implementation.

In the monitoring plan, the aspect, parameter, frequency, responsible persons/entities and cost needed for implementation will be included. **See Table 4.**

**Table 4: Environmental and Social Monitoring Plan**

#	Project Activity	Monitoring Aspect	Monitoring Parameter	Frequency	Responsibility	Cost (KES)

## 2.10 Task 10: Stakeholder Consultation

As much as possible the views of all Key Stakeholders and Project Area Community will be collected through the following forum:

- Oral interviews;
- Administration of Questionnaires;
- Key Informant Interviews with key stakeholders;
- Public Consultation Meetings: A total of 6 Public Sensitization Meetings have been convened in the project area. After completion of the ESIA Study data collection, Public Consultation Meetings (PCMs) will be convened within the project area. The intention of the Public Consultation Meetings will be to;
  - Inform the project area community and key stakeholders on the project findings. The PCM will facilitate providing information on the potential impacts and proposed mitigation measures to eliminate or reduce these impacts;
  - Collect additional baseline data/information on the project area environment;
  - Provide an opportunity to all the stakeholders in the project area to give comments, raise issues and concerns pertaining to the proposed project and allow for the identification of project alternatives, mitigations and implementation strategies and recommendations;
  - Emphasize the importance of having all stakeholders being involved in the project implementation process;
- The venue of the meetings will be identified close to the project area;

The stakeholders to be contacted for their views during consultations and also during the Public Consultation Meeting will include among others the following:

- 1) Project Area Community;
- 2) Business Community in the Project Area;
- 3) Relevant Government Departments (Lands, Forest, Water, Public Health, Physical
- 4) Planning and Works);
- 5) Local Security Agents (Regular and Administration Police)
- 6) CBOs and NGOs;
- 7) Local Administration (Deputy County Commissioner - DCC, Assistant County
- 8) Commissioner - ACC, Chief and Assistant Chief);
- 9) Local Authority Department;
- 10) Local NEMA representative;
- 11) Clients' Representative;
- 12) Local Business Community.
- 13) Kenya Civil Aviation Authority (KCAA)
- 14) Oil marketing companies;
- 15) Kenya Petroleum Refineries Ltd (KPRL);
- 16) Kenya Pipeline Company (KPC);
- 17) Kenya Power (KPLC)
- 18) Kenya Maritime Authority;
- 19) Kenya Wildlife Services (KWS);
- 20) Coast Development Authority;
- 21) County Governments of Mombasa, Kilifi and Kwale;

- 22) National Environment Management Agency (NEMA);
- 23) Ministry of Transport and Infrastructure;
- 24) Petroleum Institute of East Africa (PIEA)

### 3 ESIA STUDY REPORT PREPARATION

The ESIA Study Report shall be concise and limited to significant environmental issues established. The main text shall focus on findings (desk top study, site evaluation and measurements taken). The Report shall contain site baseline data, project impacts, proposed mitigation measures, conclusions and recommendations supported by collected data, field measurements and citations of any references.

#### 3.1 Structure of the ESIA Study Report

This ESIA Study Report will be prepared containing the following chapters:

**Executive summary:** This chapter will present a summary of the project activities and alternatives, significant findings, potential impacts, mitigation measures and recommended actions.

**Chapter 1: Project Introduction and Background:** This chapter will provide description of the project scope, background, location, objectives of the ESIA Study,

**Chapter 2: Policy, legal and institutional framework:** This chapter will outline the overview of the legislative and regulatory framework and how the legislation has been triggered by the project activities.

**Chapter 3: Description of Proposed Project Activities:** This chapter will outline Project Design and Lay-out, Project Objectives, Scope, Project Justification, Project Planning, Site Alteration during Construction, Project Decommissioning Activities and Cost of Proposed Project.

**Chapter 4: Project Baseline Information:** This chapter will describe the Project Setting; Project Area Physical Environment including analysis results and the Socio-Economic Baseline.

**Chapter 5: ESIA Study Approach and Methodology:** This chapter provide details of the Desk Top Study and Reconnaissance, ESIA Study Field Assessment Survey, Public Consultation Meetings and Questionnaire Administration and ESIA Study Report Preparation.

**Chapter 6: Public Consultation and Participation:** This chapter will elaborate Public/Stakeholder Consultation Methods used including Oral Interviews and Questionnaires Administered. It will also elaborate on the Public Sensitization and Consultation Meetings convened and the outcomes.

**Chapter 7: Analysis of Project Alternatives:** This chapter will provide the various project alternatives that have been considered to make it cost effective and the contribution of the alternative actions in reducing impacts. The “No Action” Alternative, Alternative to location, Alternative to design and Alternative to Operation Processes will be evaluated.

**Chapter 8: Potential Positive and Negative Impacts:** This chapter will provide Potential Positive and Negative Impacts of the proposed 220kV Transmission Line from Mariakani-Dongo Kundu..

**Chapter 9: Mitigation Measures:** This chapter will provide proposed appropriate and cost effective mitigation measures to minimise or eliminate the identified project impacts

**Chapter 10: Environmental and Social Management Plan (ESMaP):** This chapter will present the Environmental and Social Management Plan, Internal and External Audits. The ESMaP Matrix Table will include project activities, impacts, mitigation measures, implementing institutions and the associated cost of implementing the measures.

**Chapter 11: Conclusions and Recommendations:** This chapter will provide Conclusions and Recommendations of the ESIA Study.

**Chapter 12: ESIA Study Team Members:** This section will provide a table containing ESIA Study Team member names and involvement.

**List of Maps, Tables, Figures & Plates;  
Bibliography;**

#### **Annexes**

1. Copy of NEMA Ratified ToR
2. Panafcon NEMA EIA Certificates and Licences
3. List of Persons Contacted During the ESIA Study
4. Sample Invitation to Stakeholders to attend Key Stakeholder Meetings
5. Public Sensitization and Consultation Meeting Agenda and Presentations
6. Minutes and Attendance Registers of Public Sensitization and Consultation Meetings
7. Water Analysis Results
8. Soil Analysis Results
9. Noise Measurement Results
10. Air Quality Measurement Results
11. Completed Stakeholder Questionnaire Forms
12. Bill of Quantity for Proposed Project
13. Photographic Plates

4 COLOPHON

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Client : JICA Design Team (JDT)  
Proponent : Kenya Electricity Transmission Company (KETRACO)  
Project : ESIA Study for the Proposed Mariakani-Dongo Kundu 220kV  
Transmission Line and Sub-Station at Dongo Kundu  
File : Environment  
Length of report : 15 pages  
Author : PANAFCON Ltd.  
Managing Director : OKELLO, Richard O.  
Project Manager : Joshua Oyieko  
Date : February 14, 2018  
Name/Initials : Im/jp



**ANNEXES**

**Annex 1: Tasks of Study Team Members**

## Tasks of ESIA Study Team Members

No	Name/Position	Position	Task Assignment
1.	Mr. Joshua Patrick Oyieko	<b>Team Leader /Environmental Lead Expert</b>	<ul style="list-style-type: none"> <li>• Team Leader</li> <li>• Coordination of ESIA Study Activities</li> <li>• Review of Environmental Policy &amp; Past Project Reports</li> <li>• Project Baseline Studies</li> <li>• Identification of Project Environmental Impacts</li> <li>• Evaluation of Project Alternatives</li> <li>• Project Mitigation Measures</li> <li>• Participation in Public Sensitisation Meeting</li> <li>• Public Consultations and Public Consultation Meeting (PCM)</li> <li>• Environmental and Social Management Plan (ESMaP)</li> <li>• Environmental and Social Management Plan (ESMoP)</li> <li>• Reports Preparation (Inception, Project Report, Draft ESIA and Final ESIA Study Reports)</li> </ul>
2.	Irene Muchoki	<b>Socio-economist</b>	<ul style="list-style-type: none"> <li>• Deputy Team Leader</li> <li>• Socio-economic Baseline Information</li> <li>• Social Impact of Project on the Local Population</li> <li>• Evaluation of Project Area Land use</li> <li>• Assessment of important Cultural and Archaeological Sites</li> <li>• Participation in Consultations and Public Consultation Meetings</li> <li>• Identification of Project Alternatives</li> <li>• Identification of Mitigation Measures</li> <li>• Reports Preparation (Inception, Interim (Scoping) Report, Draft ESIA and Final ESIA Reports)</li> </ul>
3.	Charles Ataya	<b>Ecologist</b>	<ul style="list-style-type: none"> <li>• Evaluation and Identification of Terrestrial flora and fauna Species</li> <li>• Identification and listing of classified flora and fauna as protected/threatened species</li> <li>• Description of location of the protected/threatened species and provision of photographic evidence</li> <li>• Evaluation of Positive &amp; Negative impacts on terrestrial environment</li> <li>• Evaluation of Project Alternatives &amp; Mitigation Measures</li> <li>• Participation in Public Consultation Meetings</li> <li>• Development of Environmental Management &amp; Monitoring Pla</li> <li>• Preparation of ESIA Reports</li> </ul>

No	Name/Position	Position	Task Assignment
4.	Fredrick Maseno	<b>Safety and Occupational Health Professional</b>	<ul style="list-style-type: none"> <li>• Occupational Health and Safety of Construction and Operation</li> <li>• Emergency Preparedness Plan</li> <li>• Potential Public Health Risks and Risk Reduction</li> <li>• Project Baseline Studies</li> <li>• Public Consultations and Public Consultation Meetings (PCM)</li> <li>• Project Mitigation Measures</li> <li>• Environmental and Social Management Plan (ESMaP)</li> <li>• Environmental and Social Management Plan (ESMoP)</li> <li>• ESIA Report Preparation</li> </ul>

## **Annex 2: CVs of Key Study Team Members**

**1. Joshua P. Oyieko – Team Leader - ESIA Specialist**

## CURRICULUM VITAE (CV) FOR PROPOSED PROFESSIONAL STAFF

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<b>Proposed Position</b>	Team Leader/ Environmental Lead Expert	
<b>Name of Firm:</b>	Panafcon Ltd	
<b>Name of Staff:</b>	Joshua Patrick Oyieko	
<b>Profession:</b>	Geologist/Resettlement and Environmental Specialist	
<b>Date of Birth:</b>	28 November 1959	
<b>Years with Firm:</b>	17	<b>Nationality:</b> Kenyan

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### MEMBERSHIP OF PROFESSIONAL SOCIETIES:

- Member, **Geological Society of Kenya**;
  - Member, Registered Geologist – **Geologists Registration Board, Kenya – Reg. No. 60**;
  - Licensed **Water Resources Engineer (Hydrogeologist) – License No WD/DB 30/366**
  - Registered with **NEMA Kenya** as an EIA/Audit Lead Expert with the National Environment Management Authority (NEMA) under the Environmental Management and Coordination Act (EMCA) 1999 and the Environmental Impact Assessment and Audit Regulations 2003 – Registration No. 0091;
  - Registered with **NEMA Uganda** in accordance with Sub-regulation (2) of Regulation 22 of The National Environment (Conduct and Certification of Environmental Practitioners) Regulations, 2003 as an Environmental Impact Assessor/Environmental Auditor – Certificate No. CC/0060/04
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### KEY QUALIFICATIONS:

Mr. Oyieko is an EIA and RAP Specialist with over 20 years experience in Environmental Impact Assessment and Resettlement Action Plans studies for various projects in Sub-Sahara Africa. He is actively involved in Environmental Impact Assessment, Resettlement Action Plan, Environmental Audit, Environmental Risk Management and Remediation studies for various infrastructure, water projects, Service and production industry.

He has participated in Environmental Impact Assessments and Resettlement Action Plan Studies for Water Supply, Irrigation, Road Projects, Power Transmission Lines, Hydropower Projects, Borehole Projects for Water Supply. The projects are widely distributed in over 31 countries in Africa and beyond. Some of the countries include Kenya, Uganda, Tanzania, Rwanda, Ethiopia, Sudan, Zambia, Zimbabwe, Malawi, Eritrea, Madagascar and Mauritius. He has also carried out projects on Risk Assessment and Remediation of impacted Soil and Groundwater.

Mr. Oyieko also prepared the Environmental and Social Management Framework (ESMF) for the Judiciary to be used to carry out Environmental and Social Impact Assessment for the proposed Court Infrastructure Development (Rehabilitation and Construction of New Court Facilities in Kenya) under the Judicial Performance Improvement Project (JPIP). This falls under the Judicial Transformation Framework (JTF) - Pillar 3.

Mr. Oyieko prepared the Resettlement Policy Framework (RPF) for the Judiciary to be used to carry out Resettlement Action Plans for the affected persons during implementation of the Court Infrastructure Development (Rehabilitation and Construction of New Court Facilities in Kenya) under the Judicial Performance Improvement Project (JPIP). This falls under the Judicial Transformation Framework (JTF) - Pillar 3.

He was Team Leader of the **Environmental and Social Impact Assessment** of the following Projects among others:

- Proposed Relocation of Kipevu Oil Terminal (KOT)
  - Lower Nzoia Irrigation Development Project – Phase II.
  - Review and Update for the Proposed Rehabilitation of the Lodwar-Lokichogio-Nakodok 240Km (A1) Road
  - Proposed Athi river- Mariakani Axle Load Control Station.
  - Proposed Isinya – Nairobi East 400kV Transmission Line.
  - Proposed Gathigiriri Resettlement Site in Mwea for the Mwea Irrigation Development Project.
  - Proposed AHITI Ndomba Resettlement Site in Mwea for the Mwea Irrigation Development Project.
  - Proposed Machakos – Konza – Kajiado – Namanga (155Km) 132kV Transmission Line project.
  - Proposed Sondu-Homabay-Awendo-Migori-Isebania High Voltage Transmission Line.
  - Environmental and Social Management Framework (ESMF) for the Judiciary of Kenya
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Mr. Oyieko is a Hydrogeologist with long-standing hydrogeological experience in providing groundwater assessment and conducting hydrological investigations. He holds a Masters degree in Water Resources Survey in addition attended several relevant short courses in hydrogeological assessment including Surface and Groundwater Resources Computer Modelling and is experienced in supervising the installation of wells and providing field and office hydrogeological report preparation. He is Licensed to operate as a qualified Water Resources Engineer (Hydrogeologist) under the provisions of the Water Act (License No WD/DP 30/366) by the Water Apportionment Board of the Ministry of Water Resources Management and Development.

Mr. Oyieko is registered as an EIA/EA Lead Expert with the National Environment Management Authority (NEMA) under the Environmental Management and Coordination Act (EMCA 1999) and the Environmental Impact Assessment and Audit Regulations 2003. He is also registered as an Environmental Practitioner with NEMA Uganda to conduct Environmental Impact Assessment and Audits as an EIA Team Leader.

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**EDUCATION:**

- 1994-96** Masters Degree (MSc) in Water Resources Survey - International Institute for Aerospace Surveys and Earth Sciences, ITC, The Netherlands, covering the following:
- Geographical Information Systems (**GIS**) including **Remote Sensing**.
  - Geophysical Exploration Methods for Applied Geology.
  - Groundwater Computer Modelling
  - Evaluation of Data and Methods (Borehole Investigation, Surface Hydrology, Irrigation).
- 1981-85** Bachelors Degree (BSc) in Geology - University of Nairobi.

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**PROFESSIONAL TRAINING COURSES:**

- 2002** Attended an Environmental Course on Underground Tank and Product Line Integrity Testing System for the Petroleum Industry, at the **Estabrook Institute, Essexville Michigan, USA** (Systems and Training for the Petroleum Industry).
- 2004** Attended a course on “**Sustainable Environmental Management**” at the Kenya Institute of Administration, Nairobi Kenya. The course covered among others:
- The EIA Process
  - Integrated Environmental Management and the Principle of Sustainable Development
  - Community Capacity Building for Environmental Management
  - Social Impact Assessment
  - Environmental Risk Assessment
  - EIA Results and Decision Making
  - Environmental Auditing and Monitoring
  - Policy, Legal and Institutional Frameworks for EIA
  - Conflict Resolution and Management in the EIA Process
  - Stakeholder Participation in Environmental Management
- 2008** **Participated in the World Bank Environment and Social Safeguards Mobile Clinic Workshop in Nakuru Kenya organized and Facilitated by The World Bank & Ministry of Roads** – The workshop evaluated the Environmental and Social Framework Tools for a cross section of Projects where various issues related to environmental and social assessments were deliberated upon and field visits conducted to identify impacts and provide mitigation measures.

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**Employment Record/Experience:**

- 1999 - To-date: Panafcon Ltd, Nairobi – Kenya**  
**Position:** Technical Director (EIA and RAP Specialist/Hydro-geologist/GIS Specialist)  
 In-charge of Projects Management and Coordination. (**Water Resources Survey, Environmental Impact (EIA), Resettlement Action Plan (RAP) and Risk Assessments**)
- 1992 – 1998: Ministry of Water Resources, Nairobi – Groundwater Survey Unit (which undertakes Geophysical Groundwater Exploration).**  
 Position : Head of Groundwater Survey Unit - Projects Coordination and Supervision  
 In-charge of Geophysical Survey and Groundwater Investigations in the WRAP Project.



**1985: Ministry of Water Resources, Nairobi: Geology Section of Resources Division.**

Position: On The Job -Trainee Geologist

Undertook on-the-job training on Groundwater Investigation (using Geophysical Exploration Techniques) and Hydrogeology.

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**Relevant Professional Experience:**

- 2016 Kenya – Environmental and Social Impact Assessment (ESIA) and Resettlement Action Plan (RAP) of the Proposed Relocation of Kipevu Oil Terminal (KOT) (ongoing)**  
 Client: Kenya Ports Authority (KPA)  
 Participating in the Project as: **Team Leader**  
 The objective of the Environmental and Social Impact Assessment (ESIA) and Resettlement Action Plan (RAP) Studies is to identify the environmental impacts of the proposed relocation on people and the environment. To determine project alternatives and cost effective mitigation measures plus a monitoring plan. Questionnaires will be used to collect data. The ESIA Study is going to identify and evaluate environmental impacts of the relocation on natural resources and operations in the project area and propose appropriate mitigation measures to minimize/eliminate impacts including safety measures. The RAP Study is going to evaluate any loss of structures and operations within the project area. Baseline socio-economic survey to generate data for monitoring and evaluation will be collected during the project cycle.  
 An ESIA Study Report containing EMP and a Monitoring Plan will be prepared for submission to NEMA.  
 A RAP Study Report will also be prepared. The ESIA Study will be carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies.
- 2016 Kenya: Environmental and Social-Economic Impact Assessment of the Thange River Basin.**  
 Client: Kenya Pipeline Company Limited  
 Participating in the Project as: **Team Leader**  
 The main objective of the study was to determine the environmental and social impact of the spilled oil on the soil, water (surface and ground water), crops & other plants, livestock, the local community and propose appropriate site area remediation and restoration.  
 An ESEIA Study Report containing EMP and a Monitoring Plan was prepared. The study will be done with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies. The ESEIA Study Report has been submitted to NEMA.
- 2014 Kenya: Review and Update the Environmental and Social Impact Assessment (ESIA) for the Proposed Rehabilitation of the Lodwar-Lokichogio-Nakodok 240Km (A1) Road**  
 Client: Kenya National Highways Authority (KeNHA)  
 Participating in the Project as: **Team Leader**  
 Objective of Reviewing and Updating of Lodwar-Nakodok Road ESIA Study were:  
 Reviewing and updating the ESIA Study Report compiled in 2013;  
 Ensuring all environmental consequences of construction and operation of the road are evaluated and addressed as part of the mitigation measures in the final road design; Review and update the Draft ESIA Report to conform with World Bank Operational Policies and Kenya National Highways Authority (KeNHA) requirements;  
 To identify gaps in the Draft ESIA Report and address them in the revised version;  
 To conduct second Public Consultation Meetings to sensitise all the stakeholders about the project, seek their inputs into the project design and disclose the positive and negative impacts of the project
- 2014 Kenya – Environmental and Social Impact assessment (ESIA) Study for the propose Isinya – Nairobi East 400kV Transmission Line**  
 Client: Kenya Electricity Transmission Company Ltd (KETRACO)  
 Participated in the Project as **Deputy Team Leader**  
 The objective of the ESIA Study was to evaluate the Environmental and Social Impacts of the proposed Isinya- Nairobi East (75km) 400kV Double Circuit Line and Sub stations project.

Questionnaires were used to collect data.

The ESIA Study was to identify and evaluate the impacts of the project on natural resources, animals and persons living in the project area and propose appropriate mitigation measures to minimize or eliminate impacts.

Baseline socio-economic survey to generate data for monitoring and evaluation during project implementation cycle was carried out. An ESIA Study Report containing EMP and a Monitoring Plan was prepared. The ESIA study was carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies. The ESIA report was submitted to NEMA and the EIA licence issued to the client

**2014 Kenya: Environmental and Social Impact Assessment (ESIA) for the Proposed Athi river- Mariakani Axle Load Control Station.**

Client: Kenya National Highways Authority (KeNHA)

Participating in the Project as: Team Leader

The objective of the Proposed Reconstruction and Modernisation of Athi River Axle Load Control Station was to improve the infrastructure of the weigh bridge station and achieve the following:

- Enhance road safety and improve working conditions at the station;
- Preserve road infrastructure.
- Optimise road transportation through reduction of time spent at the axle load station;
- Eliminate interruption of traffic flow by trucks that cross from one side of the highway to another to have their axle loads checked.
- Eliminate/reduce health and safety risks posed by roadside packed trucks containing explosive or dangerous cargo
- To conduct Public Consultation Meetings to sensitize all the stakeholders about the project, seek their inputs into the project and disclose the positive and negative impacts of the project

To conduct a Public Consultation Meetings to sensitize all the stakeholders about the project, seek their inputs into the project design and disclose the positive and negative impacts of the project.

**2013 Kenya - Environmental & Social Impact Assessment Study for the Proposed Lower Nzoia Irrigation Development Project – Phase II**

Client: National Irrigation Board (NIB)

Participating in the Project as **Team Leader**

The objective of the ESIA Study was to evaluate the Environmental and Social Impact of implementing the proposed project in Lower Nzoia. Identify and evaluate impacts of the proposed project on the natural resources, animals and persons living in the project area and recommended appropriate mitigation measures to eliminate or minimize impacts and provided a monitoring plan.

Baseline socio-economic survey to generate data for monitoring and evaluation during project implementation cycle was carried out. The study is to determine loss of income (livelihood), cost of land and other property using the current market value. An ESIA Study Report containing EMP and a Monitoring Plan was prepared. The study was done with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies. The ESIA Study Report was submitted to NEMA and EIA License issued to the client.

**2013 Kenya - Environmental & Social Impact Assessment for the Study for Proposed Gathigiriri Resettlement Site in Mwea for the Mwea Irrigation Development Project**

Client: **Nippon Koei/JICA/ National Irrigation Board (NIB)**

Participated in the Project as **Team Leader**

The objective of the ESIA Study was to evaluate the Environmental and Social Impacts of the proposed Gathigiriri Resettlement Site at Mwea GK Prison land in Mwea for the Mwea Irrigation Development Project (MIDP). Used questionnaires to collect data. The ESIA Study identified and evaluated impacts of the project on natural resources, animals and persons living in the project area and proposed appropriate mitigation measures that should be put in place to minimize or eliminate the impacts. Baseline socio-economic survey was done to generate data for mitigating resettlement effects, monitoring and evaluation during project implementation. An ESIA Study Report containing EMP and a Monitoring Plan was prepared.

The study was prepared with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies and JBIC and JICA Guidelines. The ESIA Report has been submitted to NEMA for issuance of an EIA License.

- 2013 Kenya - Environmental & Social Impact Assessment for the Study for Proposed AHITI Ndomba Resettlement Site in Mwea for the Mwea Irrigation Development Project.**  
 Client: **Nippon Koei/JICA/ National Irrigation Board (NIB)**  
 Participated in the Project as **Team Leader**  
 The objective of the ESIA Study was to evaluate the Environmental and Social Impacts of the proposed AHITI Ndomba Resettlement Site at AHITI Ndomba Institute in AHITI Ndomba for the Mwea Irrigation Development Project (MIDP).  
 Used questionnaires to collect data.  
 The ESIA Study identified and evaluated impacts of the project on natural resources, animals and persons living in the project area and proposed appropriate mitigation measures that should be put in place to minimize or eliminate the impacts. Baseline socio-economic survey was done to generate data for mitigating resettlement effects, monitoring and evaluation. An ESIA Study Report containing EMP and a Monitoring Plan was prepared. The report was prepared with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies and JBIC and JICA Guidelines. The ESIA Report was submitted to NEMA and an EIA License issued.
- 2013 Kenya – Environmental and Social Impact assessment (ESIA) Study for Nyahururu-Maralal High Voltage Transmission Line.**  
 Client: **Kenya Electricity Transmission Company Ltd KETRACO**  
 Participated in the Project as **Team Leader**  
 The objective of the ESIA Study was to evaluate the Environmental and Social Impacts of the proposed Nyahururu - Maralal (129km) High Voltage Transmission Line project.  
 Used questionnaires to collect data. The ESIA Study identified and evaluated impacts of the project on natural resources, animals and persons living in the project area and proposed appropriate mitigation measures to minimize or eliminate impacts.  
 Baseline socio-economic survey to generate data for monitoring and evaluation during project implementation cycle was carried out. An ESIA Study Report containing EMP and a Monitoring Plan was prepared.  
 The ESIA study was carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies. The ESIA Study Report has been submitted to NEMA for issuance of EIA License.
- 2013 Kenya – Environmental and Social Impact assessment (ESIA) Study for the proposed Sondu-Homabay-Awendo-Migori-Isebania High Voltage Transmission Line.**  
 Client: **Kenya Electricity Transmission Company Ltd (KETRACO)**  
 Participated in the Project as **Team Leader**  
 The objective of the ESIA Study was to evaluate the Environmental and Social Impacts of the proposed Sondu-Homabay-Awendo-Migori-Isebania (136km) High Voltage Transmission Line project. Used questionnaires to collect data.  
 The ESIA Study identified and evaluated impacts of the project on natural resources, animals and persons living in the project area and proposed appropriate mitigation measures to minimize or eliminate impacts. Baseline socio-economic survey to generate data for monitoring and evaluation during project implementation cycle was carried out. An ESIA Study Report containing EMP and a Monitoring Plan was prepared. The ESIA study was carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies. The ESIA Study Report has been submitted to NEMA for issuance of EIA License.
- 2013 Kenya – Environmental and Social Impact assessment (ESIA) for the proposed upgrading of Court facilities including the Court Building at Kitui Law Court.**  
 Client: **The Judiciary**  
 Participated in the Project as **Team Leader**  
 The objective of the ESIA Study was to evaluate the Environmental and Social Impacts of the proposed rehabilitation of facilities (court building, sinking and installing borehole, incinerator, toilet facilities and water storage facilities) at Kitui Law Courts in Kitui Town.  
 Used questionnaires to collect data.

The ESIA Study identified and evaluated impacts of the project on natural resources, and persons operating at the project area and proposed appropriate mitigation measures to minimize or eliminate impacts. Baseline socio-economic survey to generate data for monitoring and evaluation during project implementation cycle was carried out. An ESIA Study Report containing EMP and a Monitoring Plan was prepared.

The ESIA study was carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies.

The ESIA Study Report has been submitted to NEMA and an EIA License was issued.

**2013 Kenya – Environmental and Social Impact assessment (ESIA) for the proposed upgrading of Court facilities including the Court Building at Kangema Law Court.**

Client: **The Judiciary**

Participated in the Project as **Team Leader**

The objective of the ESIA Study was to evaluate the Environmental and Social Impacts of the proposed rehabilitation of facilities (court building, incinerator and toilet facilities) at Kangema Law Courts, Kangema Town. Used questionnaires to collect data. The Study identified and evaluated impacts of the project on natural resources and persons operating at the project area and proposed appropriate mitigation measures to minimize or eliminate impacts. Baseline socio-economic survey to generate data for monitoring and evaluation during project implementation was carried out. An ESIA Study Report containing EMP and a Monitoring Plan was prepared. The ESIA study was carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies. The ESIA Study Report has been submitted to NEMA and an EIA License was issued.

**2012 Kenya – Environmental Impact Assessment of the Proposed LPG Filling Plant in Kisumu**

Client: **KenolKobil Ltd**

Participating in the Project as **Team Leader**

The objective of the Environmental and Social Impact Assessment (ESIA) Study was to identify the effects of the LPG plant on the environment in order to identify project impacts, appropriate project alternatives and develop cost effective mitigation measures and a monitoring plan. Used questionnaires to collect data.

The ESIA Study identified and evaluated impacts of the project on natural resources, animals and persons living in the project area and proposed appropriate mitigation measures to minimize or eliminate impacts including safety measures to be put in place. Baseline socio-economic survey to generate data for monitoring and evaluation during project implementation cycle was carried out. An ESIA Study Report containing EMP and a Monitoring Plan was prepared.

The ESIA study was carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies. The ESIA Study Report was submitted to NEMA and an EIA License was issued.

**2010 Kenya – Environmental and Social Impact Assessment (ESIA) for the Proposed Voi-Taveta (110) 132 kV Single Circuit Transmission Line**

Client: **Kenya Power and Lighting Company - KPLC**

Participated in the Project as **Team Leader**

The objective of the ESIA Study was to evaluate the Environmental and Social Impacts of the proposed Voi - Taveta (110km) High Voltage Transmission Line project. Used questionnaires to collect data. The ESIA Study identified and evaluated impacts of the project on natural resources, animals and persons living in the project area and proposed appropriate mitigation measures to minimize or eliminate impacts. Baseline socio-economic survey to generate data for monitoring and evaluation during project implementation cycle was carried out. An ESIA Study Report containing EMP and a Monitoring Plan was prepared.

The ESIA study was carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies. The ESIA Study Report was submitted to NEMA and an EIA License was issued.

- 2010 - 2011**     **Kenya and Ethiopia - Consultancy Services for Carrying out Environmental and Social Impact Assessment of Proposed Gibe III Hydroelectric Power Project: Downstream of Gibe III: Kenyan Perspective**  
 Client: **Kenya Electricity Transmission Company Ltd (KETRACO)**  
 Participated in the Project as **Deputy Team Leader**  
 GIBE III which is located within the Gibe – Omo River Basin in Ethiopia has a 675 km trajectory from its terminus at Lake Turkana, Kenya – Ethiopia border. The objective of the project is to evaluate the effect of the Gibe III Hydroelectric Power Dam on the 675km downstream along River Omo and the Lake Turkana environment where the river feeds into. The potential effects downstream include hydrological (particularly on the River Omo and Lake Turkana), socio-economic for the inhabitants, ecological for plants & animals, archeological & cultural areas including the wetlands.
- 2008-2010**     **Kenya– Environmental Management during upgrading of Kisumu Airport –including Resettlement of Affected Persons and Institutions.**  
 Client: **Kenya Airports Authority/World Bank**  
 Participated in the Project as **Team Leader**  
 In-charge of the Environmental Management of the Kisumu Airport upgrading activities including overseeing resettlement of affected persons (residents on KAA land) and institutions (Usoma Primary School), the construction of the extension to the existing runway by 1 km, construction of a New Terminal Building and construction of a new access road to the Airport from the Kisumu-Maseno Road. The Environmental Management focussed on ensuring that the upgrading activities and waste generated (solid & liquid waste) is properly managed without impacting the environment including appropriate resettlement of persons and a school near the airport.
- 2007 – 2008:**     **Uganda – Environmental Impact Assessment (during Detailed Engineering Design for about 300 km of District Roads Reclassified to the National Standard (Lot B)**  
 Client: **World Bank/ Road Agency Formation Unit**  
 Participated in the following EIA activities
- Review of Feasibility Report pertaining to EIA and Resettlement Action Plan,
  - Preliminary social and environmental impact screening and assessment,
  - Collation and Analysis of Baseline Social and Environmental Conditions,
  - Public and stakeholder consultations and Environmental & social impact assessment,
  - Preliminary environmental designs and Baseline socio-economic studies,
  - Preparation of Mitigation Measures & Resettlement Action Plan (RAP) for client approval,
- Participated in the Preparation of EIA Report.
- 2016**     **Kenya: Reviewing & Updating of Draft Resettlement Action Plan (RAP) for the Proposed Dualling of Mombasa - Mariakani A109 Road Project**  
 Client: Kenya National Highways Authority (KeNHA)  
 Participating in the Project as: **Team Leader**  
 The objective of the project is to review the RAP carried out in 2014 and identify any gaps. Carrying out an asset inventory (Census Survey) of the road corridor to identify all Project Affected Persons (PAPs) and the impacts of the proposed project on the livelihoods of affected persons and recommended measures to minimize resettlement effects and safeguard livelihoods. The census survey is being carried out on land affected by the project, affected structures, affected trees/crops and affected sources of income (livelihoods). Carrying out a socio-economic survey to generate baseline data for monitoring and evaluation during project implementation period. Verifying compliance with the Relocation and Resettlement Regulations that govern the industry. Preparing a Revised Resettlement Action Plan Report containing cost of compensation and resettlement for each affected household and a gender analysis in compliance with the AfDB and EIB Involuntary Resettlement Standards and Guidelines.
- 2014**     **Kenya: Consultancy Services for Reviewing and Updating of the Resettlement Action Plan (RAP) for the Proposed Rehabilitation of Lodwar-Lokichogio-Nakodok Road (A1), 240 Km**  
 Client: Kenya National Highways Authority (KeNHA)  
 Participating in the Project as: **Deputy Team Leader**

Main project features: The proposed road project commences at Lodwar, at the roundabout on the road from Kitale, and ends at Nadapal at the border with South Sudan and is 240 km highway. The Consultant is reviewing the initial RAP study carried by the Road Design Consultant and validate it for implementation.

The RAP study entailed a survey of the amount of land, enumeration of the number of structures (permanent, semi-permanent and temporary), the actual number of people and the households that will be affected by the proposed road upgrading activities.

The project also included valuation of land, structures, crops and trees to be affected in the resettlement process

- 2014 Kenya - Resettlement Action Plan (RAP) Study for the Proposed Lower Nzoia Irrigation Development Project – Phase II**  
 Client: **National Irrigation Board (NIB)**  
 Participating in the Project as **Team Leader**  
 The objective of the RAP Study was to carry out a census survey of all the persons, land area and property affected by the proposed irrigation project. Use of questionnaires to collect data. Determine the sources of income for each affected household, value of affected, type of structures (residential houses, commercial buildings, structures belonging to institutions (schools, dispensaries/hospitals) and infrastructure (water pipelines, roads, power lines etc). Determine loss of income, loss of land and other property using the current market value for valuation. Identify and propose possible resettlement sites and prepare a Resettlement Action Plan Report containing cost of compensation and resettlement for each household and in compliance with. The World Bank Operational Policy 4.12 – Involuntary Resettlement.
- 2013 Kenya – Updated Resettlement Action Plan (RAP) for the Proposed Eastern African Electricity Highway 500KV HVDC Project: Shamata to Suswa (LOT 4)**  
 Client: **Kenya Electricity Transmission Company(KETRACO)**  
 Participated in the Project as **Coordinator**  
 The objective of the RAP Study was to carry out a census inventory survey of the project affected persons, land and property and the impact of the proposed project on source of income.  
 Used questionnaires to collect data. Determined compensation costs and resettlement. Baseline socio-economic survey was carried out to generate data for monitoring and evaluation. Verification of compliance with the resettlement regulations that govern the process was done and guidelines provided to the implementing agencies for guidance to minimise resettlement impacts and to safeguard livelihoods. A Resettlement Action Plan (RAP) Report was prepared compliant with the Local Regulations on Land Acquisition and the World Bank Regulations 4.12 – Involuntary Resettlement.
- 2012 Kenya - Consultancy Services for the Resettlement Action Plan (RAP) for the Proposed Machakos – Konza – Kajiado – Namanga (155Km) 132kV Transmission Line**  
 Client: **Kenya Electricity Transmission Company(KETRACO)**  
 Participated in the Project as **Team Leader**  
 The objective of the RAP Study was to carry out a census inventory survey of the project affected persons, land and property along the transmission line wayleave and the impact of the proposed project on source of income (livelihoods) of affected households. Used questionnaires to collect data. Determined compensation costs and resettlement.  
 Baseline socio-economic survey was carried out to generate data for monitoring and evaluation. Verification of compliance with the relocation and resettlement regulations that govern the process was done and guidelines provided to the implementing agencies to guide them in minimising resettlement impacts and to safeguard livelihoods.  
 A Resettlement Action Plan (RAP) Report was prepared compliant with the World Bank Regulations 4.12.
- 2012 Kenya – Resettlement Action Plan (RAP) for the Proposed Upgrading of Rumuruti – Maralal Road (101km) to Bitumen Standards.**  
 Client: **Kenya National Highways Authority (KeNHA)**  
 Participated in the project as **Team Leader**  
 The objective of the RAP Study was to carry out inventory survey of all assets and to identify all project affected persons, land and property along the road corridor and the impact of the proposed project on the livelihoods of affected persons. Used questionnaires to collect data. Determined compensation costs and resettlement.

Baseline socio-economic survey was carried out to generate data for monitoring and evaluation. Verification to determine compliance with the relocation and resettlement regulations that govern the process was done.

Guidelines for implementing agencies to minimise resettlement impacts and safeguard livelihoods was also provided. A Resettlement Action Plan (RAP) Report was prepared compliant with the Local Regulations on Land Acquisition and Compensation and the International Development Association (IDA).

**2012 Kenya – Preparation of a Resettlement Policy Framework (RPF) to be relied upon in the implementation of the proposed Judicial Performance Improvement Project (JPIP)**  
Client: **The Judiciary**

Participated in the Project as **Team Leader**

The objective of the proposed RPF policy was to develop guidelines that would be relied upon during implementation of the construction and rehabilitation of court facilities (court buildings and other infrastructure) all over Kenya under the Judicial Performance Improvement Project (JPIP). The Resettlement Policy Framework (RPF) document was prepared following Environmental Management and Coordination Act (EMCA) 1999, the Environmental (Impact Assessment and Audit) Regulations, 2003 and the World Bank Operation Policies. The document was approved in Washington by the World Bank and Public Disclosure Authorized. The document is being used to prepare ToR for Consultants who will be appointed by the Judiciary to carry out RAP Studies on proposed projects before construction activities commence.

**2011 Kenya – Resettlement Action Plan (RAP) for the Proposed Construction of Four Interchanges at Nyahururu Turnoff, Njoro Turnoff, Mau Summit Turnoff and Ahero Turnoff**

Client: **Kenya National Highways Authority (KeNHA)**

Participated in the Project as **Team Leader**

The objective of the RAP Study was to carry out census survey of all assets and to identify all project affected persons, land and property in the location where the interchanges are going to be constructed and the impact of the proposed project on the livelihoods of affected persons.

Used questionnaires to collect data. Determined compensation costs and resettlement. Baseline socio-economic survey was carried out to generate data for monitoring and evaluation. Verification of compliance with the relocation and resettlement regulations that govern the process was also done. Guidelines for implementing agencies to minimise resettlement impacts and safeguard livelihoods was also provided.

A Resettlement Action Plan (RAP) Report was prepared compliant with the Local Regulations on Land Acquisition and Compensation, the International Development Association (IDA) and the World Bank's Operational Policy 4.12 Involuntary Resettlement.

**2010 Kenya - Resettlement Action Plan for the Proposed Voi-Taveta (110) 132 kV Single Circuit Transmission Line**

Client: **Kenya Power and Lighting Company - KPLC**

Participated in the Project as **Team Leader**

The objective of the RAP Study was to carry out a census survey of the project affected persons, land and property along the transmission line wayleave and the impact of the proposed project on source of income (livelihoods) of affected households. Used questionnaires to collect data. Determined compensation costs and resettlement.

Baseline socio-economic survey was carried out to generate baseline data for monitoring and evaluation during project cycle.

Verification of compliance with the relocation and resettlement regulations that govern the process was done and guidelines provided to the implementing agencies to guide them in minimising resettlement impacts and to safeguard livelihoods. A Resettlement Action Plan (RAP) Report was prepared compliant with the World Bank Regulations 4.12 was prepared.

- 2012**      **Kenya - The Project on the Development of National Water Master Plan 2030**  
 Client: **Nippon Koei Co., Ltd. Water Resources Management Authority - WRMA**  
 Participated in the Project as **Project Manager**  
 The project involved assessing and evaluating the current status of availability, reliability, quality, and vulnerability of the Country's water resources and projecting up to the year around 2050 taking into consideration climate change.  
 Reviewing the National Water Master Plan towards the year 2030 taking into consideration climate change and formulating action plan up to the year 2022, strengthening capacity of water resources management. The team carried out groundwater inventory of existing boreholes distributed all over Kenya was done where water level, *insitu* measurements (Electrical Conductivity, pH and Temperature) were taken. Samples were collected and submitted to a lab for Full Chemical Analysis (FCA).  
 Water use survey where inventory was carried out by determining unit water requirements and permits for the following uses – Irrigation water use, Power generation water use, Domestic water use and Industrial water use.
- 2011**      **Kenya – Design & Supervision of Groundwater Well Installation & Remediation at a Shell Service Station in South Coast, Mombasa.**  
 Client: **Kenya Shell Limited**  
 Participated in the Project as **Team Leader**  
 Developed Groundwater Remediation Well Design for Shell South Coast Service Station and supervised Groundwater Remediation Activities. Prepared a Groundwater Remediation Report for submission to the Client. The activities involved ensuring proper well installation, Groundwater Monitoring during the remediation exercise and appropriate disposal. Prepared a groundwater Remediation Report and submitted to the Client.
- 2011**      **Kenya - Environmental Risk Assessment**  
 Client: **Kenya Shell Limited**  
 Participated in the Project as **Team Leader**  
 Conducted Environmental Risk Assessment (ERA) at Shell South Coast Service Station – Mombasa. The ERA was carried out after a Kerosene Underground Storage Tank accidentally released its contents to the surrounding ground.  
 The risk assessment was carried out to determine whether the soil or any other sensitive receptors (like groundwater) have been impacted or there is potential that they will be impacted by the released product.  
 It involved site inspection for potential contaminant source areas, identification of geo-probe locations around the IK UST and the Tank Farm area, soil vapour survey using a 2020 Pro Plus Photo Ionisation Detector (PID) for reading the volatile hydrocarbon contamination. Soil and Groundwater samples were collected for TPH & PAH laboratory analysis and prepared Environmental Risk Assessment (ERA) Report for submission to the client.
- 2010**      **Kenya - Environmental Risk Assessment and Due Diligence**  
 Client: **Kenya Shell Limited**  
 Participated in the Project as **Team Leader**  
 Conducted Environmental Risk Assessment and Due Diligence Survey at Kenyatta Street Service Station Thika.  
 The Due Diligence Assessment entailed Geo-probe Soil Gas Survey by use of the PHOTOVAC 2020 PRO Plus PID to read the soil gas responses, Soil & Groundwater Sampling for Hydrocarbon Laboratory Analysis of various parameters including the following: Individual BTEX compounds, Volatile organics, Individual PAH, TPH by Gas Chromatography, Phenol and Mineral oil. An Environmental Risk Assessment Report was prepared with recommendations on appropriate remediation and submitted to the Client.
- 2010**      **Kenya: Environmental and Social Impact Assessment of the Proposed Tourist Tented Camp Lodge at Ekime Site in Mwingi National Reserve**  
 Client: **Chester House Limited**  
 Participated in the project as **Team Leader**  
 The Study involved conducting field investigation on the proposed Tented Camp Lodge in Mwingi National Reserve through evaluation of impacts associated with wildlife migration patterns, local area bio-diversity, the Tana River that passes next to the proposed facility, natural resources, animals and persons living in the project area and proposed appropriate



mitigation measures to minimize or eliminate impacts. Baseline socio-economic survey to generate data for monitoring and evaluation during project implementation cycle was carried out. An ESIA Study Report containing EMP and a Monitoring Plan was prepared. The ESIA study was carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies. The ESIA Study Report was submitted to NEMA and an EIA License was issued.

**2009 Kenya: Environmental and Social Impact Assessment (ESIA) of the Proposed Tourist Tented Camp Lodge at Golo 1 Site in Meru National Reserve**

Client: **Chester House Limited**

Participated in the project as **Team Leader**

The Study involved conducting field investigation on the proposed Tented Camp Lodge in Meru National Park. The study involved the evaluation of impacts associated with the project on Wildlife migration patterns, the local area bio-diversity and the Murewa River that passes next to the proposed facility. The ESIA Study identified and evaluated impacts of the project on natural resources, animals and persons living in the project area and proposed appropriate mitigation measures to minimize or eliminate impacts.

Baseline socio-economic survey to generate data for monitoring and evaluation during project implementation cycle was carried out. An ESIA Study Report containing EMP and a Monitoring Plan was prepared. The ESIA study was carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies. The ESIA Study Report was submitted to NEMA and an EIA License was issued.

**2009 Kenya: Environmental and Social Impact Assessment (ESIA) of the Proposed Tourist Tented Camp Lodge at Kambi Ya Simba Site in Kora National Park**

Client: **Chester House Limited**

Participated in the project as **Team Leader**

The Study involved conducting field investigation on the proposed Tented Camp Lodge in Kora National Park. The study involved the evaluation of impacts associated with the project on Wildlife migration patterns, the local area bio-diversity and the Tana River that passes next to the proposed facility. The ESIA Study identified and evaluated impacts of the project on natural resources, animals and persons living in the project area and proposed appropriate mitigation measures to minimize or eliminate impacts.

Baseline socio-economic survey to generate data for monitoring and evaluation during project implementation cycle was carried out. An ESIA Study Report containing EMP and a Monitoring Plan was prepared.

The ESIA study was carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies. The ESIA Study Report was submitted to NEMA and an EIA License was issued.

**2009 Eritrea – Supervision of TCP Remediation at Assab Depot - 2009**

Client: **Kenya Shell Ltd**

Participated in the Project as **Coordinator**

The reconnaissance study revealed presence of 22 drums containing tricresyl phosphate (TCP) additives. The drums were stored on unpaved ground and traces of the leaking product drums were first observed in 2005. Remediation was done as follows:

- Identified and Inspected trucks to be used in transporting recovered products/wastes.
- Identification and purchase of UN approved drums for storage of decanted products
- Inspected remediation equipment at Massawa to ensure all are in good order.
- Inducted truck drivers on safety to ensure that they observe the required measures while driving to and from Assab with the recovered products.

TCP Remediation Report was prepared and submitted to the Client.

**2009 Zimbabwe –Tank/Product Line Integrity Testing**

Client: **Aviation Refuelling Equipment PLC/ Total Zimbabwe**

Participated in the Project as **Team Leader**

The project involved tank integrity testing of underground storage tanks (USTs) and product line using equipment that operates as a non - volumetric tank tightness testing system that uses vacuum and is EPA Third party Approved. The equipment is equipped with the following components: Motor/ Blower Assembly, Pressure Sensor, Microphone, Water Sensor Probe and Meter, Product Line Tester and Leak Detector Tester

- 2009 NEMA Kenya – Appointed to participate in the Technical Advisory Committee (TAC) of the National Environment Management Authority (NEMA) for 4 Weeks**  
 Participated in the EIA Reports Review as **Chairman**  
 Carried out review of Environmental Impact Assessment Reports for several Projects in order to determine project sensitivity and licensing.  
 Field review visits were made to obtain first hand information regarding the project sites.  
 Prepared a review report on the projects and submitted to NEMA for further action.
- 2009 Kenya – Site Environmental Risk Assessment (ERA) through Soil Sampling & analysis to investigate the extent of released product after a petroleum tanker accident.**  
 Client: **Multiple Hauliers Ltd**  
 Participated in the project as **Team Leader**  
 The (ERA) exercise was composed of:
- Used Geo-probe equipment to penetrate to the subsurface at selected spots to depths of between 0.9m and 3.75m below ground level to collect soil samples for TPH lab analysis.
  - Use of the PHOTOVAC 2020 PRO Plus PID to read the soil gas responses
  - Preparation of site area sketch and taking of photos.
- The soil gas survey was done to reveal presence and extent of hydrocarbon contamination from the tanker accident and to determine the area requiring soil remediation (cleanup). Site Risk Assessment Report was prepared and submitted to the Client.
- 2009 Kenya– Environmental and Social Impact Assessment (ESIA) for upgrading of facilities at Wajibu Service Station in Thika.**  
 Client: **Libya Oil Kenya Limited**  
 Participated in the project as **Team Leader**  
 The project involved conducting ESIA for the upgrading of facilities at a Service Station in Thika Town. Used questionnaires to collect data. The ESIA Study identified and evaluated impacts of the project on natural resources and persons living and operating in the project area and proposed appropriate mitigation measures to minimize/eliminate impacts including safety measures to be put in place. Baseline socio-economic survey to generate data for monitoring and evaluation during project cycle was carried out. An ESIA Study Report containing EMP and a Monitoring Plan was prepared.  
 The ESIA study was carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies. The ESIA Report was submitted to NEMA and an EIA License was issued
- 2009 Kenya – Environmental and Social Impact Assessment (ESIA) for upgrading of facilities at Valley Service Station in Nakuru**  
 Client: **Libya Oil Kenya Limited**  
 The project involves conducting Environmental Impact Assessment (EIA) for the upgrading of facilities at a Service Station in Nakuru Used questionnaires to collect data. The ESIA Study identified and evaluated impacts of the project on natural resources and persons living and operating in the project area and proposed appropriate mitigation measures to minimize or eliminate impacts including safety measures to be put in place. Baseline socio-economic survey to generate data for monitoring and evaluation during project implementation cycle was carried out. An ESIA Study Report containing EMP and a Monitoring Plan was prepared.  
 The ESIA study was carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies. The ESIA Study Report was submitted to NEMA and an EIA License was issued.
- 2009 Kenya (Completed January 2009) – Environmental Risk Assessment and Due Diligence Survey at Seven (7) Reseller Depot.**  
 Client: **Kenya Shell Limited**  
 Participated in the project as **Team Leader**  
 Conducted Environmental Risk Assessment and Due Diligence Survey at Seven (7) Depots distributed all over Kenya.  
 The Due Diligence Environmental Assessment entailed Geo-probe Soil Gas Survey by use of the PHOTOVAC 2020 PRO Plus PID, Soil & Groundwater Sampling for Hydrocarbon Laboratory Analysis of various parameters including: Individual BTEX compounds, Volatile organics, Individual PAH, TPH by Gas Chromatography, Phenol and Mineral oil. Prepared Environmental Due Diligence Assessment Reports for the client.

- 2008-2009 Kenya – Environmental Impact Assessment of Proposed Service Station in Bungoma.**  
 Client: **Kenya Shell Limited**  
 Participated in the project as **Team Leader**  
 Conducted Environmental Impact Assessment (EIA) for a Service Station at Kanduyi in Bungoma  
 The ESIA identified impacts of the project on natural resources and persons living in the project area and proposed appropriate mitigation measures to minimize impacts. Baseline socio-economic survey to generate data for monitoring and evaluation was carried out. An ESIA Study Report containing EMP and a Monitoring Plan was prepared. The ESIA was carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies. The ESIA Report was submitted to NEMA.
- 2008 Kenya – Environmental Site Assessment - Signode Packaging Systems**  
 Client: **ERM South Africa**  
 Participated in the project as **Team Leader**  
 The project involved intrusive Geo-probe Soil Sampling for Laboratory Analysis. The drilling and installation of Monitoring Wells (MWs) was done for the purpose of groundwater monitoring (Groundwater Level Measurement & Groundwater Sampling for Laboratory Analysis). A Site Assessment Report was prepared and submitted to the Client
- 2008: Kenya – Site Environmental Risk Assessment (ERA) through Soil Sampling and analysis to investigate the presence of released product.**  
 Client: **Kenya Shell Ltd**  
 Participated in the project as **Team Leader**  
 The (ERA) exercise was composed of:
- Use of Geo-probe equipment to penetrate to the subsurface at selected spots to depths of between 0.9m and 3.75m below ground level to collect soil samples for TPH analysis.
  - Use of the PHOTOVAC 2020 PRO Plus PID to read the soil gas responses
  - Preparation of site area sketch and taking of photos.
- The fieldwork involved the execution of a Geo-probe soil gas survey with the aim of determining the presence and concentration of hydrocarbon contaminant.  
 This was meant to reveal any areas impacted by petroleum hydrocarbon releases either from the operations within the station or any other neighbouring facilities. A Site Assessment Report was prepared and submitted to the Client
- 2008: Sudan – Groundwater Monitoring at the Port Sudan Installation, Port Sudan**  
 Client: **Shell Company of the Sudan Limited**  
 Participated in the project as **Team Leader**  
 Carried out the Groundwater monitoring activities at the Port Sudan Installation in Port Sudan Town, Sudan.  
 The groundwater monitoring exercise involved the following activities:
- Measurement of Groundwater Level using an Electric Deeper
  - Use of Teflon tube and check valve to purge the 3 piezometers/monitoring wells.
  - Collection of groundwater samples from the piezometers/monitoring wells for insitu tests and laboratory analysis.
- Prepared Groundwater Monitoring Report containing historical comparison of the analysis results and submitted to Client.
- 2008: Kenya – Soil and Groundwater sampling and analysis for investigation of a product release**  
 Client: **Kenya Shell Ltd**  
 Participated in the project as **Team Leader**  
 The study entailed soil investigations to determine the extent of the product spread after a release in one of the USTs at a service station. It involved Soil Gas survey using the PID (Photo Ionization Detector), visual observations of soil and groundwater, situ measuring of pH and EC of groundwater samples collected from boreholes and wells in the neighborhoods and eventual sampling and analysis of groundwater and soil samples for lab analysis.  
 A comprehensive report of the onsite findings /observations and laboratory sample analysis was compiled and submitted to the client. This report had recommendations on the best mitigation measures against the release and remediation actions were proposed.

- 2008:** **Kenya – Environmental and Social Impact Assessment of the Proposed Man Eaters Of Tsavo Lodge – Tsavo West National Park**  
 Client: **Come to Africa Safaris**  
 Participated in the project as **Team Leader**  
 The Study involved conducting field investigation on the proposed Tented Camp Lodge in Tsavo West National Park through evaluation of impacts associated with wildlife migration patterns and local area bio-diversity and proposed appropriate mitigation measures to minimize or eliminate impacts. Baseline socio-economic survey to generate data for monitoring and evaluation during project implementation cycle was carried out. An ESIA Study Report containing EMP and a Monitoring Plan was prepared. The ESIA study was carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies. The ESIA Study Report was submitted to NEMA and an EIA License was issued.
- 2008** **Kenya: Environmental Impact Assessment of the Aberdare National Park Section of the Proposed Mwiyo Location Water Project in Nyeri North District.**  
 Client: **Tana Water Services Board/ La Femme Engineering Services**  
 Participated in the project as **Team Leader**  
 The Study involved field investigations on the proposed water pipeline route within the Aberdare Forest and National Park and the evaluation of the water intake along the Honi River. The ESIA Study identified and evaluated impacts of the project on natural resources, animals and persons living in the project area and proposed appropriate mitigation measures to minimize or eliminate impacts. Baseline socio-economic survey to generate data for monitoring and evaluation during project implementation cycle was carried out. An ESIA Study Report containing EMP and a Monitoring Plan was prepared. The ESIA study was carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies. The ESIA Study Report was submitted to NEMA.
- 2007 - 2008:** **Kenya: Remediation and Environmental Cleanup of Sludge.**  
 Client: **Kenya Petroleum Refineries Limited**  
 Participated in the project as **Team Leader**  
 The project involves the supervision of the construction of a bioreactor for treatment of sludge material and the collection of soil and groundwater samples for lab analysis. Periodical site environmental assessment is carried out to determine sludge biodegradation progress and thereby provide mitigation measures.
- Kenya - Groundwater and Soil sampling at Kenya Cuttings Ltd**  
 Client: **ERM Southern Africa**  
 Participated in the project as **Team Leader**  
 The project involved the sampling of soil and groundwater. Four soil bores were advanced by means of the geo-probe, with continuous soil coring taking place. Groundwater was samples from existing and newly installed piezometer in the site area for laboratory analysis.
- 2007:** **Kenya – Self Environmental and Occupational Health & Safety Audits for 135 Sites**  
 Client: **Kenya Shell Ltd**  
 Participated in the project as **Team Leader**  
 The study entailed soil and groundwater investigations to determine environmental risk associated with the fuel storage and dispensing facilities for comparison with the previous audit.  
 The self audit were compared with the previous Initial Audit carried out in 2004 including the current environmental status of the site in accordance with the Environmental Management and Coordination Act (EMCA) 1999, Environmental (Impact Assessment and Audit) Regulations of 2003 and the EIA and Audit Guidelines.  
 The EA evaluated how effectively the sites are implementing the proposed EMP in 2004 and consideration any new environmental mitigation measures introduced to safeguard the environment. Prepared Environmental Audit Reports and submitted them to NEMA.

- 2007: Zanzibar- Environmental Groundwater Monitoring Well Drilling and Installation**  
 Client ERM Southern Africa – BP Zanzibar Depot  
 Participated in the project as **Team Leader**  
 The project involved the drilling and installation of five groundwater monitoring wells at the Zanzibar Fuel Depot located near the Indian Ocean shoreline. The five groundwater monitoring wells (2 inch final diameter) were installed using hand auger equipment. Groundwater samples were collected from existing and newly installed borehole within the site.
- 2007: Kenya - Quarterly Groundwater Monitoring**  
 Client: **Kenya Petroleum Refineries Limited - KPRL**  
 Participated in the project as **Team Leader**  
 The project involved quarterly sampling of groundwater from the existing Monitoring wells installed within the refinery facility for analysis of total petroleum Hydrocarbons and BTEX. Groundwater Monitoring Report was prepared and submitted to the Client.
- 2000 – 2008: Zimbabwe – Environmental Risk Assessment, Tank/Product Line Integrity Testing and Soil /Groundwater Sampling**  
 Client: **Aviation Refuelling Equipment PLC/ BP and Shell Zimbabwe**  
 Participated in the project as **Team Leader**  
 Carried out geo-probe soil sampling for hydrocarbon analysis, tank integrity testing of underground storage tanks (USTs) and product line using equipment that operates as a non - volumetric tank tightness testing system that is EPA Third party Approved. The equipment is equipped with the following components: Motor/ Blower Assembly, Pressure Sensor, Microphone, Water Sensor Probe and Meter, Product Line Tester and Leak Detector Tester, Soil and groundwater samples were collected and analysed for BTEX and TPH. Prepared Environmental Risk Assessment and submitted to the Client.
- 2006 – 2008: Tanzania – Mwalimu Julius Nyerere International Airport (Dar Airport), Dar es Salaam – Environmental Impact Assessment Study – Monitoring Wells Installation and Groundwater Sampling.**  
 Client: **Tanzania Airports Authority - TAA**  
 Participated in the project as **Team Leader**  
 The project involved Consultancy Services for Designing of Wells, Site Location Selection & Installation of six boreholes within the airport boundaries for groundwater monitoring. Groundwater samples were collected and submitted to the laboratory for Hydrocarbon, Full Chemical and Bacteriological Analysis and the preparation of Analysis Report including recommendations for future Environmental Monitoring. Prepared Groundwater Monitoring Report for Mwalimu Julius Nyerere International Airport and submitted to the Client.
- 2006: Kenya – Jomo Kenyatta International Airport - Northern Corridor Transport Improvement Project - Environmental Impact Assessment Screening for Rehabilitation/Upgrading of Airport Pavement**  
 Client: **Kenya Airports Authority (KAA)/ World Bank**  
 Participated in the project as **Team Leader**  
 Carried out Environmental Impact Assessment Screening Study for the Rehabilitation/Upgrading of Airport Pavements of Jomo Kenyatta International Airport. Prepared an Environmental Impact Assessment Screening Report.
- 2006: Kenya – Wilson Airport - Northern Corridor Transport Improvement Project - Environmental Impact Assessment for Upgrading of Airport Facilities.**  
 Client: **Kenya Airports Authority (KAA) / World Bank.**  
 Participated in the project as **Team Leader**  
 Carried out Environmental Impact Assessment Screening Study for the Rehabilitation/Upgrading of Airport Pavements of Jomo Kenyatta International Airport. Prepared an Environmental Impact Assessment Screening Report.

- 2006: Kenya – Kisumu Airport - Northern Corridor Transport Improvement Project - Environmental Impact Assessment for Upgrading of Airport Facilities.**  
 Client: **Kenya Airports Authority (KAA) / World Bank**  
 Participated in the project as **Team Leader**  
 The project involved Environmental Impact Assessment Screening Study for the Upgrading of Airport Facilities at Kisumu Airport. Prepared an Environmental Impact Assessment Screening Report.
- 2006: Kenya – Environmental Impact Assessment for Lubrication Centre for Mobil within Kenya Ports Authority Mombasa**  
 Client: **Mobil Oil Kenya Ltd**  
 Participated in the project as **Team Leader**  
 The EIA evaluated the environmental performance of the project to satisfy the requirements of NEMA and International Practices. The ESIA Study identified and evaluated impacts of the project on natural resources, animals and persons living in the project area and proposed appropriate mitigation measures to minimize or eliminate impacts. Baseline socio-economic survey to generate data for monitoring and evaluation during project implementation cycle was carried out. An ESIA Study Report containing EMP and a Monitoring Plan was prepared. The ESIA study was carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies. The ESIA Study Report was submitted to NEMA and EIA License issued.
- 2006: Kenya – Installation of Groundwater Monitoring Wells/Piezometers at Kobil Filling Station and at the Kobil Black Oil Depot –**  
 Client: **Kenol-Kobil Ltd**  
 Participated in the project as **Team Leader**  
 The project involved the assessment and drilling of three monitoring wells. During the drilling and installation of the monitoring wells, lithological logs for the vertical profiles of the wells were prepared. Groundwater was sampled for lab analysis.
- 2006: Madagascar – Supervision of Borehole Drilling & Installation Activities**  
 Client: **QIT Madagascar Minerals (QMM) – Fort Dauphin, Madagascar**  
 Participated in the project as **Team Leader**  
 Carried out investigations to locate drinking water boreholes and supervised the borehole drilling and installation activities. The boreholes were test pumped and the exercise involved the interpretation of borehole pumping test data.  
 The results have been used to determine the production of the boreholes drilled for the installation of groundwater abstraction pumps.  
 A Groundwater Drilling and Installation Report was prepared and submitted to the Client.
- 2006: Kenya – Second Environmental Audit**  
 Client: **Agro Chemical & Food Company - ACFC- Muhoroni Kenya**  
 Participated in the project as **Team Leader**  
 The study entailed follow-up site investigations to determine site environmental status when compared with the initial Environmental Audit carried out in 2004 and to check the implementation of the proposed mitigation measures. A second Environmental Audit Report was prepared and submitted to NEMA in accordance with the Environmental Management and Coordination Act (EMCA) 1999, Environmental (Impact Assessment and Audit) Regulations of 2003 and the EIA and Audit Guidelines. An Environmental Audit Report was prepared and submitted to NEMA
- 2005 – 2006: Kenya – Environmental Audit (EA)**  
 Client: **East Africa Spectre Limited – Nairobi, Kenya**  
 Participated in the project as **Team Leader**  
 The study entailed follow-up site investigations to determine the site environmental status when compared with the initial Environmental Audit done in 2004 and to check the implementation of the proposed mitigation measures.  
 This EA Report was prepared and submitted to NEMA in accordance with the Environmental Management and Coordination Act (EMCA) 1999, Environmental (Impact Assessment and Audit) Regulations of 2003 and the EIA and Audit Guidelines. An EA Report was prepared and submitted to NEMA

- 2005 – 2006: Tanzania – Mwalimu Julius Nyerere International Airport (Dar Airport), Dar es Salaam – Environmental Impact Assessment Study – Pavement Renovation & Waste Disposal (Solid & Sewerage).**  
 Client: **Tanzania Airports Authority - TAA**  
 Participated in the project as **Team Leader**  
 The project involved assessment of the present environmental situation at the airport associated with the Pavement Renovation & Waste Disposal. Prepared a proposal of dedicated Environmental Mitigation Measures following the assessment, incorporated the scope of the civil works to the proposed mitigation measures where necessary /practical. Prepared a Solid Waste Handling and Disposal Report and Submitted to TAA.
- 2005: Zimbabwe – Tank and Product Line Integrity Testing 2005**  
 Client: **Aviation Refuelling Equipment PLC/ Mobil Oil Zimbabwe**  
 Participated in the project as **Team Leader**  
 The project involved carrying out tank integrity testing of underground storage tanks (USTs) and product line using equipment that operates as a non - volumetric tank tightness testing system that uses vacuum and is EPA Third party Approved. Prepared Underground Storage Tanks Integrity Report and submitted to the Client.
- 2005: Kenya- Environmental Scoping Study –**  
 Client: **Tourism Trust Fund/European Union**  
 Participated in the project as **Team Leader**  
 Conducted Environmental Impact Assessment (EIA) Scoping Study for the Development of Tana River basin as a tourist destination and prepared an Environmental Impact Assessment (EIA) Scoping Report and Submitted to the Client.
- 2005: Kenya - Supervision of Tank Removal/Trench Excavation Works and Installation of Monitoring Wells**  
 Client: **Parsons Brinckerhoff Ltd, Bristol – UK / ExxonMobil**  
 Participated in the project as **Team Leader**  
 The project involves Supervision of tank removal/trench excavation works and installation of wide diameter wells for groundwater remediation. Prepared Groundwater Monitoring Report and submitted to the Client
- 2005: Kenya - Environmental Audit (EA), Hydrogeological Investigation and installation of Groundwater Monitoring Wells at Sagana Depot**  
 Client: **Kenol Petroleum Company Limited**  
 Participated in the project as **Team Leader**  
  
 The project involved carrying out site Environmental Audit and the drilling and installation of three groundwater monitoring wells.  
 The preparation of an Environmental Audit Report for Submission to the National Environmental Management Authority (NEMA).
- 2005: Kenya - Environmental Audit (EA), Hydrogeological Investigation and installation of Groundwater Monitoring Wells at Nairobi Joint Depot (NJD)**  
 Client: **Kobil Petroleum Company Limited**  
 Participated in the project as **Team Leader**  
 The project involved carrying out site Environmental Audit and the drilling and installation of three groundwater monitoring wells. The preparation of an Environmental Audit Report for Submission to the National Environmental Management Authority (NEMA).
- 2005: Madagascar - Hydro-geological Investigation and Borehole Site Location**  
 Client: **QIT Madagascar Minerals – Fort Dauphin, Madagascar**  
 Participated in the project as **Team Leader**  
 The work involved site hydro-geological investigation, evaluation borehole lithological profiles and interpretation of borehole pumping test data.  
 The results have been used to determine the Fort Dauphin area groundwater potential for the location of groundwater production boreholes for the proposed mining activities in Mandena area, Madagascar.  
 Hydro-geological Report was prepared and submitted to the Client.

- 2005: Kenya - Environmental Impact Assessment and Audit for over 150 sites in Kenya**  
 Client: **Various Clients including Construction and Petroleum Clients**  
 Carried out Environmental Impact and Audit of various sites and the preparation of Environmental Impact Assessment (EIA) and Environmental Audit (EA) Reports for submission to The National Environmental Management Authority (NEMA).
- 2004 – 2005: Kenya – Participated in the Kenyan Chapter of the World Water Assessment Programme (WWAP).**  
 Participated in the Study as a **Resource Person**  
 The World Water Assessment Programme (WWAP) is a UN system-wide programme that seeks to develop tools and skills needed to achieve a better understanding of basic processes, management practices and policies that will help improve the supply and quality of global freshwater resources.  
 Its main objective is to undertake the assessment on what has been achieved by the international community in terms of freshwater initiatives in meeting the water supply and sanitation targets and the Millenium Development Goals (MDGs). The process is intended to contribute to the Kenyan Chapter of the World Water Assessment Report.
- 2003 – 2005: Tanzania – Site Environmental Risk Assessment (ERA) through Soil Sampling and analysis to investigate the extent of released product after a petroleum tanker accident.**  
 Client: **Caltex Oil (K) Ltd**  
 Participated in the project as **Team Leader**  
 The (ERA) exercise was composed of:
- Use of Geo-probe equipment to penetrate to the subsurface at selected spots to depths of between 0.5m and 4.0m below ground level to collect soil samples for TPH lab analysis.
  - Use of the PHOTOVAC 2020 PRO Plus PID to read the soil gas responses
  - Preparation of site area sketch and taking of photos.
- The fieldwork involved the execution of a Geoprobe soil gas survey with the aim of determining the presence and extent of hydrocarbon contamination. This was meant to reveal any areas impacted by petroleum hydrocarbon spilled from a petroleum tanker accident in order to determine the area requiring soil remediation (cleanup). Hydro-geological evaluation plus drilling and installation of groundwater monitoring well was done. Prepared a Risk Assessment Report and submitted to the Client.
- 2005: Uganda - Environmental Risk Assessment and Hydrogeological Investigation including installation of Groundwater Monitoring Wells at two Depot sites in Kampala and Jinja – Uganda**  
 Client: **Caltex Petroleum Company Limited**  
 Participated in the project as **Team Leader**  
 The project involved the drilling and installation of six groundwater monitoring wells at each of the two Depot sites.  
 Carried out soil and Groundwater sampling for laboratory analysis and the preparation of Environmental Site Assessment Reports for the Client.
- 2004: Kenya – Environmental Audit 2004**  
 Client: **Kenya Petroleum Refineries Limited - KPRL**  
 Participated in the project as **Team Leader**  
 The Audit involved the evaluation of the existing site status in accordance with the National Environmental Management Authority (NEMA) Guidelines, the Environmental Management and Co-ordination Act, 1999 and the Environmental (Impact Assessment and Audit) Regulations 2003 and best International Practices. Soil, groundwater and effluent samples were collected for analysis to provide baseline data.  
 Proposals were submitted for mitigation and monitoring plans as part of the Audit. An Environmental Audit Report was prepared and submitted to NEMA.



- 2004: Kenya – Initial Environmental Audit**  
 Client: **Agro Chemical & Food Company - ACFC- Muhoroni Kenya**  
 Participated in the project as **Team Leader**  
 The study entailed site investigations to determine environmental risk associated with the operations of the facility to obtain baseline environmental assessment data and prepare an Environmental Audit Report for submission to NEMA in accordance with the Environmental Management and Coordination Act (EMCA) 1999, Environmental (Impact Assessment and Audit) Regulations of 2003 and the EIA and Audit Guidelines. The Environmental Audit evaluated how effectively the site is performing with regard to environmental protection and where necessary proposal for environmental mitigation measures given. An Environmental Audit Report was prepared and submitted to NEMA.
- 2004: Kenya - Environmental and Social Impact Assessment (ESIA) of 2 Service Stations in Nairobi**  
 Client: **Total Kenya Ltd**  
 Participated in the project as **Team Leader**  
 Conducted Environmental Impact Assessment (EIA). The ESIA Study identified and evaluated impacts of the project on natural resources, animals and persons living in the project area and proposed appropriate mitigation measures to minimize or eliminate impacts. Baseline socio-economic survey to generate data for monitoring and evaluation during project implementation cycle was carried out. An ESIA Study Report containing EMP and a Monitoring Plan was prepared. The ESIA study was carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies. The ESIA Study Report was submitted to NEMA and EIA License issued.
- 2004: Kenya - Environmental Impact Assessment**  
 Client: **Kenya Pipeline Company (KPC).**  
 Participated in the project as **Team Leader**  
 Participated as the Hydrogeologist/Environmental Impact Assessment Specialist in the project that involved the implementation of an Environmental Impact Assessment Study of the Proposed Common Users' Truck Loading Facility (PS15), Changamwe – Mombasa. Soil sampling for lab analysis and Hydrogeological Data evaluation was carried out. Participated in the preparation of the Final Environmental Impact Assessment Study Report for submission to NEMA.
- 2004: Kenya – Environmental Audit**  
 Client: **East Africa Spectre Limited – Nairobi, Kenya**  
 Participated in the project as **Team Leader**  
 The study entailed site investigations to determine environmental risk associated with the operations of the facility to obtain baseline environmental assessment data and prepare an Environmental Audit Report for submission to NEMA in accordance with the Environmental Management and Coordination Act (EMCA) 1999, Environmental (Impact Assessment and Audit) Regulations of 2003 and the EIA and Audit Guidelines.  
 The Environmental Audit evaluated how effectively the site is performing with regard to environmental protection and where necessary we proposed environmental mitigation measures to ensure continued safeguarding of the environment.  
 An Environmental Audit Report was prepared and submitted to NEMA.
- 2004: Kenya – Environmental Audit**  
 Client: **Coates Brothers (East Africa) Ltd; Manufacturers of ink**  
 Participated in the project as **Team Leader**  
 The Audit involved evaluation of the existing Plant in accordance with the National Environmental Management Authority (NEMA) Guidelines, the Environmental Management and Co-ordination Act, 1999 and the Environmental (Impact Assessment and Audit) Regulations 2003 and best International Practices. Effluent and Air samples were collected for analysis to provide baseline data. Proposals were submitted for mitigation and monitoring plans as part of the Audit. An Environmental Audit Report was prepared and submitted to NEMA.

- 2004:**           **Kenya – Environmental Due Diligence Assessment/Environmental Audit**  
 Client: **Total Kenya Ltd, LPG Plant.**  
 Participated in the project as **Team Leader**  
 The Audit involved the evaluation of the existing LPG Plant in accordance with the National Environmental Management Authority (NEMA) Guidelines, the Environmental Management and Co-ordination Act, 1999 and the Environmental (Impact Assessment and Audit) Regulations 2003 and best International Practices. Soil samples were collected for analysis to provide baseline data.  
 Proposals were submitted for mitigation and monitoring plans as part of the Audit. An Environmental Audit Report was prepared and submitted to NEMA.
- 2004:**           **Kenya – Environmental Audit**  
 Client: **Total Kenya Ltd, Bitumen Plant**  
 Participated in the project as **Team Leader**  
 The Audit involved the evaluation of the existing Bitumen Plant in accordance with the National Environmental Management Authority (NEMA) Guidelines, the Environmental Management and Co-ordination Act, 1999 and the Environmental (Impact Assessment and Audit) Regulations 2003 and best International Practices. Soil samples were collected for analysis to provide baseline data. Proposals were submitted for mitigation and monitoring plans as part of the Audit. An Environmental Audit Report was prepared and submitted to NEMA
- 2004:**           **Kenya – Environmental Audit**  
 Client: **Capitol Laundry and Harry’s Drycleaners**  
 Participated in the project as **Team Leader**  
 The Audit involved the evaluation of the existing Laundry and Dry Cleaning facility that emitted Carbon, Sulphur and Nitrogen oxides in the air, discharged detergents and solvents into the public drainage.  
 This was done in accordance with the NEMA Guidelines, the Environmental Management and Co-ordination Act, 1999 and the Environmental (Impact Assessment and Audit) Regulations 2003 and best International Practices. Soil, groundwater and effluent samples were collected for analysis to provide baseline data. Mitigation measures and monitoring plans were prepared as part of the Audit. An Environmental Audit Report was prepared and submitted to NEMA
- 2004:**           **Kenya and Uganda – Environmental Site Assessment (Phase I & II) for various Service Stations**  
 Client: **Kenya Shell Limited.**  
 Participated in the project as **Team Leader**  
 Carried out Environmental Site Risk Assessment. The Assessment entailed Geoprobe Soil Gas Survey, Soil and Groundwater Sampling for Lab Analysis and the preparation of Site Environmental Assessment Reports.
- 2003:**           **Rwanda – Kigali Airport - Environmental Site Assessment (Phase I & II)**  
 Client: **Caltex Oil Company (Providing Aviation Fuel to Aircrafts at Kigali Airport)**  
 Participated in the project as **Team Leader**  
 Carried out Environmental Site Risk Assessment. The Assessment entailed Geoprobe Soil Gas Survey, Soil and Groundwater Sampling for Lab Analysis. Site Environmental Risk Assessment Report was prepared and submitted to the Client.
- 2003:**           **Eritrea – Environmental Risk Assessment (Phase I & II)**  
 Client: **Shell Eritrea**  
 Participated in the project as **Team Leader**  
 Carried out Environmental Risk Assessment of 18 Retail Service Stations, 3 Consumer Sites and 1 Depot. The Assessment entailed Geoprobe Soil Gas Survey, Soil and Groundwater Sampling for Lab Analysis and the Preparation of Environmental Risk Assessment Reports.

- 2003: Senegal – Environmental Risk Assessment (Phase I & II) of 1 LPG Depot for Shell Senegal**  
 Client: **Shell Senegal**  
 Participated in the project as **Team Leader**  
 Carried out Environmental Site Risk Assessment. The Environmental Risk Assessment entailed Geoprobe Soil Gas Survey, Soil and Groundwater Sampling for Lab Analysis and the preparation of Environmental Site Environmental Risk Assessment Reports.
- 2003: Rwanda – Environmental Risk Assessment (Phase I & II) of 1 Aviation (Airport) Depot**  
 Client: **Caltex Oil Limited.**  
 Participated in the project as **Team Leader**  
 Carried out Environmental Risk Assessment.  
 The Environmental Site Assessment entailed Geoprobe Soil Gas Survey, Soil and Groundwater Sampling for Lab Analysis and preparation of Site Environmental Risk Assessment Reports
- 2003: Lesotho – Environmental Risk Assessment (Phase I & II) of 14 Retail Service Stations**  
 Client: **BP Africa Ltd.**  
 Participated in the project as **Team Leader**  
 Carried out Environmental Risk Assessment. The Assessment entailed Geoprobe Soil Gas Survey, Soil and Groundwater Sampling for Lab Analysis, Tank and Product Line Integrity Testing and The preparation of Site Environmental Risk Assessment Reports.
- 2003: Swaziland – Environmental Risk Assessment (Phase I & II) of 12 Retail Service Stations**  
 Client: **BP Africa Ltd.**  
 Participated in the project as **Team Leader**  
 Carried out Environmental Risk Assessment. The Assessment entailed Geoprobe Soil Gas Survey, Soil and Groundwater Sampling for Lab Analysis, Tank and Product Line Integrity Testing and The preparation of Site Environmental Risk Assessment Reports.
- 2003: Mozambique – Environmental Risk Assessment (Phase I & II) of 30 Retail Service Stations and 30 Consumer sites**  
 Client: **BP Africa Ltd.**  
 The Assessment entailed Geoprobe Soil Gas Survey, Soil and Groundwater Sampling for Lab Analysis and The preparation of Site Environmental Risk Assessment Reports.
- 2002: Malawi – Environmental Risk Assessment (Phase I & II) of 65 Retail Service Stations and 30 Consumer Sites**  
 Client: **BP Africa Ltd.**  
 Participated in the project as **Team Leader**  
 Carried out Environmental Risk Assessment. The Assessment entailed Geoprobe Soil Gas Survey, Soil and Groundwater Sampling for Lab Analysis, Tank and Product Line Integrity Testing and The preparation of Site Environmental Risk Assessment Reports.
- 2003: Zambia – Environmental Risk Assessment (Phase I & II) of 90 Retail Service Stations and 25 Consumer Sites**  
 Client: **BP Africa Ltd.**  
 Participated in the project as **Team Leader**  
 Carried out Environmental Risk Assessment. The Assessment entailed Geoprobe Soil Gas Survey, Soil and Groundwater Sampling for Lab Analysis, Tank and Product Line Integrity Testing and the preparation of Site Environmental Risk Assessment Reports.
- 2002: Kenya (Mwingi Town) – Environmental Risk Assessment of Mwingi Caltex Service Station**  
 Client: **Caltex Oil Kenya Ltd**  
 Participated in the project as **Team Leader**  
 Carried out Environmental Risk Assessment to establish source of released subsurface petroleum product detected near a neighbouring surface water source used by the local community. The project involved soil gas survey and soil sampling for lab analysis. A Site Environmental Risk Assessment Report was prepared.

- 2002: Kenya - Presented a paper on “Impact on Groundwater Resources due to encroachment in Recharge Areas in Nakuru” at the National Conference on Integrated Water Resources Management Strategy” held at KCCT College Mbagathi, Nairobi, Kenya.**
- 2002: Mauritius – Environmental Impact Assessment of the proposed Mer-Rouge Depot**  
 Client: **The Oil Industry in Mauritius.**  
 Participated in the project as **Team Leader**  
 The ESIA Study identified and evaluated impacts of the project on natural resources, animals and persons living in the project area and proposed appropriate mitigation measures to minimize or eliminate impacts. Baseline socio-economic survey to generate data for monitoring and evaluation during project implementation cycle was carried out. An ESIA Study Report containing EMP and a Monitoring Plan was prepared. The project involved soil, air and water sampling for lab analysis and the preparation of an Environmental Impact Assessment Report for Project Approval and Implementation.
- 2001: Botswana and Tanzania - Environmental Risk Assessment and Hydrogeological Evaluation of various Depots**  
 Client: **BP Africa**  
 Participated in the project as **Team Leader**  
 Carried out Environmental Risk Assessment through the collection of soil and water samples for lab analysis and the drilling and installation of groundwater monitoring wells in the following countries:
- Tanzania (Dar es salaam, Mtwara, Zanzibar and Mwanza Depots)
  - Botswana (Gaberone and Serule Depots)
- Prepared Site Environmental Risk Assessment Reports and submitted to the Client.
- 2001: Mali, Senegal, The Gambia, Cape Verde, Niger, Ghana, Burkina Faso, Cote de Ivoire, Guinea, Cameroon Chad, Togo and Gabon - Environmental Risk Assessment for 206 Retail Service Stations and Consumer Sites in several Countries of West/Central Africa.**  
 Client: **Shell and BP**  
 Participated in the project as **Team Leader**  
 Carried out Environmental Risk Assessment. The project entailed soil gas survey and soil sampling for chemical analysis. Site Environmental Risk Reports were also prepared and submitted to the Client.
- 2000: Kenya - Environmental Risk Assessment and Hydrogeological Evaluation in various countries in the East African Region:**  
 Client: Kenya Shell Limited  
 Participated in the project as **Team Leader**  
 Carried out Environmental Risk Assessment using the Distribution Risk Based Tool (DRBT). This was impact assessment which included on-site assessment, sampling and analysis of soil and water samples, Installation of shallow wells (piezometers) and deep wells (boreholes). The sites were:-  
 Ethiopia - Akaki depot , Addis Ababa  
 Djibouti - Aviation depot, Djibouti  
 Uganda - Kampala depot, Kampala  
                   - Mbale depot, Mbale  
 Sudan - Shagara depot, Khartoum  
                   - Port Sudan Installation, Port Sudan  
 Mauritius - Fort William joint industry Depot, Mauritius
- Prepared an Environmental Risk Assessment Report containing Drilling and Installation of the Boreholes and Hydrogeological Evaluation of the site.
- 1999: Kenya - Environmental and Social Impact Assessment (EIA) and Resettlement Action Plan (RAP) for the Sondu Miriu Hydroelectric Power Station in Sondu, Kenya.**  
 Client: **Nippon Koei/KPLC**  
 Participated in the project as **Coordinator**  
 This study was carried out to evaluate the environmental impact of the proposed Sondu Miriu Hydroelectric Power Generation on the environment and the people living near the power plant and a Resettlement Action Plan for the affected households.

The assessment included the evaluation of the flora and fauna and the resettlement of the affected population. An evaluation of the socio-economic aspects of the project was also done, including a monitoring plan was also done.

**1999: Kenya - Groundwater Survey Unit of the Water Resources Assessment and Planning Project (WRAP) - Ministry of Water Resources, Nairobi**

1. Carried out an intensive two (2) weeks Training Course for Ministry of Water Resources Staff on the "Application of GIS and Remote Sensing to Water Resources Evaluation and Management. The GIS software used was the Integrated Land and Water Information System (ILWIS). The course was attended by 12 Ministry of Water Officers.
2. Conducted a one (1) month Basic Training Course for WRAP Staff on The Application of Geographical Information System (GIS) for the Collection, Storage, Manipulation and Analysis of Resources Data where the Geographic Location is Critical to the Analysis.
  - Applied Geophysical Exploration Methods (Resistivity & Electromagnetic) to investigate saline groundwater pockets and seawater intrusion in Kilifi District coastline.
  - Evaluation of groundwater quality data with the intention of establishing the extent of seawater intrusion and delineation of saline groundwater plumes in Kilifi District.
- Applied the TECSOFT software for water quality analysis and preparation of diagrams for classifying the different types of groundwater found.

**1992 – 1998: Kenya - Ministry of Water Resources, Nairobi - Survey Unit (which undertakes Geophysical Groundwater Exploration).**

Position – **In-charge of Groundwater Assessment Activities**

**Carried out the following duties:**

- Geophysical Groundwater investigation
  - Interpretation of Geophysical Data on:
    - - Electromagnetic (EM)
    - - Resistivity Profile (RP)
    - - Vertical Electrical Sounding (VES)
  - Geological Mapping and related structures like faults, folds with the aim of establishing the most appropriate geophysical method to be used in Groundwater Survey
- Participated in the field Geophysical Groundwater Investigations and Report Preparations for Baringo, Meru, Samburu, Isiolo, Kilifi and Marsabit Districts. The results have been used in compiling the Geophysics and Hydrogeology Chapters of the following reports:
- Water Resources Assessment Study of Meru District
  - Water Resources Assessment Study of Samburu District
  - Water Resources Assessment Study of Isiolo District
  - Water Resources Assessment Study of Kilifi District
  - Water Resources Assessment Study of Baringo District
  - Water Resources Assessment Study of Marsabit District
  - Evaluated and Supervised Drilling of Research Boreholes for groundwater studies in Samburu and Isiolo Districts under the WRAP Drilling Program.
  - Assisted the drilling team in logging of drilling samples (lithological logs) and the identification of aquifer locations for screen and casing insertion.

**1986 – 1998: Kenya - Geologist - Ministry of Water Resources, Nairobi: Geology Section of Resources Division.**

Position **On The Job -Trainee Geologist**

Undertook on-the-job training on Groundwater Investigation (using Geophysical Exploration Techniques) and Hydrogeology.

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**LANGUAGES:**

	<b>Reading</b>	<b>Writing</b>	<b>Speaking</b>
English	Excellent	Excellent	Excellent
Kiswahili	Excellent	Excellent	Excellent

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**Certification:**

I, the undersigned, certify that, these data correctly describe me, my qualifications, and my experience.



Date: **14 June 2017**

[Signature of staff member]



Date: **14 June 2017**

[Signature of authorized representative of the firm]

Full name of staff member: **Joshua Oyieko**

Full name of authorized representative: **Richard Okello**

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## **2. Irene Muchoki –Sociologist/Community Development Expert**

## CURRICULUM VITAE (CV) FOR PROPOSED PROFESSIONAL STAFF

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<b>Proposed Position:</b>	Sociologist		
<b>Name of Firm:</b>	Panafcon Ltd		
<b>Name of Staff:</b>	Irene Wanjiku Muchoki		
<b>Profession:</b>	Sociologist/Environmentalist		
<b>Date of Birth:</b>	1974		
<b>Years with Firm/Entity:</b>	17	<b>Nationality:</b>	Kenyan

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### Membership of Professional Societies:

Registered in Kenya as EIA/EA Lead Expert with the National Environment Management Authority (NEMA) under the Environmental Management and Coordination Act (EMCA 1999) and the Environmental Impact Assessment and Audit Regulations 2003 Registration Number 0970.

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### Key Qualifications:

Irene is an Environmentalist and Community Development Expert holding a Masters of Art Degree in Rural Sociology and Community Development from the University of Nairobi. She also has B.Sc. Degree from University of Nairobi, a Post-graduate Diploma in Business Management from Kenya Institute of Management and Certificate in ISO 14001: Environmental Management Systems (EMS) training from Kenya Bureau of Standards. She is currently undertaking

She has over 15 years progressive experience in the Environmental, Social and Engineering Consultancy business. During this period, she has attained skills in Environmental and Social primary data collection and site investigation, desktop review, research work, soil and groundwater sampling techniques, report writing project and presentation of project findings. She was involved in the overall RAP and ESIA project planning in a team of other experts such as the Valuer, Surveyor, Socio economist and enumerators. She was also involved in the day to day planning, scheduling and organizing of the ESIA Studies. She has hands-on experience in planning, scheduling and organizing of ESIA studies and writing ESIA reports according to the provision of EMCA 1999.

In addition, she has extensive experience in general office and project management having held senior management positions with her current employer. She has been involved in management of project teams as a Team Leader. She is part of the Business Development team in the company through which have made contacts with potential clients and developed worthy business opportunities and continually maintain good consultant-client relationships. She has been for many years been the Internal Quality Assurance and Control Auditor for the company where she has ensured quality is maintained throughout the project cycle.

She is registered as an EIA/EA Lead Expert with the National Environment Management Authority (NEMA) under the Environmental Management and Coordination Act (EMCA 1999) and the Environmental Impact Assessment and Audit Regulations 2003. She is conversant with the principles and application of ISO 14001: Environmental Management Systems (EMS).

She has in addition carried out the following activities as part of the ESIA and RAP projects undertaken:

Evaluation of Project Environmental and Social Impacts on project area population focusing on the following:

- Safety of project workers and local community by use of appropriate safety gear and working area barriers;
- Health of project workers and local community regarding communicable (HIV AIDS, STI and TB) and water borne diseases;
- Awareness creation through public consultation meeting (PCM) discussion and training;
- Evaluation of Gender, Poverty and Vulnerable groups in terms of the socio-economic activities and exposure to diseases and safety within the project area;
- prevention of sexually transmitted diseases through use of condoms, use of mosquito nets for prevention of mosquito bites and malaria and removal of stagnant water near homesteads;
- Promotion of use of potable water and appropriate sanitation;



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**Education:**

<b>2012 - 2016:</b>	Masters of Arts - Rural Sociology and Community Development, University of Nairobi
<b>2006 - 2007</b>	Post Graduate Diploma in Business Management, Kenya Institute of Management
<b>1995 - 1999</b>	Bachelor of Science Honours Degree, University of Nairobi, Kenya
<b>1990 - 1994</b>	Secondary School Education at Kenya High School, Nairobi

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**Professional Qualifications:**

<b>2002:</b>	<b>Certified Public Accountant (CPA).</b> Registered with (Kenya Accountants & Secretaries National Examinations Board) KASNEB and have undertaken and passed Section One exams (Law 1, Economics & Financial Accounting )
<b>2005:</b>	<b>Environmental Management System Training</b> in ISO 14001 by Kenya Bureau of Standards (KEBS) Nairobi Kenya.
<b>2004:</b>	<b>Sustainable Environmental Management Training</b> at Kenya Institute of Administration, Nairobi Kenya.

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**Employment Record/Experience:**

<b>2000 - Date</b>	Panafcon Ltd, Nairobi – Kenya Environmental Scientist/ RAP Expert/ Social Development Specialist
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**Relevant Professional Experience:**

<b>2016:</b>	<p><b>Kenya – Environmental and Social Impact Assessment (ESIA) and Resettlement Action Plan (RAP) of the Proposed Relocation of Kipevu Oil Terminal (KOT) (ongoing)</b></p> <p>Client: Kenya Ports Authority (KPA) Participating in the Project as: Team Leader</p> <p>The objective of the Environmental and Social Impact Assessment (ESIA) and Resettlement Action Plan (RAP) Studies is to identify the environmental impacts of the proposed relocation on people and the environment. To determine project alternatives and cost effective mitigation measures plus a monitoring plan. Questionnaires will be used to collect data. The ESIA Study is going to identify and evaluate environmental impacts of the relocation on natural resources and operations in the project area and propose appropriate mitigation measures to minimize/eliminate impacts including safety measures. The RAP Study is going to evaluate any loss of structures and operations within the project area. Baseline socio-economic survey to generate data for monitoring and evaluation will be collected during the project cycle.</p> <p>An ESIA Study Report containing EMP and a Monitoring Plan will be prepared for submission to NEMA. A RAP Study Report will also be prepared.</p> <p>The ESIA Study will be carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies.</p>
<b>2016:</b>	<p><b>Kenya: Environmental and Social-Economic Impact Assessment of the Thange River Basin.</b></p> <p>Client: Kenya Pipeline Company Limited Participating in the Project as: Deputy Team Leader</p> <p>The objective of the Environmental and Social-Economic Impact Assessment (ESEIA) Study was carried out to assess the impact of the oil spill incident to the community and environment of Thange River Basin and propose cost effective mitigation measures plus a monitoring plan.</p>

Geoprobe Soil Gas Survey and sampling of water, soil and biota for lab analysis was done. Groundwater flow direction and velocity were determined to establish the movement of petrochemical contaminant. Questionnaires were administered to collect data on the community. Medical Evaluation was done on the site area community members and their livestock. The ESEIA Study identified and evaluated environmental impacts on natural resources and persons in the project area and appropriate mitigation measures proposed. A socio-economic impact was done to determine loss of resources and livelihood for the affected community that were evaluated. The Oil Spill ESEIA Report has been submitted to NEMA.

- 2014**      **Kenya – Environmental and Social Impact assessment (ESIA) Study for the propose Isinya – Nairobi East 400kV Transmission Line**  
**Client:** Kenya Electricity Transmission Company Ltd (KETRACO)  
 Participated in the Project as **Deputy Team Leader**  
 The objective of the ESIA Study was to evaluate the Environmental and Social Impacts of the proposed Isinya- Nairobi East (75km) 400kV Double Circuit Line and Sub stations project. Use questionnaires to collect data.  
 The ESIA Study was to identify and evaluate the impacts of the project on natural resources, animals and persons living in the project area and propose appropriate mitigation measures to minimize or eliminate impacts. Baseline socio-economic survey to generate data for monitoring and evaluation during project implementation cycle was carried out. An ESIA Study Report containing EMP and a Monitoring Plan was prepared. The ESIA study was carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies The ESIA report was submitted to NEMA and the EIA licence issued to the client.
- 2014**      **Kenya: Review and Update the Environmental and Social Impact Assessment (ESIA) for the Proposed Rehabilitation of the Lodwar- Lokichogio-Nakodok 240Km (A1) Road**  
**Client:** Kenya National Highways Authority (KeNHA)  
 Participating in the Project as: **Deputy Team Leader/ Environmental Expert**  
 Objective of Reviewing and Updating of Lodwar-Nakodok Road ESIA Study were:  
 Reviewing and updating the ESIA Study Report compiled in 2013;  
 Ensuring all environmental consequences of construction and operation of the road are evaluated and addressed as part of the mitigation measures in the final road design; Review and update the Draft ESIA Report to conform with World Bank Operational Policies and Kenya National Highways Authority (KeNHA) requirements; To identify gaps in the Draft ESIA Report and address them in the revised version; To conduct second Public Consultation Meetings to sensitise all the stakeholders about the project, seek their inputs into the project design and disclose the positive and negative impacts of the project
- 2014**      **Kenya: Environmental and Social Impact Assessment (ESIA) for the Proposed Athi river- Mariakani Axle Load Control Station.**  
**Client:** Kenya National Highways Authority (KeNHA)  
 Participating in the Project as: **Deputy Team Leader**  
 The objective of the Proposed Reconstruction and Modernisation of Athi River Axle Load Control Station is to improve the infrastructure of the weigh bridge station and achieve the following:
- Enhance road safety and improve working conditions at the station;
  - Preserve road infrastructure.
  - Optimise road transportation through reduction of time spent at the axle load station;
  - Eliminate interruption of traffic flow by trucks that cross from one side of the highway to another to have their axle loads checked.
  - Eliminate/reduce health and safety risks posed by roadside packed trucks containing explosive or dangerous cargo

- To conduct Public Consultation Meetings to sensitise all the stakeholders about the project, seek their inputs into the project and disclose the positive and negative impacts of the project
- To conduct a Public Consultation Meetings to sensitise all the stakeholders about the project, seek their inputs into the project design and disclose the positive and negative impacts of the project.

**2013 Kenya - Consultancy Services for the Environmental & Social Impact Assessment of Mombasa – Nairobi 400kV Transmission Line (Alternative A – Kibwezi)**

**Client:** Kenya Electricity Transmission Company Ltd KETRACO

Participating in the Project as: **Environmental/ Deputy Team Leader**

The main objectives of this consultancy services include but not limited to the following:

- To ensure that the above project is implemented in an environmentally and socially sustainable manner.
- To provide an ESIA report to KETRACO and their financiers prior to the finalization of financial decision regarding the Kibwezi section of the line
- Alternative A is considered the most preferred/ optimal alternative out of 6 alternative routes identified by the initial ESIA Consultant.

**2013 Kenya - Consultancy Services for the Environmental & Social Impact Assessment for the Proposed Nyahururu - Maralal 132 kV Transmission Line**

**Client:** Kenya Electricity Transmission Company Ltd KETRACO

Participating in the Project as: **Environmental/ Deputy Team Leader**

The main objectives of this consultancy services include but not limited to the following:

- to comply with the Environmental Management and Coordination Act (EMCA) 1999 as stipulated in the Environmental (Impact Assessment and Audit) Regulations 2003 Legal Notice No. 101.
- to verify the adherence and compliance of the World Bank's Safeguard Policies.
- to ensure that the above project is implemented in an environmentally and socially sustainable manner.

**2013 Kenya - Consultancy Services for the Environmental & Social Impact Assessment for the Proposed Sondu-Homa Bay-Awendo-Migori-Isebania 132 kV Transmission Line**

**Client:** Kenya Electricity Transmission Company Ltd KETRACO

Participating in the Project as: **Environmental/ Deputy Team Leader**

The main objectives of this consultancy services include but not limited to the following:

- To comply with the Environmental Management and Coordination Act (EMCA) 1999 as stipulated in the Environmental (Impact Assessment and Audit) Regulations 2003 Legal Notice No. 101.
- To verify the adherence and compliance of the World Bank's Safeguard Policies.
- To ensure that the above project is implemented in an environmentally and socially sustainable manner.

**2013 Kenya - Consultancy Services for the Environmental & Social Impact Assessment and Resettlement Action Plan for the Proposed Voi-Taveta 132 kV Single Circuit Transmission Line**

**Client:** KPLC/ World Bank

Participating in the Project as: **Environmental/Community Development Expert**

The main objectives of this consultancy services include but not limited to the following:

- To comply with the Environmental Management and Coordination Act (EMCA) 1999 as stipulated in the Environmental (Impact Assessment and Audit) Regulations 2003 Legal Notice No. 101.
- To verify the adherence and compliance of the World Bank's Safeguard Policies.
- To ensure that the above project is implemented in an environmentally and socially sustainable manner.
- To prepare a Resettlement Action Plan (RAP) to guide the implementation process.

2013

**Kenya- Environmental & Social Impact Assessment for the Study for Proposed Lower Nzoia Irrigation Development Project-Phase II**

**Client:** National Irrigation Board (NIB)

Participating in the Project as: **Community Development Expert**

The objective of the ESIA Study was to evaluate the Environmental and Social Impact of implementing the proposed project in Lower Nzoia. Identify and evaluate impacts of the proposed project on the natural resources, animals and persons living in the project area and recommend appropriate mitigation measures to eliminate or minimize impacts and provide a monitoring plan.

Baseline socio-economic survey to generate data for monitoring and evaluation during project implementation cycle is to be carried out. The study is to determine loss of income (livelihood), cost of land and other property using the current market value.

An ESIA Study Report containing EMP and a Monitoring Plan is to be prepared. The study is to be done with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies. The ESIA Study Report was submitted to NEMA and an EIA License issued to the client.

2011-2012

**Kenya and Ethiopia - Consultancy Services for Carrying out Environmental and Social Impact Assessment of Proposed Gibe III Hydroelectric Power Project: Downstream of Gibe III: Kenyan Perspective**

**Client:** Kenya Electricity Transmission Company Ltd (KETRACO)

The Gibe III hydroelectric power project is being implemented by the Ethiopian Electric Power Corporation (EEPCCO). It is located within the Gibe – Omo River Basin 675 km trajectory from its terminus at Lake Turkana, Kenya – Ethiopia border. The objective of the project is to evaluate the effect of the Gibe III Hydroelectric Power Dam on the 675km downstream along River Omo and the Lake Turkana environment where the river feeds into.

The potential effects downstream include hydrological (particularly on the River Omo and Lake Turkana), socio-economic for the inhabitants, ecological for plants & animals, archeological & cultural areas including the wetlands

2012

**Kenya – Environmental and Social Impact Scoping for the Menengai Geothermal Project Phase 1 Project**

**Client:** Geothermal Development Company (GDC)/ELC

Participated in the Study as the **Environmental**

The objective of the ESIA Scoping Study was to collect the environmental baseline data and evaluate the potential Environmental and Social Impacts of Menengai Geothermal Development Project in Nakuru. This information was intended to provide background environmental and socio-economic data for future use to carry out ESIA Studies for specific components of the Geothermal Development at Menengai Geothermal Development Site.. The baseline study involved the following activities:

Field assessment collect data and information;

- Evaluation of the project area population distribution and demographics;
- Evaluation of the current health status and education of the community;
- Evaluation of the forest cover and other vegetation within the project area;
- Evaluation of project area community's livelihoods, socio-cultural backgrounds, The Study Identified potential environmental and social impacts arising from geothermal project activities including:

- Civil works associated with construction of access roads, drill sites, drilling and testing of production and injection geothermal wells and construction of the evacuation power line.
- Development of the Steam Above Ground Pipeline System ;
- Construction of the Power Plant
- The Power Plant Operation Activities
- The alternative transmission line routes

The ESIA Scoping Study was carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, AfDB, ADB and World Bank Safeguard Policies.

**2012: Kenya – Environmental Impact Assessment of the Proposed LPG Filling Plant in Kisumu**

Client: KenolKobil Ltd

The objective of the Environmental and Social Impact Assessment (ESIA) Study was to identify the environmental impacts of the LPG plant on people and the environment, project alternatives and cost effective mitigation measures plus a monitoring plan. Questionnaires were used to collect data. The ESIA Study identified and evaluated environmental impacts on natural resources and persons in the project area and proposed appropriate mitigation measures to minimize/eliminate impacts including safety measures. Baseline socio-economic survey to generate data for monitoring and evaluation during project cycle was collected. An ESIA Study Report containing EMP and a Monitoring Plan was prepared. The ESIA study was carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies. The ESIA Study Report was submitted to NEMA and an EIA License was issued to the Client.

**2015: Kenya: Resettlement Action Plan for Proposed Lower Nzoia Irrigation Development Project-Phase I**

Client: Ministry of Water and Sanitation.

Participating in the Project as: **Community Development Expert**

The objective of the RAP Study was to carry out a census survey of all the persons, land area and property affected by the irrigation project. Use of questionnaires to collect data. Determine the sources of income for each affected household, value of affected, type of structures (residential houses, commercial buildings, structures belonging to institutions (schools, dispensaries/hospitals) and infrastructure (water pipelines, roads, power lines etc). Determine loss of income, loss of land and other property using the current market value for valuation. Identify and propose possible resettlement sites and prepare a Resettlement Action Plan Report containing cost of compensation and resettlement for each household and in compliance with.

The World Bank Operational Policy 4.12 – Involuntary Resettlement.

**2014: Kenya: Consultancy Services for Reviewing and Updating of the Resettlement Action Plan (RAP) for the Proposed Rehabilitation of Lodwar-Lokichogio-Nakodok Road (A1), 240 Km**

Client: Kenya National Highways Authority (KeNHA)

Participating in the Project as: **Team Leader**

Main project features: The proposed road project commences at Lodwar, at the roundabout on the road from Kitale, and ends at Nadapal at the border with South Sudan and is 240 km highway. The Consultant is reviewing the initial RAP study carried by the Road Design Consultant and validates it for implementation.

The RAP study entailed a survey of the amount of land, enumeration of the number of structures (permanent, semi-permanent and temporary), the actual number of people and the households that will be affected by the proposed road upgrading activities.

The project also included valuation of land, structures, crops and trees to be affected in the resettlement process.

- 2014:** **Kenya - Consultancy Services for the Resettlement Action Plan and census study for Kenya – Tanzania Power Interconnector 400Kv Transmission Line.**  
**Client:** Kenya Electricity Transmission Company Ltd KETRACO  
 Participating in the Project as **Community Development Expert**  
 The main objectives of this consultancy services carry a detailed RAP.
- The RAP will entail a survey on the amount of land that will be affected by the proposed line, the number of structures that will be affected by the proposed line, the actual number of people that will be affected and the actual number of households that will be affected by the proposed line.
  - The consultancy will also carry out estimation of valuation for land to be affected, estimated valuation of structures to be affected, estimated valuation of crops and trees likely to be affected.
- 2014:** **Name of Assignment or Project: Resettlement Action Plan Study for Proposed Lower Nzoia Irrigation Development Project-Phase II covering 5,316 ha.**  
**Client:** National Irrigation Board (NIB)  
 Position held: **Community Development Expert**  
 Main project features: Carryout a detailed RAP Study of the proposed Lower Nzoia Irrigation Development Project (LNIDP) – Phase II project which covers part of Ugenya and Bunyala Districts. The irrigation infrastructure to be developed will be constructed in the project area to take water to the farmers through open canals. The project has a total gross area of 5,316 ha. The existing homestead settlements will remain where they are except those that will be affected by the Main or Secondary Canals, Intake Weir, Sedimentation Pan, Office Blocks and Staff Houses.  
 The RAP study entailed a survey of the amount of land much of which is highly subdivided into small portions, enumeration of the number of structures (permanent, semi-permanent and temporary), the actual number of people and the households that will be affected by the proposed line.  
 The project also included valuation of land, structures, crops and trees to be affected in the resettlement process.
- 2013:** **Kenya - Consultancy Services for the Preparation of a Detailed Updated Resettlement Action Plan and Census Study for Eastern African Electricity Highway 500KV HVDC Project - Shamata - Suswa Section (Lot 4)**  
**Client:** Kenya Electricity Transmission Company Ltd KETRACO  
 Participating in the Project as **Environmental/ Deputy Team Leader**  
 The main objectives of this consultancy services carry a detailed RAP.
- The RAP will entail a survey on the amount of land that will be affected by the proposed line, the number of structures that will be affected by the proposed line, the actual number of people that will be affected and the actual number of households that will be affected by the proposed line.
  - The consultancy will also carry out estimation of valuation for land to be affected, estimated valuation of structures to be affected, estimated valuation of crops and trees likely to be affected.
- 2012:** **Kenya - Consultancy Services for the Resettlement Action Plan for the Proposed Machakos – Konza – Kajiado – Namanga (155Km) 132kV Transmission Line**  
**Client:** Kenya Electricity Transmission Company Ltd KETRACO  
 Participated in the Project as **Environmental/Community Development Expert**  
 The main objectives of this consultancy services was to carry out a detailed RAP.
- The RAP survey on the amount of land that will be affected by the proposed line, the number of structures that will be affected by the proposed line, the actual number of people that will be affected and the actual number of households that will be affected by the proposed line.

- The consultancy carried out estimation of valuation for land to be affected, estimated valuation of structures to be affected, estimated valuation of crops and trees likely to be affected

**2012: Kenya – Resettlement Action Plan for the Proposed Upgrading of Rumuruti – Maralal Road to Bitumen Standards**

**Client:** Kenya National Highways Authority (KeNHA)

Participating in the Project as **Deputy Team Leader**

The main objectives of this consultancy services is to prepare a Resettlement Action Plan for the proposed road upgrading project in accordance with applicable operation procedures of the Government of Kenya and International Development Association (IDA).

**2012: Kenya – Resettlement Action Plan for the Proposed Construction of Additional Lanes on JKIA-Likoni-James Gichuru-Rironi Road (A104) and Associated 4 Projects**

**Client:** Kenya National Highways Authority (KeNHA))

Participated in the Project as **Deputy Team Leader**

The objective of the project was to identify all potential project affected persons and the impacts of the proposed projects on the livelihoods of affected persons and recommend measures to minimize Resettlement effects and safeguard livelihoods.

Carry out a socio-economic survey to generate baseline data for monitoring and evaluation during project implementation period. Carry out an asset inventory survey of all potential assets that will be affected by the proposed projects. Verify compliance with the Relocation and Resettlement Regulations that govern the industry.

Provide guidelines to stakeholders participating in the minimizing resettlement impacts of the project.

Recommend cost effective measures to be implemented to safeguard the livelihoods. Prepare a Resettlement Action Plan (RAP) report compliant to The World Bank Regulations.

**2013: Kenya – Judicial Performance Improvement Project:**

**Client:** The Judiciary/ World Bank

Participated in the Project as **Deputy Team Leader**

The preparation of an Environmental & Social Impact Assessment of Rehabilitation of Facilities at Kangema Law Court.

The objective of the Environmental and Social Impact Assessment (ESIA) Study was to identify the effects of the Rehabilitation exercise on the environment and the surrounding communities in order to identify project impacts, appropriate project alternatives and develop cost effective mitigation measures and a monitoring plan.

Preparation of an Environmental Impact Assessment Study Report for submission to the National Environmental Management Authority (NEMA) and the EIA License was submitted to the client.

**2013: Kenya – Judicial Performance Improvement Project:**

**Client:** The Judiciary/ World Bank

Participating in the Project as **Deputy Team Leader**

The preparation of an Environmental & Social Impact Assessment of Rehabilitation of Facilities at Kitui Law Court.

The objective of the Environmental and Social Impact Assessment (ESIA) Study is to identify the effects of the Rehabilitation exercise on the environment and the surrounding communities in order to identify project impacts, appropriate project alternatives and develop cost effective mitigation measures and a monitoring plan.

Preparing of an Environmental Impact Assessment Study Report for submission to

the National Environmental Management Authority (NEMA) for EIA License.

- 2012: Kenya – Environmental Impact Assessment of the Proposed LPG Filling Plant in Kisumu**  
**Client:** KenolKobil Ltd  
 Participating in the Project as **Deputy Team Leader**  
 The objective of the Environmental and Social Impact Assessment (ESIA) Study is to identify the effects of the LPG plant on the environment in order to identify project impacts, appropriate project alternatives and develop cost effective mitigation measures and a monitoring plan. Preparing of an Environmental Impact Assessment Study Report for submission to the National Environmental Management Authority (NEMA) for EIA License.
- 2012: Kenya – Integrated Urban Water Management Study (IUWM) for Nairobi and Satellite Towns**  
**Client:** World Bank and ICLEI  
 The project activities involve Review existing literature on the current state of policies and practices in water resources, water supply, sanitation, drainage, institutional and legal frameworks, for the water sector in Nairobi. Develop an outline for the assessment report of the local water situation in Nairobi. Identify stakeholders to be invited to the initial workshop in Nairobi (Kenya). Revise list of stakeholders to be invited to the strategy workshop in Nairobi.  
 Develop a common understanding of challenges linked to water management in Nairobi Map and analyse stakeholder institutions and relevant legal and financial frameworks at national, sub-national and local level relevant for water governance in Nairobi. Ensure logistical arrangement and participate in strategy workshop. Develop programme and report for strategy workshop. Develop preliminary IUWM strategy for Nairobi based on outcomes of the workshop.  
 Develop a roadmap to finalize and operationalise the developed IUWM strategy for Nairobi in consultation with the relevant World Bank Team in Nairobi.
- 2011: Kenya - The Project on the Development of National Water Master Plan 2030 – Water Use and Groundwater Survey**  
**Client:** Nippon Koei Co., Ltd. Water Resources Management Authority (WRMA)  
 The project involved assessing and evaluating availability, reliability, quality, and vulnerability of the Country's water resources up to around 2050 taking into consideration of climate change, reviewing the National Water Master Plan towards the year 2030 taking into consideration of climate change and formulating action plan up to the year 2022, strengthening capacity of water resources management.
- 2010: Kenya - Environmental Impact Assessment for the Proposed Borehole at Kawangware Area on L.R. No. Dagoretti/Riruta/1409**  
**Client:** Margaret Njeri Muiruri  
 The proposed borehole will be used to provide water for domestic use. The client has a tenancy of about 28 houses that will rely on the proposed borehole once completed
- 2009: Kenya – Site Environmental Risk Assessment (ERA) through Soil Sampling and analysis to investigate the extent of released product after a petroleum tanker accident.**  
**Client:** Multiple Hauliers Ltd  
 The (ERA) exercise was composed of:
- Use of Geo-probe equipment to penetrate to the subsurface at selected spots to depths of between 0.9m and 3.75m below ground level to collect soil samples for TPH lab analysis.
  - Use of the PHOTOVAC 2020 PRO Plus PID to read the soil gas responses
  - Preparation of site area sketch and taking of photos.
- The fieldwork involved the execution of a Geoprobe soil gas survey with the aim of determining the presence and extent of hydrocarbon contamination.



This was meant to reveal any areas impacted by petroleum hydrocarbon spilled from a petroleum tanker accident in order to determine the area requiring soil remediation (cleanup).

- 2009: Kenya – Environmental Impact Assessment of upgrading of facilities at Wajibu Service Station in Thika.**  
**Client:** Libya Oil Kenya Limited  
 The project involves conducting Environmental Impact Assessment (EIA) for the upgrading of facilities at a Service Station in Thika Town and preparing an Environmental Impact Assessment Report for submission to the National Environmental Management Authority (NEMA) for EIA License.
- 2009: Kenya – Environmental Impact Assessment of upgrading of facilities at Valley Service Station in Nakuru**  
**Client:** Libya Oil Kenya Limited  
 The project involves conducting Environmental Impact Assessment (EIA) for the upgrading of facilities at a Service Station in Nakuru Town and preparing an Environmental Impact Assessment Report for submission to the National Environmental Management Authority (NEMA) for the NEMA License.
- 2008: Kenya (Completed January 2009) – Environmental Due Diligence in Seven (7) Reseller Depot.**  
**Client:** Kenya Shell Limited  
 Conducted Environmental Due Diligence Assessment of Seven (7) Depots and prepared Environmental Due Diligence Assessment Reports for submission to the Client.  
 The Due Diligence Environmental Assessment entailed Geo-probe Soil Gas Survey by use of the PHOTOVAC 2020 PRO Plus PID to read the soil gas responses, Soil & Groundwater Sampling for Hydrocarbon Laboratory Analysis of various parameters including the following: Individual BTEX compounds, Volatile organics, Individual PAH, TPH by Gas Chromatography, Phenol and Mineral oil.
- 2008: Kenya – Environmental Impact Assessment of Proposed Service Station in Bungoma.**  
**Client:** Kenya Shell Limited  
 Conducted Environmental Impact Assessment (EIA) for a Service Station in Bungoma and preparing an Environmental Impact Assessment Report for submission to The National Environmental Management Authority (NEMA) for NEMA License.
- 2008: Kenya – Environmental Risk Assessment (ERA) through Soil Sampling and analysis to investigate the presence of released product.**  
**Client:** Kenya Shell Ltd  
 The (ERA) exercise was composed of:
- Use of Geo-probe equipment to penetrate to the subsurface at selected spots to depths of between 0.9m and 3.75m below ground level to collect soil samples for TPH analysis.
  - Use of the PHOTOVAC 2020 PRO Plus PID to read the soil gas responses
  - Preparation of site area sketch and taking of photos.
- The fieldwork involved the execution of a Geoprobe soil gas survey with the aim of determining the presence and concentration of hydrocarbon contaminant.
- 2008: Sudan – Groundwater Monitoring at the Port Sudan Installation, Port Sudan**  
**Client:** Shell Company of the Sudan Limited  
 Carrying out the Groundwater monitoring activities at the Port Sudan Installation in Port Sudan, Sudan  
 The groundwater monitoring exercise involved the following activities:
- Measurement of Groundwater Level using an Electric Deeper

- Use of Teflon tube and check valve to purge the three 3 piezometers/monitoring wells.
- Collection of groundwater samples from the piezometers/monitoring wells for insitu tests and laboratory analysis.
- Preparation of a groundwater monitoring report containing historical comparison of the analysis results.

**2008: Kenya – Soil and Groundwater sampling and analysis for investigation of a product release**

**Client:** Kenya Shell Ltd

The study entailed soil investigations to determine the extent of the product spread after a release in one of the USTs. It involved Soil Gas survey using the PID (Photo Ionization Detector), visual observations of soil and groundwater, situ measuring of pH and EC of groundwater samples collected from boreholes and wells in the neighborhoods and eventual sampling and analysis of groundwater and soil samples for lab analysis.

**2008: Kenya: Environmental Bio-remediation of Sludges.**

**Client:** Kenya Petroleum Refineries Limited

The project involves the supervision of the construction of a bioreactor for treatment of sludge material and the collection of soil and groundwater samples for lab analysis. Periodical site environmental assessment is carried out to determine sludge biodegradation progress and thereby provide mitigation measures.

**2007: Tanzania - Installation of 5 monitoring wells to a maximum depth of 4 metres below ground level at BP Zanzibar Depot.**

**Client:** ERM Southern Africa

The five monitoring wells were advanced by hand auger and cased to prevent collapse and ensure the correct installation of monitoring wells. The project included logging, field screening and sample collection.

Monitoring wells were constructed of 63 mm diameter PVC piping (or equivalent) screened to approx 1m above the water table with a plain riser from the top of the screened section to the ground level.

A clean gravel pack surrounded the screened section and a bentonite seal was put in place from the top of the gravel to the surface.

**2007: Kenya – Self Environmental and Occupational Health & Safety Audits for 135 Sites**

**Client:** Kenya Shell Ltd

The study entailed soil and groundwater investigations to determine environmental risk associated with the fuel storage and dispensing facilities to provide environmental assessment data in relation to the previous audit.

The report presented the results of the self audit in comparison with the previous Initial Audit carried out in 2004 including the current environmental status of the site

**2007: Kenya - Environmental Soil and Ground water sampling - Kenya Cuttings Ltd**

**Client:** ERM Southern Africa

The project involved the sampling of soil and groundwater. Four soil bores were advanced by means of the geoprobe, with continuous soil coring taking place. Groundwater was samples from existing and newly installed borehole within the site.

**2001 - 2007 Kenya: - Environmental Bio-remediation of Sludges.**

**Client:** Kenya Petroleum Refineries Limited

The project involves the supervision of the construction of a bioreactor for treatment of sludge material and the collection of soil and groundwater samples for lab analysis

**2006: Kenya – Environmental Impact Assessment for Northern Corridor Transport Improvement Project**

**Client:** Kenya Airports Authority / World Bank

The project involves Consultancy Services for the Upgrading of Facilities at Kisumu and Wilson Airport Study and Rehabilitation / Upgrading of Airport Pavements Design Study at Jomo Kenyatta International Airport.

**2006: Kenya – Environmental Impact Assessment for Lubrication Centre for Mobil within Kenya Ports Authority Mombasa**

**Client:** Mobil Oil Kenya Ltd

The EIA will evaluate the environmental performance of the project to satisfy the requirements of the National Environmental Management Authority (NEMA) and International Practices.

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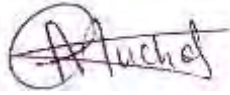
**Languages:**

	<b>Reading</b>	<b>Writing</b>	<b>Speaking</b>
<b>English</b>	Excellent	Excellent	Excellent
<b>Kiswahili</b>	Excellent	Excellent	Excellent

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**Certification:**

I, the undersigned, certify that, these data correctly describe me, my qualifications, and my experience.



Date: **14 June 2017**

[Signature of staff member]



Date: **14 June 2017**

[Signature of authorized representative of the firm]

Full name of staff member: **Irene Wanjiku Muchoki**

Full name of authorized representative: **Richard Okello**

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### **3. Fredrick Maseno – Safety and Occupational Health Professional**

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**CURRICULUM VITAE (CV) FOR PROPOSED PROFESSIONAL STAFF**


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**Proposed Position:** Health and Safety Expert  
**Name of Firm:** Panafcon Ltd  
**Name of Staff:** Fredrick Matoke Maseno  
**Profession:** Safety & Health Management, Trainer and auditor  
**Date of Birth:** 16th April 1966  
**Years with Firm/Entity:** Associate **Nationality:** Kenyan

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**Membership of Professional Societies:**

- Registered as an Occupational Safety Adviser – Directorate of Occupational Safety and Health Services, Certificate No. OSH ADV/043
  - Registered as a Fire Safety Auditor – Directorate of Occupational Safety and Health Services, Certificate No. OSH FSA/069
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**Key Qualifications:**

Fredrick Maseno holds a Master of Science degree in Safety Engineering. He has 26 years of experience in Construction Site Safety and Health Management; General Occupational Safety and Health Management, Risk Assessment, Safety and Health Auditing; Fire Safety Auditing; Construction Site Training Programmes Development and Implementation, Safety and Health Construction Sites Drawings Review, Construction Sites Safety and Health Method Statements Review and Disaster Management in Kenya.

He has been the construction Site Safety Manager at Olkaria I Additional Units and Olkaria IV Geothermal Power Plants Project in Kenya in the last three years. He has 7.5 years experience in on-site safety management. Fredrick has been engaged in various capacities in Kenya in Occupational Safety and Health Management and Training. He is very conversant with the local health and safety legislation.

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**Education:**

**2009** M.Sc. (Safety Engineering) - Washington International University  
**1989** B.Sc. (Hons) - University of Nairobi

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**Relevant Professional Experience:**

- 2015-2016** **Howard Humphreys (EA) Limited in JV with China Wu Yi Limited**  
 Participating in the Project as: **Health & Safety Supervisor**  
 Involved in advising the joint partner in all matters involving safety health and environment.  
 Construction safety in a road project in Mombasa-Port Reitz, Road C110, Moi airport Road project. Involving construction of bridges overpasses and interchanges.
- 2015** **Howard Humphreys (EA) Limited**  
 Participating in the Project as: **Site Safety Manager**  
 Consulting on enforcement of all safety, health and environment matters in the construction of a green gum manufacturing facility in Mavoko, Athi River, Machakos County.  
 Project involved ground preparation, foundation preparation, steel structure erection, stone laying and roofing.  
 Permits to work approval were done for all works.  
 Risk assessment was done for every activity
- 2012-2015** **Howard Humphreys (EA) Limited**  
 Participating in the Project as: **Site Safety Manager**
  - Monitoring Occupational Safety and Health in the execution of Olkaria I Additional Units and Olkaria IV Geothermal Power Plants Project, Naivasha. Project entailed
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- Steam field development
  - Construction of two 140 MW power plants
  - Construction of HV substations and transmission lines.
- EHS objectives set for this project included;
- Identification of new hazards, assessment and control of risk.
  - Consultant meeting client's expectations and contractual obligations in monitoring safety performance on site.
  - Ensuring Project related EHS issues and learning's were communicated
  - Ensuring that lessons were learnt from near misses and potential incidents including accidents
  - Promoting EHS awareness amongst project team members.
  - Promoting EHS awareness and Consultant's safety culture among project team members including client
  - Ensuring excellent EHS performance was recognized
  - Ensuring Legal and contract requirements were met.

**2010-2012**

**Howard Humphreys (EA) Limited**

Participating in the Project as: **Health & Safety Officer**

- Providing professional Occupational Safety and Health advice to the office and clients.
- Monitoring Occupational Safety and Health standards in expansion Of Jomo Kenyatta international Airport.
- Monitoring Occupational Safety and Health standards in strengthening of Nairobi Water pipeline transmission for Athi Water Services Board.
- Involved in Occupational Safety and Health auditing and training for the Central Bank of Kenya.
- Carried Fire life and Safety Audit for Citibank, Nairobi.

**2008-2010**

**Howard Humphreys (EA) Limited**

Participating in the Project as: **Site Health & Safety Officer**

- Supervision of a Contractor on observation and maintaining of Occupational Safety and Health Standards in the construction of a geothermal plant for Kengen at Olkaria, Naivasha.
- The project involved construction of a 35 MW power plant being an extension to existing two units at Olkaria 2. Related construction of steam pipelines was done.
- Extensions were done to existing Olkaria 2 live substation.
- Hazards included a) Remote start up and shut down b) Live electrical circuits c) Noise/Vibration d) Corroded handrails, gratings and access structures e) Poor lighting f) Accumulation of geothermal gases g) Hot surfaces h) Hot fluids I) Tripping
- hazards j) Unpaved roads

**2005-2006**

**Auditor/Trainer - Bureau Veritas Kenya Limited**

- Executing Quality management system Implementation and Health and Safety training in accordance with DOHSS curriculum
- Carrying out Quality management system and safety surveys/audits
- Evaluating customers' compliance/conformity with legislations/standards as required
- Offering professional safety advice and consultancy on occupational safety and health concerns to customers as may be required.

**2001-2003**

**Securicor Security Services (K) Limited**

Participating in the Project as: **Safety Officer**

- Carrying out safety surveys/audits
- Ensuring safety procedures and instructions through inspections
- Ensuring close liaison and consultation with relevant individuals, organisations and government departments involved in and dealing with occupational health and safety matters (activity)

- Assisting in investigation of serious incident of safety at Securicor’s premises and customers’ assignment as need arises
- Offering professional safety advice and consultancy on safety to customers as may be required.
- Carrying out frequent fire-fighting and safety drills in order t o maintain fire safety awareness and alertness.
- Drawing and updating fire orders and instructions
- Ensuring fire equipment are in place and in serviceable state

**1992-2001 District Occupational Health & Safety Officer Government of Kenya Responsibilities:**

- Monitored trends in the occurrence of industrial accidents in order to identify gaps, and provide long-range planning.
- Conducted training in occupational health and safety for various industries.
- Inspection of factories and other workplaces in accordance with the Act. This included several visits to various industrial establishments, governed by the Act.
- Carrying out investigation of industrial accidents for purposes of the Act.
- Identified potential hazards and provided recommendations on enhancement.
- Provided solutions to various health and safety challenges as raised by industry.
- Evaluated compliance of the above industries with the requirements of Factories and other Places of Work Act, CAP 514.
- Varied experience for eleven (11) years dealing with various types of places of work both as a law enforcer and as well as offering advisory services.

**1990-1992 Occupational Health & Safety Officer Government of Kenya Responsibilities**

- Primarily involved in the enforcement of the Factories and Other Places of Work Act (As Amended in 1990) Cap 514.
- Inspection of Factories and other workplaces in accordance with the said Act. This included several visits to various industrial establishments, governed by the Act.
- Conducted training in occupational health and safety for various industries.
- Identified potential hazards and provided recommendations on enhancement.
- Provided solutions to various health and safety challenges as raised by industry.
- Evaluated compliance of the above industries with the requirements of Factories and other Places of Work Act, CAP 514.

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**Languages:**

	<b>Reading</b>	<b>Writing</b>	<b>Speaking</b>
<b>English</b>	Excellent	Excellent	Excellent
<b>Kiswahili</b>	Excellent	Excellent	Excellent



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**Certification:**

I, the undersigned, certify that, these data correctly describe me, my qualifications, and my experience.



Date: **14 June 2017**

[Signature of staff member]



Date: **14 June 2017**

[Signature of authorized representative of the firm]

Full name of staff member: **Fredrick Maseno**

Full name of authorized representative: **Richard Okello**

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#### **4. Charles Ataya – Ecologist**

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**CURRICULUM VITAE (CV) FOR PROPOSED PROFESSIONAL STAFF**


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**Proposed Position:** Ecologist  
**Name of Firm:** Panafcon Ltd  
**Name of Staff:** Charles Ataya  
**Profession:** Zoologist  
**Date of Birth:** 1959  
**Years with Firm/Entity:** Associate                      **Nationality:** Kenyan

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**Membership of Professional Societies:**

Member of the International Institute for Aerospace Survey and Earth Sciences (ITC) Alumni – Kenya Branch.

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**Key Qualifications:**

Mr. Ataya has Master in Zoology from Panjab University, Chandigarh, India and also Master in Environmental System Analysis and Monitoring (ESM2) from The International Institute for Aerospace Survey and Earth Sciences (ITC), Enschede, The Netherlands. He also holds a BSc. In zoology from Panjab University Chandigarh India.

Mr. Ataya has over 25 years experience is the Deputy/Head of Aerial Surveys Section in the Department, whereby he supervises Aerial Survey Census activities. He is also a Training Coordinator in admitting students on attachment from other institutions; identifying training needs for fellow staff members and representing the Department in the Ministerial Training Committee.

He has carried out the following activities as part of the ESIA projects undertaken

- Evaluation of biological conditions in the Proposed Project Area.
  - Plants of special significance; Forests
  - Evaluation of Positive & Negative impacts
  - Wildlife, Wetlands/River Ecosystems, Agricultural land
  - Project Alternatives & Mitigation Measures
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**Education:**

**2000:** M. Sc. (Environmental System Analysis & Management) - International Institute for Geo-Information Science and Earth Observation – (ITC)-The Netherlands  
**1985-1987:** Masters Degree (MSc) in Zoology - Panjab University, Chandigarh, India  
**1982-1985:** Bachelors Degree (BSc) in Zoology - Panjab University, Chandigarh, India

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**Professional Qualifications:**

**2009** Managing the Training and Development Function – GTI, Mombasa  
**2007:** Flood and Drought Monitoring In African Trans-Boundary Water Basins  
 Department of Geomatic Engineering, Kwame Nkrumah University Of Science & Technology, Ghana  
**2006:** Senior Management Seminar (SMS)  
 Kenya Institute of Administration (KIA)  
**2005:** Environmental Impact Assessment & Audit (EIA/A)  
 Kenya Institute of Administration (KIA)  
**1998/00:** Master of Science In Environmental System Analysis And Monitoring (ESM2)

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The International Institute for Aerospace Survey And Earth Sciences (ITC),  
 Enschede, The Netherlands

**1991:** Remote Sensing and Applications  
 The National Institute for Space Research (INPE) Brazil

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**Employment Record/Experience:**

**2007** Department of Resource Surveys And Remote Sensing (DRSRS), Nairobi  
 Principle Natural Resource Scientist

**2007-2003** Department of Resource Surveys And Remote Sensing (DRSRS), Nairobi  
 Senior Ecologist

**1995-2003** Department of Resource Surveys And Remote Sensing (DRSRS), Nairobi  
 Ecologist I

1988-1995 Department of Resource Surveys And Remote Sensing (DRSRS), Nairobi  
 Ecologist II

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**Relevant Professional Experience:**

**2016 Kenya – Environmental and Social Impact Assessment (ESIA) and Resettlement Action Plan (RAP) of the Proposed Relocation of Kipevu Oil Terminal (KOT) (ongoing)**

Client: Kenya Ports Authority (KPA)

Participating in the Project as: Ecologist/Biologist

The objective of the Environmental and Social Impact Assessment (ESIA) and Resettlement Action Plan (RAP) Studies is to identify the environmental impacts of the proposed relocation on people and the environment. To determine project alternatives and cost effective mitigation measures plus a monitoring plan. Questionnaires will be used to collect data. The ESIA Study is going to identify and evaluate environmental impacts of the relocation on natural resources and operations in the project area and propose appropriate mitigation measures to minimize/eliminate impacts including safety measures. The RAP Study is going to evaluate any loss of structures and operations within the project area. Baseline socio-economic survey to generate data for monitoring and evaluation will be collected during the project cycle.

An ESIA Study Report containing EMP and a Monitoring Plan will be prepared for submission to NEMA. A RAP Study Report will also be prepared. The ESIA Study will be carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies.

**2015 Kenya: Review and Update the Environmental and Social Impact Assessment (ESIA) for the Proposed Rehabilitation of the Lodwar-Lokichogio-Nakodok 240Km (A1) Road**

Client: Kenya National Highways Authority (KeNHA)

Participating in the Project as: Assistant Ecologist

Objective of Reviewing and Updating of Lodwar-Nakodok Road ESIA Study were:  
 Reviewing and updating the ESIA Study Report compiled in 2013;  
 Ensuring all environmental consequences of construction and operation of the road are evaluated and addressed as part of the mitigation measures in the final road design; Review and update the Draft ESIA Report to conform with World Bank Operational Policies and Kenya National Highways Authority (KeNHA) requirements;

To identify gaps in the Draft ESIA Report and address them in the revised version;  
 To conduct second Public Consultation Meetings to sensitise all the stakeholders about the project, seek their inputs into the project design and disclose the positive and negative impacts of the project.

- 2014**                    **Kenya – Environmental and Social Impact assessment (ESIA) Study for the propose Isinya – Nairobi East 400kV Transmission Line**  
**Client:** Kenya Electricity Transmission Company Ltd (KETRACO)  
 Participated in the Project as **Ecologist**  
 The objective of the ESIA Study was to evaluate the Environmental and Social Impacts of the proposed Isinya- Nairobi East (75km) 400kV Double Circuit Line and Sub stations project. Use questionnaires to collect data.  
 The ESIA Study was to identify and evaluate the impacts of the project on natural resources, animals and persons living in the project area and propose appropriate mitigation measures to minimize or eliminate impacts. Baseline socio-economic survey to generate data for monitoring and evaluation during project implementation cycle was carried out. An ESIA Study Report containing EMP and a Monitoring Plan was prepared. The ESIA study was carried out with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies The ESIA report was submitted to NEMA and the EIA licence issued to the client.
- 2014**                    **Kenya: Environmental and Social Impact Assessment (ESIA) for the Proposed Athi river- Mariakani Axle Load Control Station.**  
**Client:** Kenya National Highways Authority (KeNHA)  
 Participating in the Project as: Ecologist/Biologist  
 The objective of the Proposed Reconstruction and Modernisation of Athi RiverAxle Load Control Station is to improve the infrastructure of the weigh bridge station and achieve the following:
- Enhance road safety and improve working conditions at the station;
  - Preserve road infrastructure.
  - Optimise road transportation through reduction of time spent at the axle load station;
  - Eliminate interruption of traffic flow by trucks that cross from one side of the highway to another to have their axle loads checked.
  - Eliminate/reduce health and safety risks posed by roadside packed trucks containing explosive or dangerous cargo
  - To conduct Public Consultation Meetings to sensitise all the stakeholders about the project, seek their inputs into the project and disclose the positive and negative impacts of the project
- To conduct a Public Consultation Meetings to sensitise all the stakeholders about the project, seek their inputs into the project design and disclose the positive and negative impacts of the project.
- 2013:**                    **Kenya - Consultancy Services for the Environmental & Social Impact Assessment Environmental & Social Impact Assessment for the Proposed Sondu-Homa Bay-Awendo-Migori-Isebania132 kV Transmission Line**  
**(Client:** Kenya Electricity Transmission Company Ltd KETRACO)  
 Participating in the Project as Ecologist  
 The main objectives of this consultancy services include but not limited to the following:
- to comply with the Environmental Management and Coordination Act (EMCA) 1999 as stipulated in the Environmental (Impact Assessment and Audit) Regulations 2003 Legal Notice No. 101.
  - to verify the adherence and compliance of the World Bank's Safeguard Policies.
  - to ensure that the above project is implemented in an environmentally and socially sustainable manner.
- 2013**                    **Kenya - Consultancy Services for the Environmental & Social Impact Assessment of Mombasa – Nairobi 400kV Transmission Line (Alternative A – Kibwezi)**  
**Client:** Kenya Electricity Transmission Company Ltd KETRACO  
 Participating in the Project as: **Ecologist**

The main objectives of this consultancy services include but not limited to the following:

- To ensure that the above project is implemented in an environmentally and socially sustainable manner.
- To provide an ESIA report to KETRACO and their financiers prior to the finalization of financial decision regarding the Kibwezi section of the line
- Alternative A is considered the most preferred/ optimal alternative out of 6 alternative routes identified by the initial ESIA Consultant.

**2013**

**Kenya- Environmental & Social Impact Assessment for the Study for Proposed Lower Nzoia Irrigation Development Project-Phase II**

**Client:** National Irrigation Board (NIB)

Participating in the Project as: **Ecologist**

The objective of the ESIA Study was to evaluate the Environmental and Social Impact of implementing the proposed project in Lower Nzoia. Identify and evaluate impacts of the proposed project on the natural resources, animals and persons living in the project area and recommend appropriate mitigation measures to eliminate or minimize impacts and provide a monitoring plan.

Baseline socio-economic survey to generate data for monitoring and evaluation during project implementation cycle is to be carried out. The study is to determine loss of income (livelihood), cost of land and other property using the current market value.

An ESIA Study Report containing EMP and a Monitoring Plan is to be prepared. The study is to be done with reference to EMCA 1999, Environmental (Impact Assessment and Audit) Regulations, 2003, World Bank Safeguard Policies. The ESIA Study Report was submitted to NEMA and an EIA License issued to the client.

**2010:**

**Name of assignment or project: Environmental & Social Impact Assessment (ESIA) and Resettlement Action Plan for Voi \_Taita Taveta KPLC Transmission Line**

Year: 2010

Location: Voi-Taita Taveta

Clients: Kenya Power & Lighting Company (KPLC)

Main project features : Fauna & Flora studies

Participating in the Project as Ecologist/ Deputy Team Leader

Activities performed: Identification of Biological environment (i.e., flora and fauna)

**2008 - 2009:**

**Name of Assignment or Project: Part time Consultants on various projects Taking stock of Kenya's natural resources:**

He has taken a lead role in carrying out aerial surveys census, especially for both wildlife and livestock & other associated parameters (Water, Vegetation, Land Use/Land Cover, Land Degradation, Soil etc.) since 1991. The analyzed information has been used in inventorying and establishing conservation/conditions of the wildlife (especially Elephant, Hirola, and e.t.c.), determining utilization of these animals and finally developed database of the same.

Leading and coordinating a team of Ecologists, Biologists & Technical Officers in carrying out projects in different study areas (multi-disciplinary approach).  
Evaluating and Monitoring specific field programmes

Involved in evaluating and monitoring regular collection and analysis of data and information on land use, ecological renewable resources e.g. Forests, and environmental assessment and monitoring, project initiation, formulation and implementation by our staff.

Training of New Biologists/Ecologists & Technical Officers – (Induction)  
Involved in carrying out Training Needs Analysis (TNA) for Older & Senior Staff.

Supervision of students on attachment from other institutions:  
Involved in training students on attachment in the use of Remote Sensing Data, i.e. Satellite image and Aerial photo interpretation and generation of maps from these products.

Writing project proposals, Data Analysis and Technical Reports writing  
This is important for information dissemination and publicity.

Assisted in relating the implication of Environmental Information gathered to long term National Development Planning Process in Resource utilization and Conservation which can lead to improving living standards and poverty alleviation.

Involved in the Preparation of Environmental Education and Awareness for sustainable Development Policy for NEMA

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<b>Languages:</b>	<b>Reading</b>	<b>Writing</b>	<b>Speaking</b>
<b>English</b>	Excellent	Excellent	Excellent
<b>Kiswahili</b>	Excellent	Excellent	Excellent

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**Certification:**

I, the undersigned, certify that, these data correctly describe me, my qualifications, and my experience.



Date: **14 June 2017**

[Signature of staff member]



Date: **14 June 2017**

[Signature of authorized representative of the firm]

Full name of staff member: **Charles Ataya**

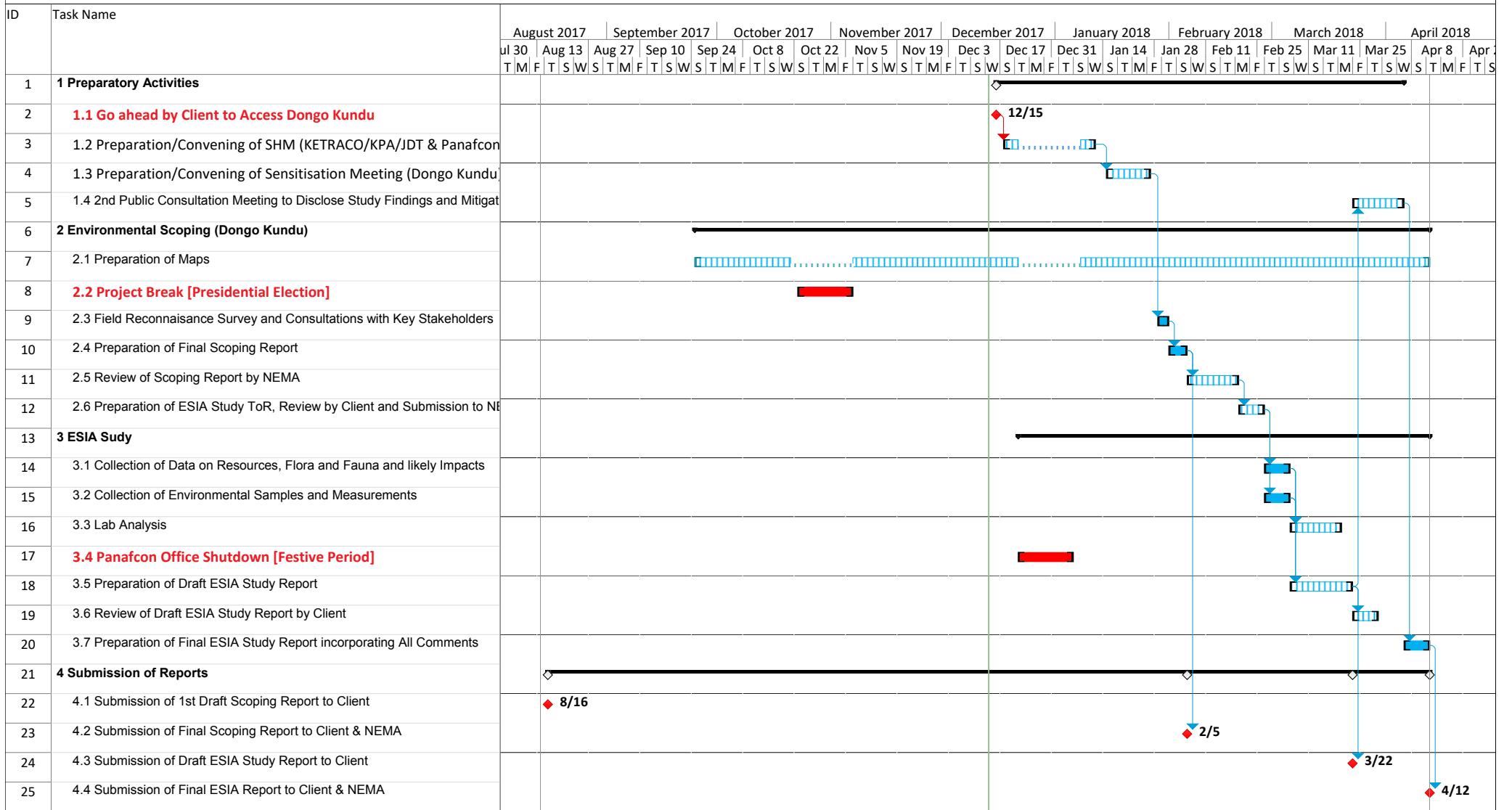
Full name of authorized representative: **Richard Okello**

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### **Annex 3: ESIA Study Implementation Schedule**

# ESIA Study of Power Infrastructure for SEZ Mombasa Port - Revised Work Plan for Remaining Activities



Project: ESIA Study - SEZ MSA Por Date: Thu 12/14/17	Task		External Tasks		Discontinuous Task		Finish-only	
	Split		External Milestone		Duration-only		Deadline	
	Milestone		Inactive Task		Manual Summary Rollup		Progress	
	Summary		Inactive Milestone		Manual Summary		Manual Progress	
	Project Summary		Inactive Summary		Start-only			

**Annex 4: Terms of Reference (ToR) Certification Page**

**Proposed ariakani-Dongo Kundu 220kV Transmission Line ESIA Study ToR for NEMA Approval**

**1. Consultant (Panafcon Ltd)**

Submitted by: **Panafcon Ltd**.....

Officer Name/Position: **Joshua P. Oyieko/Technical Director**.....

NEMA Reg and No: **Lead Expert / Reg. No. 091**.....

Signed: .....

Date/Stamp: **20-02-2018**.....



**2. Proponent – Kenya Electricity Transmission Company (KETRACO)**

Company Name: **KETRACO**.....

Officer Name/Position: **GM, TS (Joseph Simi)**.....

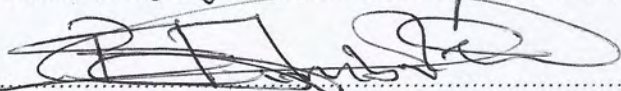
Signed: .....

Date/Stamp: ..... **KENYA ELECTRICITY TRANSMISSION COMPANY LIMITED**.....

**3. National Environment Management Authority (NEMA)**

Name of NEMA Officer: **B. Mambote**.....

Officer Name/Position: **Head of EA section**.....

Signed: .....

Date/Stamp: **1/3/18**.....

**Annex 3: People Contacted during the Study**

**List of People Contacted During the ESIA Study**

#	Stakeholder Name	Department or Organization
1.	Nakazawa Osamu RAP Expert JICA Design Team Email: <a href="mailto:nakazawa@ideacon.co.jp">nakazawa@ideacon.co.jp</a>	<ul style="list-style-type: none"> <li>• Provided Management Support and Project Information</li> </ul>
2.	Takeshi Sato ESIA Expert, JICA Design Team Email: <a href="mailto:sato-t@ides-inc.co.jp">sato-t@ides-inc.co.jp</a>	<ul style="list-style-type: none"> <li>• Provided Management Support and Project Information</li> </ul>
3.	Cyrus Mbisi EIA/RAP Expert, JICA Design Team Tel: 0720927259 Email: <a href="mailto:cmbisi@gmail.com">cmbisi@gmail.com</a>	<ul style="list-style-type: none"> <li>• Provided Project Information and support</li> <li>• Participated in the Community Sensitization Meetings</li> </ul>
4.	Rahma Mwakisingo Research Assistant JICA Design Team Tel: 0712219475 Email: <a href="mailto:rahmamkoli@gmail.com">rahmamkoli@gmail.com</a>	<ul style="list-style-type: none"> <li>• Provided Project Information and support</li> <li>• Participated in the Community Sensitization Meetings</li> </ul>
5.	Antony Musyoka Senior Manager, Planning & Projects Kenya Electricity Transmission Co. Ltd (KETRACO) P.O. Box 34942-00100	<ul style="list-style-type: none"> <li>• Provided Project Information and support</li> </ul>
6.	Ramat Godana Senior Environment Expert Kenya Electricity Transmission Co. Ltd (KETRACO) P.O. Box 34942-00100 Cell: 0720537137 E-mail: <a href="mailto:rgodana@ketraco.co.ke">rgodana@ketraco.co.ke</a>	<ul style="list-style-type: none"> <li>• Provided Management Support and Project Information</li> <li>• Participated in the Community Sensitization and stakeholders Meetings</li> </ul>
7.	Geoffrey Mirasi Senior Socio-Economist Kenya Electricity Transmission Co. Ltd (KETRACO) P.O. Box 34942-00100 Cell: 0722 442297 E-mail: <a href="mailto:gmirasi@ketraco.co.ke">gmirasi@ketraco.co.ke</a>	<ul style="list-style-type: none"> <li>• Provided Management Support and Project Information</li> <li>• Participated in the stakeholders Meetings</li> </ul>

#	Stakeholder Name	Department or Organization
8.	Violet Kaswii Engineer Kenya Electricity Transmission Co. Ltd (KETRACO) P.O. Box 34942-00100 Email: <a href="mailto:vkaswii@ketraco.co.ke">vkaswii@ketraco.co.ke</a> Tel: 0729317490	<ul style="list-style-type: none"> <li>• Provided Project Information</li> <li>• Participated in the stakeholders Meetings</li> </ul>
9.	Budgeree Lang'at Engineer Kenya Electricity Transmission Co. Ltd (KETRACO) P.O. Box 34942-00100 Email: <a href="mailto:blang'at@ketraco.co.ke">blang'at@ketraco.co.ke</a> Tel: 0787141255	<ul style="list-style-type: none"> <li>• Provided Project Information and support</li> <li>• Participated in the Community Sensitization Meetings</li> </ul>
10.	Petro A. Munyalo Surveyor Kenya Electricity Transmission Co. Ltd (KETRACO) P.O. Box 34942-00100 Email: <a href="mailto:pmunyalo@ketraco.co.ke">pmunyalo@ketraco.co.ke</a> Tel: 0717222795	<ul style="list-style-type: none"> <li>• Provided Project Information and support</li> <li>• Participated in the Community Sensitization Meetings</li> </ul>
11.	Edel S Lobo Land Economist Kenya Electricity Transmission Co. Ltd (KETRACO) P.O. Box 34942-00100	<ul style="list-style-type: none"> <li>• Provided Project Information and support</li> </ul>
12.	Teresa Njoki Kenya Civil Aviation Authority (KCAA) P. O. Box 30163 – 00100 Nairobi <a href="tel:020-6827470">Tel:020-6827470</a> E-mail: <a href="mailto:tnjoki@kcaa.or.ke">tnjoki@kcaa.or.ke</a>	<ul style="list-style-type: none"> <li>• Received ESIA Team</li> <li>• Filled in stakeholder questionnaire</li> </ul>
13.	Solomon K. Dallu Chief Mwavumbo Location 0715280300	<ul style="list-style-type: none"> <li>• Received ESIA Team</li> <li>• Organized and participated in Public Sensitisation Meeting</li> </ul>
14.	Ngala Mwamvula Kitangalia Representative Ministry Of Interior and Coordination Of National Government 0707256946	<ul style="list-style-type: none"> <li>• Received ESIA Team</li> <li>• Participated in Public Sensitisation Meeting</li> <li>• Filled in stakeholder questionnaire</li> </ul>
15.	Makanzu Rashid Makanzu Village Administrator 0710701696	<ul style="list-style-type: none"> <li>• Participated in Public Sensitisation Meeting</li> <li>• Filled in stakeholder questionnaire</li> </ul>

#	Stakeholder Name	Department or Organization
16.	Mwamwero B Katana Ward Administrator 0721787563	<ul style="list-style-type: none"> <li>Participated in Public Sensitisation Meeting</li> <li>Filled in stakeholder questionnaire</li> </ul>
17.	Paul Rotich Ministry Of Interior and Coordination Of National Government 0722425605	<ul style="list-style-type: none"> <li>Received ESIA Team</li> <li>Participated in Public Sensitisation Meeting</li> <li>Filled in stakeholder questionnaire</li> </ul>
18.	Kathambi Jane Ministry Of Interior and Coordination Of National Government 0727476647	<ul style="list-style-type: none"> <li>Received ESIA Team</li> <li>Participated in Public Sensitisation Meeting</li> <li>Filled in stakeholder questionnaire</li> </ul>
19.	Abdalla Salim Chief, Mbunguni Location Ministry Of Interior and Coordination Of National Government  0726480864	<ul style="list-style-type: none"> <li>Received ESIA Team</li> <li>Organized and participated in Public Sensitisation Meeting</li> <li>Filled in stakeholder questionnaire</li> </ul>
20.	Mr Fred Ndambuki Personal Assistant To Governor Kilifi Governor's Office Phone: 0720745932	<ul style="list-style-type: none"> <li>Received ESIA Team</li> </ul>
21.	Mr Juma Mwamuuga Ward administrator Mariakani Ward Phone: 0705889704	<ul style="list-style-type: none"> <li>Received ESIA Team</li> <li>Participated in Public Sensitisation Meeting</li> <li>Filled in stakeholder questionnaire</li> <li></li> </ul>
22.	Mr Godana Ethulo Wilson Kaloleni Sub-County Sub-County Administrator 0720566388	<ul style="list-style-type: none"> <li>Received ESIA Team</li> <li>Participated in Public Sensitisation Meeting</li> <li>Filled in stakeholder questionnaire</li> </ul>
23.	Mr Baya Energy Department Kilifi County Government Tel: 0773854544	<ul style="list-style-type: none"> <li>Received ESIA Team</li> </ul>
24.	Prof. James K. Guzo, Chief Executive Officer, Land, Energy, Housing, Physical Planning & Urban Development Tel: 0725824648	<ul style="list-style-type: none"> <li>Received ESIA Team</li> </ul>
25.	Yusuf Mohamed Assistant County Commissioner Kilifi North Sub-County Cell: 0738338185	<ul style="list-style-type: none"> <li>Received ESIA Team</li> </ul>



#	Stakeholder Name	Department or Organization
26.	Rachel Umazi Assistant Director, Lands, Surveys & Valuation Kilifi County, Cell:0720459290	<ul style="list-style-type: none"> <li>Received ESIA Team</li> </ul>
27.	Stephen Rotich, Assistant County Commissioner Kaloleni Sub-County Office Kizulini – Near Kaloleni Cell: 0722425605	<ul style="list-style-type: none"> <li>Received ESIA Team</li> </ul>
28.	Evans Achoki County Commissioner Mombasa County Cell: 0720881157 Email: <a href="mailto:cc.mombasa@interior.go.ke">cc.mombasa@interior.go.ke</a>	<ul style="list-style-type: none"> <li>Received ESIA Team</li> </ul>
29.	Alex Mlevu Deputy County Commissioner Likoni Sub County 0722508788	<ul style="list-style-type: none"> <li>Received ESIA Team</li> </ul>
30.	Athumani Mwatsenga Jiti Chief Ng'ombeni Location 0723029497	<ul style="list-style-type: none"> <li>Received ESIA Team</li> <li>Organized and participated in Public Sensitisation Meeting</li> <li>Filled in stakeholder questionnaire</li> </ul>
31.	Benson Kokoi Assistant Chief Munyenzeni Sub location 0724024180	<ul style="list-style-type: none"> <li>Received ESIA Team</li> <li>Organized and participated in Public Sensitisation Meeting</li> </ul>
32.	Umazi Mwangolo Chief, Gandini Location 0717077624	<ul style="list-style-type: none"> <li>Received ESIA Team</li> <li>Organized and participated in Public Sensitisation Meeting</li> </ul>
33.	Mwatabu Ali Mwamkanyi Assistant Chief Mbunguni sub-Location 0737674853/ 0727480831	<ul style="list-style-type: none"> <li>Received ESIA Team</li> <li>Organized and participated in Public Sensitisation Meeting</li> <li>Filled in stakeholder questionnaire</li> </ul>
34.	Fatuma Hamisi Chief, Mrongwe Location 0721646279	<ul style="list-style-type: none"> <li>Received ESIA Team</li> </ul>
35.	Mr Nathan Gatundu Kenya Wildlife Service (KWS) Kwale Office	<ul style="list-style-type: none"> <li>Received ESIA Team</li> <li>Provided Project Information</li> </ul>

#	Stakeholder Name	Department or Organization
36.	Mr George Waka Ecosystem Conservator Kwale Office	<ul style="list-style-type: none"> <li>Received ESIA Team</li> <li>Provided Project Information</li> </ul>
37.	Mr Vitalis C. Osodo Forest Manager Kwale Station	<ul style="list-style-type: none"> <li>Received ESIA Team</li> <li>Provided Project Information</li> </ul>
38.	Mr Joseph Indo County Forester Kwale County	<ul style="list-style-type: none"> <li>Received ESIA Team</li> <li>Provided Project Information</li> </ul>
39.	Mr Abdulrahman Matano National Museums of Kenya (NMK) Ukunda Office E-Mail: <a href="mailto:cfcukwale@yahoo.com">cfcukwale@yahoo.com</a>	<ul style="list-style-type: none"> <li>Received ESIA Team</li> <li>Provided Project Information</li> </ul>
40.	Mr Elias Kimaru World Wildlife Fund (WWF) Ukunda E-Mail: <a href="mailto:ekimaru@wwfkenya.org">ekimaru@wwfkenya.org</a>	<ul style="list-style-type: none"> <li>Received ESIA Team</li> <li>Provided Project Information</li> </ul>
41.	Mr Bernard Ochieng Kenya Wildlife Services Kwale County Research Officer – Shimba Hills National Reserve and Tsavo West National Park E-Mail: <a href="mailto:bochieng@kws.go.ke">bochieng@kws.go.ke</a>	<ul style="list-style-type: none"> <li>Received ESIA Team</li> <li>Provided Project Information</li> </ul>
42.	Mrs Virginia P. Kingori Forest Officer Kaloleni, Mariakani District Kilifi County	<ul style="list-style-type: none"> <li>Received ESIA Team</li> <li>Provided Project Information</li> </ul>
43.	Mr Albert Nyabuti Ecosystem Conservator Mombasa County	<ul style="list-style-type: none"> <li>Received ESIA Team</li> <li>Provided Project Information</li> </ul>
44.	Madam Mdamu Jackline Forester, Dongo Kundu Area County of Mombasa	<ul style="list-style-type: none"> <li>Received ESIA Team</li> <li>Provided Project Information</li> </ul>
45.	Fridah Dermmillah Obare Community Education and Extension Warden Mombasa	<ul style="list-style-type: none"> <li>Received ESIA Team</li> <li>Provided Project Information</li> </ul>

#	Stakeholder Name	Department or Organization
46.	<p>Paul Gacheru                      Nature Kenya                      National Museum of Kenya                      Museum Hill                      P.O Box 44486                      00100 GPO Nairobi, Kenya                      Wireless +254 (0) 20 3537568                      Mobile +254 771 343138/780 149200                      Email: office@naturekenya.org</p>	<ul style="list-style-type: none"> <li>• Received ESIA Team</li> <li>• Provided Project Information</li> <li>• Reviewed the TL</li> </ul>
47	<p>Peter Migai                      World Wildlife Fund (WWF)                      Mvuli Park, Mvuli Rd,                      Nairobi                      Tel: 0722 203407                      E-mail: pmuigai@wwfkenya.org</p>	<ul style="list-style-type: none"> <li>• Received ESIA Team</li> <li>• Provided Project Information</li> <li>• Reviewed the TL</li> </ul>

**Annex 4: Notes and Attendance Register for Initial Key Stakeholder Meetings**

**Notes of meetings held with Client/ stakeholders in the project area – Mariakani-Dongo Kundu 220kV Transmission Line Project**

#	Date	Meeting with Representatives	Issues Discussed
1.	03/07/2017	JICA Study Team	<ul style="list-style-type: none"> <li>• It is a while since the ESIA Study was done and it was not done according to JICA Guidelines</li> <li>• The project context has changed i.e. from 400kV to 220kV</li> <li>• The Initial project was dropped. The direction of evacuating power has changed. Instead of evacuating power from Dongo Kundu it will now be evacuated from Mariakani to SEZ in Dongo Kundu</li> <li>• The Transmission Line is substantively new.</li> <li>• The dimensions of the distribution line are approximately 3km long with a width of 10m (includes the access road)</li> <li>• The baseline information has also changed</li> <li>• A new cut-off date needs to be established</li> <li>• 2 sets of PCMs will be held as agreed. This line has been subjected to the KETRACO's route selection criteria which ensures that the line avoids towns, homes and is close to a road etc. Therefore if JICA changes the route, this will then be subjected to confirmation by KETRACO</li> </ul>
2.	04/07/2017	Mombasa County Commissioner	<ul style="list-style-type: none"> <li>• Presentation of project by the 3 teams</li> <li>• JICA is involved in Port Infrastructure which includes roads, Transmission line and water supply</li> <li>• The CC promised to be present during the initial public meeting held in Dongo Kundu</li> <li>• He provided the contacts of the Likoni DCC</li> </ul>
3	04/07/2017	Governor Mombasa County	<ul style="list-style-type: none"> <li>• There is an increase in squatters in the area earmarked for the SEZ. This is speculative in nature which is the problem anticipated in the project area</li> <li>• The much talked about Dongo Kundu bypass road also contributed to settlement of squatters in this area with the hope of receiving compensation money during resettlement</li> <li>• The Dongo Kundu area also has fragile marine ecosystem</li> <li>• Majority of the population drive their livelihood from fishing.</li> <li>• Fishermen were previously displaced by KPA. The fishermen PAPs and the County government however felt that the compensation was not satisfactory</li> <li>• The County government believe that the realization of the SEZ will transform the County and the Country at large</li> <li>• How KPA handles the fishermen is important to the successful implementation of this project. The displacement and compensation is a raw wound and it may rekindle the memories. This will definitely form part of the discussion that will co on during this studies</li> <li>• KPA is a key stakeholder and therefore need to actively engage them</li> <li>• Sensitisation and consultation will be continuous</li> </ul>

#	Date	Meeting with Representatives	Issues Discussed
			<ul style="list-style-type: none"> <li>• There has been a tag of war between KPA and the PAPs who jointly claim ownership of SEZ</li> <li>• JICA and GOK need to protect the buffer zone around SEZ</li> <li>• Land Policy in Kenya has a specific chapter on the Coastal Province. Land ownership in the 7 former provinces is by Title deed but not in the Coast province</li> </ul>
4	04/07/2017	Governor Kilifi County	<ul style="list-style-type: none"> <li>• The RAP process and KETRACO mandate was explained to the governor's officers present at the meeting</li> <li>• It was confirmed that compensation is done against legal documents</li> <li>• One of the officers said that in a previous KETRACO project, money meant for the certain PAPs was paid to the wrong people in Shangilia area in Mariakani</li> <li>• KETRACO officer defended the company compensation procedure saying it was fool proof and such a case has never been reported in KETRACO. The county officer was advised to make a former complaint about the matter</li> <li>• From the surveying department another search is done by the legal department before money is dispatched</li> <li>• Sensitisation of the PAPs on the compensation process is therefore very important in this area due to the misconceptions</li> </ul>
5	05/07/2017	Matugu Sub-County Commissioner/ Governor	<ul style="list-style-type: none"> <li>• JICA is involved in Port Infrastructure which includes roads, Transmission line and water supply</li> <li>• There could be possible incitement of the PAPs from other quarters.</li> <li>• Members of the public and the PAPs in general are anticipated to co-operative with the survey team</li> <li>• Compensation especially the amounts payable per acre may upset the locals if not involved and hence not satisfied</li> <li>• Land issues will depend on the approach by the survey/ RAP team</li> <li>• There is lack of Title deeds in some area which can be difficult</li> <li>• Where the land is adjudicated and Title Deeds issued; it will be ach and straight forward</li> <li>• Contacts of many chiefs and locational boundary along the corridor of the transmission line were given and shown</li> <li>• One county government officer said that in some areas, chiefs aren't trusted enough by locals so the team should work with both county government and National Government Officers on the ground</li> <li>• The main means of livelihood in Kinango is subsistence farming and pastoralism since the area is semi-arid.</li> <li>• There are informal subdivision of land expected in the project area. The Client expects that the RAP report will present both the Title holders and the current owners (PAPs) who will be directly affected by the project.</li> </ul>
6.	06/07/2017	Kaloleni Sub County Deputy Commissioner/ Governor	<ul style="list-style-type: none"> <li>• There is approximately 7,500 acres of land where the Mariakini substation is located that has a legal tussle between the registered land owner and others who have settled on it</li> <li>• DCC asked for transparency and involvement of the local leaders in the entire RAP process</li> <li>• Local people are generally friendly and like to be listened to</li> <li>• There are no sacred sites in Mariakani</li> </ul>

#	Date	Meeting with Representatives	Issues Discussed
			<ul style="list-style-type: none"> <li>• Duruma are the majority in population followed by Giriama</li> <li>• Commonly used radio station is Bahari and Kaya FM</li> </ul>
7	06/07/2017	Likoni Sub County Deputy Commissioner/ Governor	<ul style="list-style-type: none"> <li>• Will require at least 10 days' notice to organize for the public meeting in Dongo Kundu</li> <li>• KPA at least 3 Title Deeds and the community occupying this land knows this</li> <li>• At least 2 RAPs have been done; One by KeNHA for the Dongo Kundu bypass and the SEZ RAP. Therefore this will be the 3<sup>rd</sup> RAP and the RAP team will need to make the affected community understand that this is not a new RAP</li> <li>• The Team needs to be careful on the words used during the meetings and the field survey</li> <li>• The team should avoid answering questions on land</li> </ul>
8	07/07/2017	JICA Study Team (Review Meeting)	<ul style="list-style-type: none"> <li>• Panafcon to prepare a vegetation map</li> <li>• Encountered species must be mapped with the co-ordinate and supported by photographic evidence</li> <li>• Ministry of Industrialization and NLC will address the issue of SEZ land with KPA</li> </ul>
9	07/07/2017	Chief Mtongwe Location	<ul style="list-style-type: none"> <li>• The PCM will be held after the election because the land issue in Dongo Kundu has been politicized.</li> <li>• This being an election period and Dongo Kundu land issue being emotive, we should not get involved at this time.</li> </ul>

## THE COUNTY GOVERNMENT OF MOMBASA

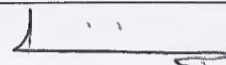
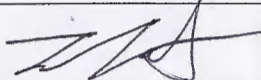



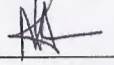
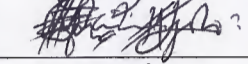
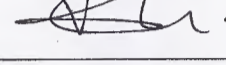
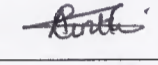
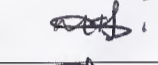
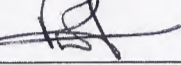
ESIA AND RAP FOR MARIKANI DONGO KUNDU 220 KV TRANSMISSION MEETING HELD AT THE DEPUTY COUNTY COMMISSIONER'S BOARDROOM ON 6<sup>TH</sup> JULY, 2017 AT 2:00 PM

S/NO	NAME	DEPARTMENT	DESIGNATION	CONTACT	SIGNATURE
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2.	Violet Kaswii	<del>KE</del> TRACO	Engineer	vkaswii@ketra.co.ke	
3.	Ramat Godana	KETRACO	Env Specialist	0720537137	
4.	Ndau Kelvin	PANAFCON	Surveyor	0731648897	
5.	PHUNG QUANG KHAI	JICA DESIGN TEAM	Power System	0727.335.608	
6.	Onimwani Shuzao	PANAFCON	Researcher	0724039877	
7.	Petro A. Mungu	ketra	Surveyor	0717 222 795	
8.	Joshua Oyieko	Panafcon Ltd	Team Leader EIA Study	0722 213 826 0733 428 498	 j.oyieko@panafcon.net
9.	Takeshi Sato	JICA Design Team	EIA expert	sato-t@ides-inc.co.jp	
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11.	Peter G. Ndhirangu	Panafcon Ltd	Surveyor	pgo@nt@panafcon.com	
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13.	Florence Sitawa	NGAO	ACC I Likoni	0711251294	
14.	Eric Mwangi	NGAO	D-GC Likoni	0722508788	



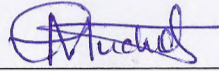
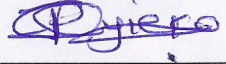
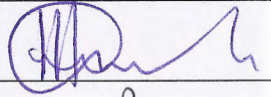

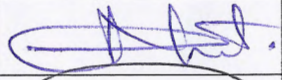
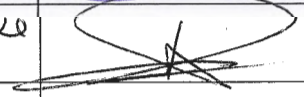
# THE COUNTY GOVERNMENT OF KILIFI

ESIA AND RAP FOR MARIAKANI DONGO KUNDU 220KV TRANSMISSION MEETING HELD AT THE GOVERNOR'S BOARDROOM ON 4<sup>TH</sup> JULY, 2017 AT 2:00PM.

Name	Department	Designation	Contact	Signature
1. RAMAT GODANA	KETRACO	Environmental Expert	0720537137	
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4. Kohei MIYAJI	JICA Design Team (RAP)	RAP Expert	myj21617@ideacon.co.jp	
5. Phung Quang KHAI	JICA Design Team	Power System Expert	phungquangkhai@edi.com.vn	
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11. Peter Ndirangu	"	Surveyor	pgeocart@yahoo.com	

# THE COUNTY GOVERNMENT OF KILIFI

ESIA AND RAP FOR MARIAKANI DONGO KUNDU 220KV TRANSMISSION MEETING HELD AT THE  
GOVERNOR'S BOARDROOM ON 4<sup>TH</sup> JULY, 2017 AT 2:00PM.

Name	Department	Designation	Contact	Signature
12. Irene Muchoki	Panafcon Ltd	RAP Team leader	0724163255 imuchoki2004@gmail.com	
13. Joshua Oyieko	Panafcon Ltd	EIA Study Team Leader	0733 428 498 / 0722 213826 j.oyieko@panafcon.net	
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15. Kunwaya clyde	K.C.S. County Surveyor	County Survey	Kunwaya clyde@yahoo.com	
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17. Geoffrey N Irasi	KETRACO	Socio-Economist	gnirasi@ketraco.co.ke	

# THE COUNTY GOVERNMENT OF KWALE

ESIA AND RAP FOR MARIAKANI DONGO KUNDU 220KV TRANSMISSION MEETING HELD AT  
COMMUNITY DEVELOPMENT SABLE BOARDROOM ON 5<sup>th</sup> JULY, 2017 AT 9.00AM

Name	Department	Designation	E- mail address	Mobile Number
1. Irene Muchoki	Panafcon Ltd	RAP Team Leaders	i.munene@panafcon.net imuchoki2004@gmail.com	0724163255 0735003332
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4. PHILIP MAKINI	LANDS P.L.R KIWALE	e.l.r	omakini@yohor.com	0721484008
5. Samuel Gitau	COUNTY LANDS OFFICE KWALE	L.S I	Samiwainaina@gmail.com	0780235735
6. AWI A. BUDZUMA	LANDS & PHYSICAL PLANNING	County PLANNER	aabdallah4@gmail.com	0724935832
7. DUMUNYATI ALWARU	PANAFCON	Researcher	awomunlady@yahoo.com	0724939877
8. Ramat Godano	KETRACO	Env. Expert	rgodano@ketraco.co.ke	0720537137
9. Grews MRISI	Jica Design Team	EIA & RAP	cmbsisi@gmail.com	0720927259
10. Takeshi Sato	"	EIA expert	sato-t@ides-inc.co.jp	
11. Ndau Kelvin	PANAFCON	Surveyor	ndau.kelvin@gmail.com	
12. KENIGITHI NGUNI	LANDS PLANNING	SADLAS	kenigithiungui@gmail.com	
13. Kohei Miyaji	Jica Design Team	PAP Expert	myj21617@ideacon.co.jp	

	Dep	Designation	Email	Mobile Number
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15.	Tobias Sambuh	ACC-Inspector	ACC	tk.sambuh@gmail.com 0721585861
16.	Peter G. Ndiraya	Panafrican	Supervisor	pgea@f@yahoo.com 0722-892690
17.	Violet Kaswi	Engineer	KETRACO	vkaswi@ketra.co.ke 0729 317 490
18.	Phung Quang KHAI	JICA Design Team	Power System	phungquangkhai@edi.com.vn 072 7.335.608
19.	CINTIA ARIYATI	PANAFCON	ENVIRONMENTALIST	C.ARIYATI@PANAFCON.NG 0713842550
20.	Petro A. Mungu	Ketra co	Ketra co Supervisor	pmungu@ketra.co.ke 0717 222 795

## KALOLENI SUB-COUNTY

**ESIA AND RAP FOR MARIKANI DONGO KUNDU 220KV TRANSMISSION LINE MEETING HELD AT DEPUTY  
COUNTY COMMISSIONER'S OFFICE ON 6<sup>TH</sup> JULY, 2017 AT 9.30AM**

S/NO	NAME	DEPARTMENT	DESIGNATION	MOBILE NO.	EMAIL ADDRESS
1	Irene Muchoki	Panafcon ltd	Team leader RAP study	0724163255 0735003332	imunene@panafcon.net imuchoki2004@gmail.com
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3	STEPHEN K. MWANHA	<sup>INTERIOR</sup> AccI	AccI	072794839	knwangestephen@gmail.com
4	Joshua P. Ojiko	Panafcon Ltd	Team Leader EIA Study	0722 23826 0733 428 298	joykpo@panafcon.net
5	Ndau Kelvin	Panafcon Ltd	Surveyor	0731648897	ndau.kelvin@gmail.com
6	Petro A. Mungu	Ketraco	Surveyor	0717 222 795	pmungu@ketraco.co.ke
7	Violet Kaswii	Ketraco	Engineer	0729317490	vkaswii@ketraco.co.ke
8	CHRIS MUKISI	JICA Design Team	EIA/RAP	0720927259	cmukisi@gmail.com
9	KATHAMBI JANE	INTERIOR- ACC	ACC MARIKANI	0727476647	jkathambi@gmail.com
10	ANNAMBAI ABUARO	Panafcon Ltd	Researcher	0724924877	annambai@yahoo.com
11	Peter G. Ndirangu	Panafcon Ltd	Surveyor	0722892690	pgn@panafcon.net
12	LESLIE NYARACHU	LAND ADJ. DESK	Demarcation office	0729171836	steveleslie@gmail.com
13	Joseph K. Mutua	SOCIAL DEV	Sub-County Social Dev. Office	0729769958	jkmutua61@yahoo.com
14	PHUNG QUANG KHAI	JICA DESIGN TEAM	Power System	0727 335 608	phungquangkhai@edi.com.vn
15	Kohei MIYAJI	JICA Design Team	RAP expert	+819012178758	myj21617@ideacon.co.jp
16	Takeshi Sato	"	EIA expert		sato-t@ides-inc.co.jp
17	JOYCE WACITHI KOMBE	INTERIOR	SNR. CHIEF	0720202379	jkombe2@gmail.com

## KALOLENI SUB-COUNTY

**ESIA AND RAP FOR MARIAKANI DONGO KUNDU 220KV TRANSMISSION LINE MEETING HELD AT DEPUTY  
COUNTY COMMISSIONER'S OFFICE ON 6<sup>TH</sup> JULY, 2017 AT 9.30AM**

S/NO	NAME	DEPARTMENT	DESIGNATION	MOBILE NO.	EMAIL ADDRESS
18	Ramat Godana	KETRACO	Env Eng Expert	0720837137	rgodana@ketraco.co.ke
2					
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**Annex 5: Minutes and Attendance Register for Sensitisation Meetings**

#	Venue of Meeting	Date	Time	County	Sub-County	Location
1.	Baraza Meeting Area, Near EMACO Hotel, Mitangoni	Wednesday, 12 July 2017	10.00am	Kilifi	Kaloleni	Mariakani
2.	Mbunguni Chief Camp's Grounds	Thursday, 13 July 2017	10.00am	Kwale	Matuga	Mbunguni
3.	Kiteje Assistant Chief's Office Grounds	Thursday, 13 July 2017	02.00pm	Kwale	Matuga	Ng'ombeni
4.	Mnyenzi Assistant Chief's Office Grounds	Friday, 14 July 2017	10.00am	Kwale	Kinango	Kasemeni
5.	Lutsangani AP Camp Grounds	Friday, 14 July 2017	02.00pm	Kwale	Kinango	Gandini
6.	Baraza Meeting Area Near Mwanda Dispensary	Tuesday, 18 July 2017	02.00pm	Kwale	Kinango	Mwavumbo & Mwatate
7.	The Dongo Kundu AP Camp	Tuesday, 20 March 2018	10.00am	Mombasa	Likoni	Mtongwe

**1. Mariakani Location Sensitization Meeting at Baraza Meeting Area Near  
Emaco Hotel, Mitangoni**

**Minutes  
Attendance Register**



**MINUTES OF THE SENSITIZATION MEETING FOR THE RAP AND ESI/STUDY FOR THE POWER SUPPLY COMPONENT OF THE MOMBASA SEZ DEVELOPMENT PROJECT HELD AT BARAZA MEETING AREA NEAR EMACO HOTEL, MITANGONI, MARIAKANI LOCATION ON WEDNESDAY, 12 JULY 2017 AT 10:00AM.**

**ATTENDANCE LIST:**

No.	Name	No.	Name	No.	Name
1	Rahma Mwakisingo	30	Chizi Mwanguo	59	Chiti Jeffa
2	Harrison K. Konde	31	Mlongo Tayari	60	Mwalewa Jeffa
3	Irene Muchoki	32	Bendera Kitsao	61	Hadija Tayari
4	Ramat Godana	33	Pili Kazungu	62	Dama Kombo
5	Budgerree Langat	34	Kache Ngombo	63	Fatuma Juma
6	Petro A. Munyalo	35	Sharon Dama	64	Luvuno Ndurya
7	Juma Mwamunga	36	Dzendere Mgandi	65	Sarah Anyango
8	Joyce W. Kombe	37	Zena Mwalimu	66	Grace Mtisya
9	Joshua Oyieko	38	Rehema Safari	67	Dali Mrema
10	Saumu Ahindi	39	Hamisi Ngombo	68	Wambua Kitili
11	Halima Chalo	40	Chiti Tsuma B	69	Kanganji Mochi
12	Maria Kavithe	41	Shindano C. Tuua	70	Omar Mwachiro
13	Mwero Kizeli	42	Chengo K. Ngoka	71	Mwachiro Bongo
14	Jefa Mwango	43	Charo Choma Zerub	72	Josepa Charo
15	Joseph Kazungu	44	Julius Mwakweja	73	Mwanajuma Kazungu
16	Kagana Randu K.	45	Saidi Katana	74	Karisa Kenga Jero
17	Rashid Tsuma	46	Kahindi Charo	75	Hassan Fondo Katawa
18	Ronald Wale Gona	47	John Nalo	76	Gilbert Kambo
19	Shanga Kitsao Mumba	48	Ndune Rai Ndune	77	Habel Mwawira
20	Nerian Mshai	49	Beja Joga	78	Renson Mundalo
21	Rebecca Kitsao	50	Paul Kitula	79	Mundalo Mwero
22	Nduku Makofu	51	Oscar Mumo	80	Benson Dzombo
23	Kache Mgandi	52	Khamisi Buru	81	Mgindi Nduria
24	Zawadi Kadii Charo	53	Charo Kazungu	82	Kadai Nyawa
25	Bakari K. Kieti	54	Pastor F. Wambua	83	Kathambi Jane
26	Buru Mgandi	55	John C. Mbui	84	Omummitah Agwaro
27	Petronila Oniala	56	Nyawa Kalu	85	Cynthia Akinyi
28	Emmanuel Mwanga	57	Kahindi Katana		
29	Luvuno Dukwe	58	Jimbale Mwalawe		

**AGENDA OF THE MEETING**

1. A word of prayer by one of the participants.
2. Introduction of the participants (Chief/KETRACO/JICA/Panafcon).
3. Purpose of conducting the Sensitisation Meeting with the Project Area Community (KETRACO).

4. Project brief on the components of the proposed 220kV Transmission Line from Mariakani-Dongo Kundu and a Substation (KETRACO/JICA)
5. Implementation Plan for the ESIA and RAP Studies of the proposed 220kV Transmission Line from Mariakani-Dongo Kundu and a Substation (Panafcon).
6. Views of the Participants on the Project - Comments, Question and Answer - Open Session (Chief/KETRACO/JICA/Panafcon).
7. Closing Remarks by (KETRACO/Chief).
8. A.O.B.
9. Closing Prayer.

**Minute 01:**

The meeting was called to order at 11am and began with a word of prayer from one of the participants.

**Minute 02: Introduction of the Participants.**

The area chief welcomed everyone in attendance to the meeting. She acknowledged and thanked them for finding time to attend the meeting. She introduced the Assistant County Commissioner, the area Assistant Chief, Village Elders from various villages in the project area and the representative of the Kilifi County Government. She specifically welcomed the team of experts from JICA, KETRACO and Panafcon.

She explained the purpose of the meeting and encouraged the stakeholders and the community members present to actively engage in the discussions about the proposed project.

Mr. Godana welcomed all the participants and introduced the KETRACO Team and Ms Mwakisingo from JICA who were present at the meeting. He explained the role of KETRACO, JICA and Panafcon in these two projects. Mr. Oyieko introduced the Consultant Team Members from Panafcon who are involved in the RAP and ESIA Studies and were in attendance at the meeting.

**Minute 03: Purpose of conducting the Sensitisation meeting.**

Mr. Oyieko gave a brief introduction of the project, a general history of the project, its design changes and hence the purpose of conducting a new RAP Study. He explained the importance of the project citing the positive impacts of the project, the negative impacts and the mitigation measures to reduce the negative impacts. He stated the legal requirement for public participation and consultation in any project or/and matter that affects them in any way.

The right of the affected community to receive correct and timely information and engage with the project implementers is the main purpose of the Sensitisation meeting.

PAPs who have constructed their structures or have planted crops and trees on land that does not belong to them (squatters) will relocate elsewhere outside the wayleave corridor after compensation for these development is paid to them. The compensation money for the land will be paid to the registered/ legal land owner(s).

Compensation for the losses will be at prevailing market value and at the replacement cost for land and structures respectively. Trees will be compensated for after they are felled according to the rates of various tree types, sizes, age and value as provided by Kenya Forest Service while crops will be compensated as per the guidelines provided by the Ministry of Agriculture if/after they are destroyed during the line construction.

PAPs were again encouraged and reminded to avoid encroachment and further development on the wayleave corridor as they had been informed in the previous RAP study. Any further developments will not be compensated for by the KETRACO and the concern person(s) will remove these structures from the corridor at their own expense.

**Minute 04: Project brief on the components of the proposed Power Supply Components of the Mombasa SEZ Development Project**

The 220 kV transmission line will extend over a distance of approximately 53 km from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County. The following are the main components of the Project:

- Development of 220 kV transmission line with 40m wayleave from Mariakani 400/220 kV substation to Mombasa SEZ. The Mariakani 400/220 kV substation is however not included in this Project scope
- Development of 220/33 kV substation inside Mombasa SEZ
- Access road from Southern Bypass road to 220/33 kV substation. The approximate length the road is 700 m and Right of Way is 13.5 m.
- Development of 33 kV distribution line inside Mombasa SEZ from 220/33 kV substation

**Minute 05: Implementation Plan for the ESIA and RAP Studies of the Proposed Power Supply Components of the Mombasa SEZ Development Project**

The ESIA and RAP Studies of the proposed power transmission project involves sensitizing the project area community members who will be directly or indirectly affected by the project, carrying out 100% census and asset inventory surveys. The surveys will be along the 40 metre wide and 53km long corridor of the 220 kV transmission line, they will be carried out at the substation site area and along the 10 metre wide and 3km long corridor where the 33 kV distribution line and the access road from 220/33 kV substation will traverse inside the Mombasa SEZ.

Directly affected PAPs will be consulted further in smaller and personalized PAP meetings after the completion of the census and asset inventory surveys, data analysis and data compilation. They will be informed of the various categories of affected assets and their entitlement for each category and projected timeframe. Focus Group Discussions will be held with women during these PAP meetings where they can free air their view without the cultural limitation apparent in most the project area. This limitation is in that traditionally, women are not supposed to talk or express themselves before their men/ husbands. Mariakani location is mainly dominated by the traditional Giriama and Duruma Communities. They are many Kamba immigrants in the area too.

There will be the second round of Public Consultation Meetings in the entire project area where the Consultant will disclose/present ESIA Study findings (Positive and Negative Impacts and proposed mitigation measures for the negative impacts and Environmental and Social Management Plan) to the communality and receive their feedback

**Minute 06: Views and Questions on the Proposed Power Supply Components of the Mombasa SEZ Development Project from the participants of the Sensitisation meeting with responses and clarifications given by KETRACO, Panafcon and JICA.**

**Q1: Previous KETRACO project in the neighbouring area had challenges related to release of compensation payment of disputed land which have not been resolved to-date. The community leaders wished to know how KETRACO will ensure this current project doesn't face similar challenges. (Samuel Rimba).**

**A1:** All KETRACO projects are subject to Kenyan law governing power transmission and land acquisition and where the ownership of the affected asset is disputed, KETRACO waits for the dispute(s) to be resolved by the relevant bodies including the courts who determine ownership before KETRACO can disburse compensation money for the affected asset(s).

KETRACO's Policy underpins transparency and honesty in every step in the resettlement process which involves giving correct information in a timely manner. Transparency starts with the PAPs and village elders and it is escalated up the ladder to avoid and resolve disputes. Honesty is giving correct information.

**Q2: Mijikenda names are really similar and this may bring confusion in the registration of PAPs during the census survey. (Samuel Rimba)**

**A2:** The National Identification Number of each PAP is definitely unique even where names could be similar word for word. Each PAP will be identified and distinguished by the use of their ID numbers and not by names only

**Q3: Some PAPS recorded in the previous census may not be the genuine owners of affected assets. How will this be corrected to ensure only genuinely affected people are enumerated and recorded? (Nelson Mundalo)**

**A3:** All the eligible PAPs will be enumerated during the current census survey with the confirmation of ownership of land being confirmed by a title deed where available or using the established local mechanism to confirm ownership of affected land. The ownership of developments on the land such as structures, trees and crops will be established by the members of the affected household in the presence of the village elders

**Q4: The acquired corridor may divide the parcel of land belonging to one individual PAP into two halves. What will happen to such two portions of land on each side of the corridor; will the PAP be allowed to own both halves though divided by the corridor? (Paul Kitula)**

**A4:** Depending on the portion of land on each side of the corridor, the project may take up the entire parcel of land and physically resettle the PAP on another equal parcel if the remaining portion outside the wayleave corridor is too small for any continued use/settlement by the PAP. The wholly eased out parcel of land below the transmission line will still belong to the PAP as KETRACO does not own land. If the remaining portions are significantly big for use by the PAPs, the project will only acquire the corridor and leave the rest of the portions to the PAP.

Each on above cases will be evaluated by KETRACO RAP implementation teams before drawing a conclusion on how to handle the remaining portions of land.

**Q5: There were local (verbal) arrangements in the transfer of land that took place long ago between now deceased parties but there were no written agreements for the living dependents to show and proof such transactions. Who will be paid for such land and developments on it? (*Chondo Safari*)**

**A5:** Such cases would amount to disputes and the communities was encouraged to use local and cheap mechanisms to settle land disputes and related grievances such as recognized local community initiatives before resulting to expensive alternatives of dispute resolution mechanisms such as the courts. (Refer to Q1 above). Compensation money for land and will be paid to registered land owner e.g. the compensation for land would be paid to the father if he is the sole land owner and compensation money for structures and other developments on the affected land will be paid to other family members e.g. sons/ daughters if they build the affected houses or planted affected crops or trees

**Q6: Will KETRACO therefore withhold compensation money for all disputed land until the dispute is resolved and will still build their line on such land still or the project will be put on hold to await the resolution of disputes so as to construct the line? (*Francis Wambua*)**

**A6:** The compensation money for the disputed land will be put aside by KETRACO but will not be disbursed to any of the disputing parties until the dispute is resolved and ownership determined. In the meantime, KETRACO will construct the line across such land since government projects cannot be jeopardized by disputes which can sometimes take a long time to resolve.

**Q7: What will happen if there be trees or crops on the land whose ownership is disputed? (*Anthony Safari*)**

**A7:** The trees, crops or even structures on such land whose ownership is disputed but the ownership of such developments isn't disputed, the developments will be compensated for promptly by payment being disbursed to the established owners KETRACO however pays for trees after felling them. This process however may take time between felling and release of compensation payment.

**Q8: The company representative of Reginal Containers Freight which owns land near the proposed Mariakani substation site would like to know when the survey is being carried out so that they can be available. (*John Nalo*)**

**A8:** The Consultant confirmed that the census and asset inventory surveys would start the following day (13 July 2017) which becomes the cut-off date for the RAP study and would be within the Mariakani area for about 2 to 3 days from this date

#### **Minute 07: Closing remarks**

The Chief thanked the community members for sparing their time to attend the meeting. She assured the directly affected persons that they will be consulted sufficiently.

She reassured them the survey teams will always be accompanied by the relevant village elders during the field surveys and any issue can be raised with her office at any time. She asked them to cooperate with the Consultant and give required information honesty.

**Minute 08: AOB**

The chief made announcements about local issues of security, on-going campaigns and the need for all to maintenance of law and order during the campaigns, during and after August 8 general elections.

**Minute 09: Closing Prayer**

The meeting ended with a word of prayer from one of the participants.

LIST OF PARTICIPANTS AT THE ESIA AND RAP SENSITIZATION MEETING

ESIA AND RAP FOR MARIAKANI-DONGO KUNDU 220Kv TRANSMISSION LINE

Venue of Meeting: BARASA FIELD NEAR EMACO HOTEL MARIAKANI LOCATION

Date and Time of Meeting: 12/7/17 11:00 AM

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
1.	Mahma Mwakisingo	Research Assistant	JICA	mahmamukoli@gmail.com	0712219475	
2.	HARRISON K. KONDE	ARCHITECT	O O O	harrisonkonde@gmail.com	0723588183	
3.	Irene Muchoki	RAP Team leader	Panafcon Ltd	imuchoki2004@gmail.com i.munene@panafcon.net	0724163255	
4.	RAMAT GODANA	Env expert	KETRACO	rgodana@ketraco.co.ke	0720532132	
5.	BUDGEREE LANG'AT	Engineer	KETRACO	blang'at@ketraco.co.ke	0787 141 255	
6.	Peter A. Mungalo	Surveyor	Ketraco	pmungalo@ketraco.co.ke	0717-222-795	
7.	Juma Mwarungu	WARD ADMINISTRATOR	KILIFI COUNTY GOVERNMENT	jumamwarungu@yahoo.com	0705889724	
8.	JOYCE W. KOMBE	SNIL CHIEF	INTERIOR	jkombe2@gmail.com	0720202379	
9.	Joshua Oyiero	EIA TEAM LEADER	PANAFCON LTD	j.oyiero@panafcon.net	0722213826	
10.	SAUMU BHINDI	RESIDENT	MARIAKANI			
11.	HALIMA CHALO	RESIDENT	MARIAKANI			
12.	MARIK KAVITHE	RESIDENT	MARIAKANI			
13.	MWERO KIZELI	RESIDENT	MARIAKANI		0716761279	
14.	JEFA MWANGO	RESIDENT	MARIAKANI		0701784535	
15.	Joseph Kagunyu	RESIDENT	MARIKANI	071515670	0715156704	
16.	KATANA RANDU K	RESIDENT	MARIKANI		0729204280	

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
39.	RASHID ISUMA				0796192035	
40.	RONALD WALE GOOA	NON	NON	NON	0725292677	
41.	SHANGA KITSAO MUMBA	NON	NON	NON	0725476131	
42.	NERIAN - Mshoi	NON	NON	NON	0718597930	
43.	RABBECCA KITSAO	NON	NON	NON	0704931626	
44.	NDUKU MAKOFU	"	"	"	0717064579	
45.	KACHE MGAANDI	"	"	"	-	KACHE
46.	ZAWADI KADII COTARO	"	"	"	0798624618	Zawadi
47.	BAKARI K. KIETI	"	"	"	0703831530	
48.	BURU MGAANDI	"	"	"	0700367559	Buru
49.	PETRONILA ONIALA	"	"	"	0725447844	P.O
50.	EMMANUEL MWANU	"	"	"	0715078576	
51.	LWUNO DUKWE	"	"	"	-	L
52.	CHIZI MWANU	"	"	"	-	CHIZI
53.	MLONGO TAYARI	"	"	"	-	M
54.	BENDERA KITSAO	"	"	"	-	B
55.	PILI KAZUNGU	"	"	"	-	Pili
56.	KACHE NROMBO	"	"	"	-	
57.	SHARON DUMA	"	"	"	0710670503	
58.	DZEMBERE MGAANDI	"	"	"	-	Dza
59.	ZENA MWALIMU	"	"	"	-	Zena
60.	REHEMA SAFARI	"	"	"	0791334129	Reh

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
17.	HAMISI NDOMBO	RESIDENT			0716801941	
18.	CHITI TSUMBA B.	ELD-CHAIRMAN	MARIAKANI		0710849274	
19.	SHANBANO C-TUVA	EL-CHAIRMAN			0725928767	
20.	CHENGO K-NGOKA				0720056375	
21.	CHARO CHOMA ZEMBA	ELD-CHAIRMAN	WEIGI BRIDGE		0719145955	CHARO
22.	TULIUS MWARWEJA	V. ELDA	MARIAKANI		0711735852-	
23.	Saudi Katana		mariaakani		0726511918	
24.	KAHINDI CHARO		MARIAKANI		0723003964	Tony
25.	JOHN NALLO	Accountant	SAGAR HOLDINGS LTD	info@akaba.co.ke	0722104099	
26.	NDVNE RAI NDVNE		MARIAKANI		0717668378	NDVNE
27.	BESA JOGA	RESIDENT	"			
28.	PAUL KITUCHA	RESIDENT	-	N/A	0780881040	
29.	OSCAR NUMBO	RESIDENT	MITANGONI	NUMBOOSCAR@gmail.com	0938118111	
30.	KHAMISI BURU	NYUMBA 10	MITANGONI		0710864319	
31.	CHARO KAZUNGU		MITANGONI		0720549652	
32.	PSI. F. WAMBUA	PASTOR	RGC-WEIGABRIDGE	Ffranciswambua766@gmail.com	0727581799	
33.	JOHN C-MBUI	NYUMBA 10	MITANGONI	N/A	0700102209	
34.	NYAURA KALU	nyumba 10	MITANGONI B		0723022470	
35.	KAHINDI KATANA	Guata	Mitangoni		0727904839	
36.	JIDA TIMBALE	nyumba 10	mitangoni		0700793500	
37.	Chiti	Tefa	mitangoni		0729336929	
38.	Mwalena	Joga			0739109159	

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
61	HADIJA TRYARI				0798351354	HADIJA
62	DAMA KOMBO				-	<i>[Signature]</i>
63	FATIUMA JUMA				-	<i>[Signature]</i>
64	LUVUNO NDURYA				-	<i>[Signature]</i>
65	SARAH ANYANGO				0710505829	<i>[Signature]</i>
66	GRACE MTISYA				0725955760	<i>[Signature]</i>
67	<del>DAL M...</del>				0711567510	<i>[Signature]</i>
68	KLAMBUA KIFILI				0722934766	<i>[Signature]</i>
69	KANKANJI MOLHI				0717484579	<i>[Signature]</i>
70	Mwambi Mwantero				0728219870	<i>[Signature]</i>
71	Mwambi Bando				07	
72	JOSEPH CHARO				0700506231	<i>[Signature]</i>
73	Mulanduma KAZUNGU	V.ELDER			0712420958	<i>[Signature]</i>
74	Kamisa Kanga Jero				0702864540	<i>[Signature]</i>
75	Jessam fondo Katana				0798454581	<i>[Signature]</i>
76	Gilbert K...				07290674	
77	HABEL MWAWIBA				0723842283	<i>[Signature]</i>
78	RENSON MUNDAMU				070526286	<i>[Signature]</i>
79	MUNDALU MWERO				0712364094	
80	BENSON DZOMBO					
81	MG. HDI NDURUA					
82	KADI NYAWA					

83 KATHAMBI JANE ACC OOP JKathambi1ee@gmail 0727476647 *[Signature]*

84 MUMMIFAH AGWARO Research Assistant Panafcon Ltd comum@panafcon 0724929877 *[Signature]*

85 CYRILLA AKINTI ENVIRONMENTALIST PANAFCON C.akinyi@panafcon.net 0713842550 *[Signature]*

**2. Mbunguni Location Sensitization Meeting at Mbunguni Chief Camp Grounds**

**Minutes  
Attendance Register**

**MINUTES OF THE SENSITIZATION MEETING FOR THE RAP AND ESIA STUDY FOR THE POWER SUPPLY COMPONENT OF THE MOMBASA SEZ DEVELOPMENT PROJECT HELD AT MBUNGUNI CHIEF CAMP'S GROUNDS ON THURSDAY, 13 JULY 2017 AT 10:00AM.**

**ATTENDANCE LIST:**

No.	Name	No.	Name	No.	Name
1	Joshua P. Oyieko	42	Shokoia Said	83	Bintomar Omari
2	Ramat Godana	43	Mgandi Mshona	84	Saumu Shanga
3	Budgerree Langat	44	Mrabu Chondo	85	Masika Mwavitu
4	Petro A. Munyalo	45	Ndegwa Mangale	86	Mejumaa Bongo
5	Rahma Mwakisingo	46	Kenga Ngao	87	Mwanajuma Ali
6	Cynthia Akinyi	47	Swalehe H. Phengo	88	Fatuma Said
7	Suari Viro	48	Mwanamisi Mwamwingo	89	Rama Salim
8	Mwandro Ali	49	Salim A. Mwatibu	90	Jumwa Kazungu
9	Mwero Selema	50	Ndoro Njogi	91	Uchi Shanga
10	Mohamed Chimera	51	Salim Swalehe	92	Mejumaa Said
11	Abdalla Saidi Chigia	52	Omari Mtenzi	93	Ester Rojas
12	Malachi Mwadzowa	53	Bunguu Ndaro	94	Anzazi Chaka
13	Kombo Abdalla	54	Stephen Zuma M.	95	Mwarabu Ali
14	Salimu M Baushi	55	Hussein Kitumbo	96	Bintihamsi H. Suwari
15	Saidi Salimu	56	Shaban J. Siswari	97	Mariam Hussein
16	Juma Ali	57	Ali Gwedzele	98	Mwanamvua Hamisi
17	Ndoro Chaka Ndoro	58	Omari Abdala	99	Halima Kodi
18	Chombo Mkuba	59	Tsuma Lubando	100	Nyamvula Kaleso
19	Nyawa Mrinzi	60	Tabu Katana	101	Mesaid Kodi
20	Bengi Karisa	61	Umazi Nyamawi	102	Kavumbi Karisa
21	Maseno Tuku	62	Biltamis Ali	103	Bahati Chimera
22	Wilson Mangale	63	Mnyazi Mwachondo	104	Mariam Omari
23	Salimu Randni	64	Mwanajuma Ali	105	Asha Juma
24	Michael K. Gona	65	Mwanaisha Mohamed	106	Mbodze Hassan
25	Athman Suwari	66	Chinyavu Mwangodya	107	Furaha Samwel
26	Daniel Tsuma	67	Mejuma Mwaphephu	108	Mwanasha Salim
27	Choyo Peho	68	Fatuma Hamisi	109	Mwanamisi Hamisi
28	Juma Mwaraisi	69	Mwaka Suleima	110	Kadziche Mwero
29	Abdalla Kaledi	70	Mejumaa Suari	111	Mlongo Dzuwa
30	Mwingo Chindoro	71	Bintamisi Mwinyi	112	Rehema Kea
31	Mwadzumba	72	Chiphenyo Nyawa	113	Umazi Nyundo
32	Mriphe Masudi	73	Bahati Karisa	114	Umazi Chivatsi
33	Mohamed Abdalla	74	Fatuma Bandari	115	Asha Kitumbo
34	Mohamed Ali	75	Mwanatumu Hassan	116	Kanga Ngumbau
35	Guwo Kadzumba	76	Mwanakombo Said	117	Biny Chaka
36	Hamisi Juma	77	Fatuma Rajabu	118	Saumu Kelekele
37	Chimera Mzungu	78	Rehema Randani	119	Fatuma Shaban
38	Suleiman Suari	79	Bint Hassan Suleiman	120	Luvuno Lugwa
39	Mesaid Funzo	80	Mwaiwe Mwingo	121	Kanga Dziswa
40	Binti Mohamed Omar	81	Ramadhani Mwayama	122	Mariam Tsuma
41	Nzingo Ndaro	82	Abudala Asani	123	Nimajia Mwavitu

No.	Name	No.	Name	No.	Name
124	Nzingo Mndalu	172	Chimera Ndago	220	Nzalambi Wangoni
125	Mejumaa Kadunge	173	Swalehe Hassan	221	Shani Abeid
126	Mesaid Betsuma	174	Mbaruku Abdalla	222	Mohamed Ali
127	Mkambe Ngumbao	175	Samuel Vyani	223	Suleiman Mumbo
128	Luvuno Ngumbao	176	Athuman Nagalale	224	Mwanalima Zani
129	Monica Omari	177	Hassani Gambere	225	Fatuma Tege
130	Mishi Ngumbao	178	S. M. Rizaa	226	Dzame Masudi
131	Umazi Luguwa	179	Hamisi M. Dola	227	Mchegowa Mangale
132	Dzinga Chondo	180	Adija Dola	228	Chizi Mangale
133	Said Bakari	181	Bintamisi Ali	229	Mapenzi Mwalimu
134	Mwanamtsanga	182	Fatuma Dingo	230	Amina Hamisi
135	Hamisi Omari M	183	Mwaka Tsuma	231	Dzaze Chizimani
136	Mziphe Mwadinga	184	Mbeyu Lugogo	232	Mupa Ndegwa
137	Hamisi Kitsao	185	Moraa Luguwa	233	Alima Dena
138	Abdalla Ali	186	Bint Swalehe	234	Mlongo Gatsi
139	Maremb Kadunge	187	Luvuno Wangoni	235	Mwanasiti Salimu
140	Mwichande	188	Adija Swalehe	236	Mariam Ali
141	Kombo Misoma	189	Mwanaisha S. Katana	237	Jumwa Hamisi
142	Ali Mwaboma	190	Mariga Chengo	238	Kanini Daniel
143	Frediki Mangale	191	Njira Bunguu	239	Luvuna Munga
144	Mkambe Njole	192	Mohammed Mwaboma	240	Riziki Mwamumbo
145	Dola Saidi Viro	193	Chizi Omari	241	Merashidi Gaid
146	Ali Mwadosho	194	Chidosho Ngome	242	Mariam Katambo
147	Fujo Mwafujo	195	Habiba Saidi	243	Umazi Nzije
148	Nyamvula Nyale	196	Ali Rashid Mwambega	244	Kwekwe Katambo
149	Mangale Mwadira	197	Mbodze Chindoro	245	Mejuma Salim
150	Ndegwa Mwandegwa	198	Kachimbizi Bejijo	246	Chizi Said
151	Chongombwe M.	199	Amina Majimbo	247	Umazi Chimera
152	Abdalla Juma	200	Mebakari Mwingo	248	Amina Athumani
153	Mudzo Matano	201	Fatuma Salim	249	Mwanarusi Omari
154	Nyota Mandara	202	Tatu Ngome	250	Kasha Salim
155	Ali M. Hamisi	203	Kanga Bejijo	251	Mbeyu Mbogo
156	Ndegwa Mwadiga	204	Koekwe Zuma	252	Binti Ali
157	Mwangoro Dziswa	205	Rael Martin	253	Kwekwe Kombo
158	Rashid Ali	206	Bidala Ali	254	Esha Ndune
159	Amina Chaka	207	Mwachidole Mwaweka	255	Swalehe Ali
160	Ommumitah Agwaro	208	Hassai Guni	256	Mrinzi Ndana
161	Juma S. Karani	209	Juma Nyae	257	Nyanje Katana
162	Chistopher Mudoga	210	Wani Mwaiwe	258	Mwashanga Hassan
163	J. Kombo Vyani	211	Omari Mwamadzedu	259	Kamwana Karisa
164	Omari H. Bambanya	212	Rama Rashid	260	Nyae Ngao
165	Juma Mwinyi	213	Mwalimu Kitieke	261	Ndege Kabwere
166	Mwanguwo Lubando	214	Tsuma Said	262	Mangizi Masudi
167	Ali Dola	215	Rodgers Kobo	263	Gudulo Ndegwa
168	Simon Kudunga	216	Mohamed Mwamtunza	264	Zakaria Sunda
169	Hamisi Nassoro	217	Kutasa Mwaiwe	265	Mwandiya Nyamawi
170	Mohamed Suleiman	218	Rama Juma	266	Chaningali Ndegwa
171	Junya Shauri	219	Hamisi Swalehe	267	Rai Chukka

No.	Name	No.	Name	No.	Name
268	Musa Mwachamoyo	283	Ndegwa Masudi	297	Musa Masumbuko
269	Juma Ali Mbwana	284	Mwachidudi M.	298	Mwavuwa Mguta
270	Mbogo Mwakudza	285	Mmbetsa Nyawa	299	Mwijo Chifwatwa
271	Amani Abdala	286	Chimanga Mtsungi	300	Ali Tsuma
272	Kazungu Randu	287	Rama Said	301	Ali Bakari
273	Abdalla Ali	288	Mohamed Musa	302	Mkusi Chembe
274	Makarani Juma	289	Mzungu Ju	303	Said Kifunda
275	Samuel Katana	290	Karsa Yaa	304	Ali Ramadhani
276	Omari Kufasa B.	291	Kiti Yaa	305	Ngowa Bongo
277	Mwinyi Ali	292	Hamisi Siadi	306	Mohamed Mwinyi
278	Mwambega A	293	Salim Hamisi	307	Juma Ali
280	Zakaria Randani	294	Tsuma Ranga Tsuma	308	Irene Muchoki
281	Juma	295	Ali Sanzuwa		
282	Ngala Changoma	296	Mohamed Ali		

## AGENDA OF THE MEETING

1. A word of prayer by one of the participants.
2. Introduction of the participants (Chief/KETRACO/JICA/Panafcon).
3. Purpose of conducting the Sensitisation Meeting with the Project Area Community (KETRACO).
4. Project brief on the components of the proposed 220kV Transmission Line from Mariakani-Dongo Kundu and a Substation (KETRACO/JICA)
5. Implementation Plan for the ESIA and RAP Studies of the proposed 220kV Transmission Line from Mariakani-Dongo Kundu and a Substation (Panafcon).
6. Views of the Participants on the Project - Comments, Question and Answer - Open Session (Chief/KETRACO/JICA/Panafcon).
7. Closing Remarks by (KETRACO/Chief).
8. A.O.B.
9. Closing Prayer.

### Minute 01:

The meeting was called to order at 10am and began with a word of prayer from one of the participants.

### Minute 02: Introduction of the Participants.

The area chief welcomed everyone in attendance to the meeting. He acknowledged and thanked them for finding time to attend the meeting. He introduced the area Assistant Chief and Village Elders from various villages in the project area. He specifically welcomed the team of experts from JICA, KETRACO and Panafcon. He explained the purpose of the meeting and encouraged the stakeholders and the community members present to actively engage in the discussions about the proposed project.

Mr. Godana welcomed all the participants and introduced the KETRACO Team and Ms Mwakisingo from JICA who were present at the meeting. He explained the role of KETRACO, JICA and Panafcon in these two projects. Mr. Oyieko introduced the Consultant Team Members from Panafcon who are involved in the RAP and ESIA Studies and were in attendance at the meeting.

**Minute 03: Purpose of conducting the Sensitisation meeting.**

Mr. Oyieko gave a brief introduction of the project, a general history of the project, its design changes and hence the purpose of conducting a new RAP Study. He explained the importance of the project citing the positive impacts of the project, the negative impacts and the mitigation measures to reduce the negative impacts. He stated the legal requirement for public participation and consultation in any project or/and matter that affects them in any way. The right of the affected community to receive correct and timely information and engage with the project implementers is the main purpose of the Sensitisation meeting.

PAPs who have constructed their structures or have planted crops and trees on land that does not belong to them (squatters) will relocate elsewhere outside the wayleave corridor after compensation for these development is paid to them. The compensation money for the land will be paid to the registered/ legal land owner(s). Compensation for the losses will be at prevailing market value and at the replacement cost for land and structures respectively. Trees will be compensated for after they are felled according to the rates of various tree types, sizes, age and value as provided by Kenya Forest Service while crops will be compensated as per the guidelines provided by the Ministry of Agriculture if/after they are destroyed during the line construction. PAPs were again encouraged and reminded to avoid encroachment and further development on the wayleave corridor as they had been informed in the previous RAP study. Any further developments will not be compensated for by the KETRACO and the concern person(s) will remove these structures from the corridor at their own expense.

**Minute 04: Project brief on the components of the proposed Power Supply Components of the Mombasa SEZ Development Project**

The 220 kV transmission line will extend over a distance of approximately 53 km from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County. The following are the main components of the Project:

- Development of 220 kV transmission line with 40m wayleave from Mariakani 400/220 kV substation to Mombasa SEZ. The Mariakani 400/220 kV substation is however not included in this Project scope
- Development of 220/33 kV substation inside Mombasa SEZ
- Access road from Southern Bypass road to 220/33 kV substation. The approximate length the road is 700 m and Right of Way is 13.5 m.
- Development of 33 kV distribution line inside Mombasa SEZ from 220/33 kV substation

**Minute 05: Implementation Plan for the ESIA and RAP Studies of the Proposed Power Supply Components of the Mombasa SEZ Development Project**

The ESIA and RAP Studies of the proposed power transmission project involves sensitizing the project area community members who will be directly or indirectly affected by the project, carrying out 100% census and asset inventory surveys. The surveys will be along the 40 metre wide and 53km long corridor of the 220 kV transmission line, they will be carried out at the substation site area and along the 10 metre wide and 3km long corridor where the 33 kV distribution line and the access road from 220/33 kV substation will traverse inside the Mombasa SEZ.

Directly affected PAPs will be consulted further in smaller and personalized PAP meetings after the completion of the census and asset inventory surveys, data analysis and data compilation.

They will be informed of the various categories of affected assets and their entitlement for each category and projected timeframe. Focus Group Discussions will be held with women during these PAP meetings where they can free air their view without the cultural limitation apparent in most the project area. This limitation is in that traditionally, women are not supposed to talk or express themselves before their men/ husbands. Mbunguni location is mainly dominated by the traditional Duruma Community.

There will be the second round of Public Consultation Meetings in the entire project area where the Consultant will disclose/present ESIA Study findings (Positive and Negative Impacts and proposed mitigation measures for the negative impacts and Environmental and Social Management Plan) to the communality and receive their feedback

**Minute 06: Views and Questions on the Proposed Power Supply Components of the Mombasa SEZ Development Project from the participants of the Sensitisation meeting with responses and clarifications given by KETRACO, Panafcon and JICA.**

**Q1: He was previous affected by this line as informed during the previous surveys. He however doesn't know if he is still affected now. Has the line location changed? (Mohamed Suleman).**

**A1:** There will be no much change if any but this will be confirmed by the Consultant team during the census and asset inventory surveys

**Q2: Many people do not have title deeds for the land they occupy. Who will be compensated for such land; the title holder or the current land occupier (Musa Said)**

**A2:** Land ownership is known whether the land has title deed or not. However without a title deed it will be difficult to ascertain ownership which cannot be confirmed until one produces a title deed or until it is issued by the relevant government entity. PAPs without title deeds to the land they occupy were encouraged to get them as with a title deed, compensation for the affected land will be straightforward and prompt

**Q3: Will he get power in his home or will this power line just pass over him as happened in Ukunda? (Juma Mwakoko)**

**A3:** The transmitted power belongs to the local communities and their neighbours. However, distribution of power to their homes is the responsibility of Kenya Power. KETRACO only does power transmissions which is among the first steps to people accessing power in their homes after which distribution is done by Kenya Power from the KETRACO Substations.

**Q4: The acquired corridor may divide the parcel of land belonging to one individual PAP into two halves. What will happen to such two portions of land on each side of the corridor; will the PAP be allowed to own both halves though divided by the corridor? (Ali Mwachosho)**

**A4:** Depending on the portion of land on each side of the corridor, the project may take up the entire parcel of land and physically resettle the PAP on another equal parcel if the remaining portion outside the wayleave corridor is too small for any continued use/settlement by the PAP. The wholly eased out parcel of land below the transmission line will still belong to the PAP as KETRACO does not own land. If the remaining portions are significantly big for use by the PAPs, the project will only acquire the corridor and leave the rest of the portions to the PAP.



Each on above cases will be evaluated by KETRACO RAP implementation teams before drawing a conclusion on how to handle the remaining portions of land.

**Q5: Would she pay for the power to her house if installed or it will be given free by the government? (Mwanaharusi Omar)**

**A5:** Anybody whose home is connected to electrical power pays for it. The locals in the project area who wish their home to be connected with electricity should contact Kenya Power for installation and thereafter they start paying for the units of consumed power consumed.

**Q6: Is this the same transmission line the local community had previously been called into a meeting about? (Mwanaharusi Omar)**

**A6:** Yes.

**Q7: If his semi permeant house is on the 40 metre wayleave corridor, will he be compensated for a semi-permeant house or a permanent house? (Toya Mwaraisi)**

**A7:** He will be compensated money enough to construct a semi-permanent house using current market rate i.e. at replacement cost which is the money enough to construct a similar structure today

**Q8: Will the proposed transmission line affect the whole Mbuguni Location or a section of it only. (Hamadi Dafujo)**

**A8:** Only a section of the location will be affected as per the already selected route that has been established through surveying

**Q9: Will the larger community benefit from KETRACO activities in the area or it will only benefit directly affected people? What will KETRACO do for the community as did Titanium Mining Company that has sunk boreholes, constructed roads and built classrooms for the community surrounding their project area (Musa Said)**

**A9:** KETRACO has specific mandate which is to design, construct and maintain high voltage transmission lines. KETRACO is funded by the exchequer to do this alongside other government departments concern with such things as water provision, roads and education. If KETRACO could spend cash for Corporate Social Responsibility, it will only be through reasonable humanitarian grounds which is the sole discretion of the top management. Titanium Mining Company is private company and can use part of their profits to improve the lives of the communities where they have invested.

**Q10: There may not be any land with title deed in the whole location; what will happen in this case? (Mbogo Mwakuja)**

**A10:** The PAPs without title deeds for the land they occupy will be individually consulted at a later date but this process can and has been slow from KETRACO's similar experience elsewhere

**Q11: What will happen if the line passed through a place where there are trees and crops? (Juma Shauri Lamwenga)**

**A11:** Trees will be compensated for after they are felled and according to the rates provided by Kenya Forest Service while crops will be compensated as per the guidelines provided by the ministry of Agriculture if/after they are destroyed during the line construction.

**Q12: What will happen if my house is just outside the 40metre wayleave e.g. a house or a tree that is just 1 metre outside the wayleave edge? (*Mwavitu*)**

**A12:** A structure anywhere outside the 40metres wayleave is very safe for occupation and other uses and tall trees can grow anywhere outside the 40 metres wayleave.

**Q13: What will happen if the construction vehicles were to pass through and possibly destroy crops on the land outside the wayleave area? (*Mwelo*)**

**A13** Any damage of private property outside eased out wayleave by the transmission line contractors will be compensated.

**Minute 07: Closing remarks**

The Chief thanked the community members for sparing their time to attend the meeting. He assured the directly affected persons that they will be consulted sufficiently. He reassured them the survey teams will always be accompanied by the relevant village elders during the field surveys. He asked them to cooperate with the Consultant and give required information honesty.

**Minute 08: AOB**

The chief made announcements about local issues of security, on-going campaigns and the need for all to maintenance of law and order during the campaigns.

**Minute 09: Closing Prayer**

The meeting ended with a word of prayer from one of the participants.

LIST OF PARTICIPANTS AT THE ESIA AND RAP SENSITIZATION MEETING

ESIA AND RAP FOR MARIAKANI-DONGO KUNDU 220Kv TRANSMISSION LINE

Venue of Meeting: MBUNGUNI CHIEFS CAMP GRUMB

Date and Time of Meeting: 13/7/17 10:00 AM. MBUNGUNI LOCATION.

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
1.	Joshua P. Oyiero	Team Leader EIA Study	PANAFCON LTD	j.oyiero@panafcon.net	0733 428 498 0722 213 826	
2.	Ramat Godana	Env Expert	Ketraco	ngodana@ketraco.co.ke	0720537137	
3.	BUDGEE LANGAT	ENGINEER	KETRACO	langat@ketraco.co.ke	0787141255	
4.	Petro A. Mungah	Surveyor	Ketraco	pmungah@ketraco.co.ke	0717222795	
5.	Mahma Mwakisingo	Research Assistant	JICA	cahmamwoli@gmail.com	0712219475	
6.	CYNTHIA AKINYI	ENVIRONMENTALIST	PANAFCON	C.akinyi@panafcon.net	0713842550	
7.	SUABI VIRO	V/ELDER			0799067261	
8.	MWANBORO ALI	NYUMBA KUMI			0717696711	
9.	MWERO SEKEMA	V CHAMANI			0702753227	
10.	MO HAMED CHIMWA	ELDER			0700547146	
11.	ABDULWAH SIDI CHIKWA	V/ELDER			0718233831	
12.	MALACHI MWADZOWA	V/ELDER			-	
13.	KOMBO ABDALLA	V ELDER			0728142407	
14.	SALIMU M BASHI	NYUMBAKUMI			0700453178	
15.	SIDI SALIMU MWA	NYUMBAKUMI			-	Sidi
16.	SUMA ALI	ELDER			0788691379	

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
17.	NDOBO CHAKA NDOBO	V. ELDER			0729604157	
18.	CHOMBO MKUBA	Youth			0726605285	
19.	NYAWA MRINZI	ELDER			—	NYAWA
20.	BENGI KARISA	ELDER			0729443760	
21.	MASEMO TUKU	ELDER			0701379037	
22.	WILSON MANGALE	ELDER			0732856410	
23.	SALIMU RAYONI	YOUTH			0738652459	
24.	Michael K. Gona	Wage 10			0721954017	
25.	AHMADI SUWARI	NYUMBA 10			0711763055	
26.	DAMIEL TSEMWA	Belozzi			0711815312	
27.	CHOYO PEHO	KALUME			0724308248	
28.	JUMA MWARISI	ELDER			—	
29.	ABDHALA KACEBI	NYUMBA 10			—	
30.	MWINGO CHINDORO	ELDER			—	MWINGO
31.	MWAZUMBA	ELDER			—	
32.	MRIPHE MASUBI	Nyumba 10			0711523852	
33.	MOHAMED ABDALLA	NYUMBA 10			0717679980	
34.	MOHAMED ALI	NYAMBA 10			0702044016	
35.	CHUWO KASZUMBA	ELDER			—	
36.	HAMISI JUMA	ELDER 10			—	
37.	CHIMERA MZUNGU	ELDER 10			0716655759	
38.	SULTAMAN SUARI	ELDER			—	SULTAMAN

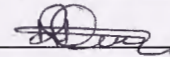
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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
39.	SHOKOA SATI	NYUMBA 10			0732631088	<i>CS</i>
40.	MBANDI MSHONA	YOUTH			0716881004	<i>CS</i>
41.	MRABU CHONDO	NYUMBA 10			0713748944	<i>CS</i>
42.	NDEGWA MANGALE	NYUMBA 10			0713748944	<i>CS</i>
43.	KENGA NGAO	ELDER				<i>CS</i>
44.	SWALEHE H. PHENGO	YOUTH			0729744963	<i>PHENGO</i>
45.	PAMA SALIM	YOUTH				<i>CS</i>
46.	SALIM A. Mwatigu	ELDER			0719546493	<i>Salim A</i>
47.	NDORO NIOGI	ELDER			0710677452	<i>CS</i>
48.	SALIM SWALEHE	ELDER			0790748218	<i>CS</i>
49.	OMARI MIENZI	ELDER				<i>CS</i>
50.	BUNGUU NDARO	ELDER			0795907722	<i>CS</i>
51.	STEPHEN ZUMA M.	ELDER			0738472683	<i>CS</i>
52.	HUSSEN KITUMBO	ELDER				<i>CS</i>
53.	SHABAN J. SIWAR	ELDER			070062498	<i>Shany</i>
54.	ALI GWEDZEHE	RAMADHAN			0926747558	<i>CS</i>
55.	OMARI ABHALA	ELDER				<i>CS</i>
56.	TSUMA LUBANDO	ELDER				<i>CS</i>
57.	TABU KATANA	ELDER				<i>CS</i>
58.	UMAZ NTAMAO	ELDER				<i>CS</i>
59.	BILTAMIS ALI	ELDER				<i>CS</i>
60.	MNYAZI MWACHONDO	ELDER				<i>CS</i>

3

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
61	MWANAJUMA ALI	ELDER			/	
62	MWANASHA MOHAMMED	ELDER			/	
63	CHINYAVU MWANGODYA	ELDER			/	144
64	MEJUMAA MWAPHEDHU	ELDER			/	11.
65	FATUMA HAMISI	YOUTH			07997510870	See
66	MWAKA SULEIMA	ELDER			/	
67	MEJUMAA SUARI	ELDER			/	1521
68	BINTAMISI MWINYI	ELDER			/	0
69	CHIPHENYO NYAWA	ELDER			/	
70	BAHATI KARISA	ELDER			0700552164	6.
71	FATUMA BANDARI	ELDER			/	
72	MWANAFUMU HASSAN	ELDER			/	
73	MWANAKOMBO SAID	ELDER			0799033793	
74	FATUMA DAJABU	ELDER			/	
75	REHEMA RABANI	YOUTH			0791365623	
76	BINTI HASSAN SUCEMAN	YOUTH			0717873611	See.
77	BINTOMAR OMARI	ELDER			/	
78	SAMU SHTANGA	YOUTH			0790506599	S
79	MASIKA MWAVITU	YOUTH			0741438868	MASIKA
80	MEJUMAA KONGO	ELDER			/	AA
81	MWANAJUMA ALI	YOUTH			/	AS
82	FATUMA SAID	YOUTH			/	FA

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
82	MWANAMISI A. MWAMWINGO	ELDER			/	MWA
84	JUMWA KAZUNGU	YOUTH			/	.
85	UCHI SHANGA	YOUTH			0741086803	<del>---</del>
86	MEJUMAA SAI	ELDER.			/	
87	ESTER LOJAS	ELDER			/	\$ESTER
88	UMAZI HAMIS	ELDER			/	
89	Anzazi Chaka	YOUTH			0792081462	<del>---</del>
90	MWARABU ALI	ELDER			/	
91	BINTIHAMISI H. SUWARI	YOUTH			0712901186	B.
92	MARIAMU HUSSEIN	YOUTH			/	
93	MWANAMUUA HAMISI	ELDER			/	M
94	ALIMA KODI	ELDER			/	<del>---</del>
95	KYAMVULA KALESO	YOUTH			0701773390	<del>---</del>
96	MESAI KODI	ELDER			/	<del>---</del>
97	KAVUMBI KARISA	ELDER			/	3.
98	BHATI CHIMORA	ELDER			/	<del>---</del>
99	MARIAM OMARI	YOUTH			/	<del>---</del>
100	ASHA JUMA	ELDER			/	<del>---</del>
101	MBODZE HASSAN	ELDER			0716382213	<del>---</del>
102	JURAHIA SAMUEL	ELDER			0735943700	F.
103	MWANASHA SALIM	ELDER			/	<del>---</del>
104	MWANAMISI HAMISI	ELDER			/	<del>---</del>

5

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
105	KADZICHE MWERO	ELDER			/	
106	MLONGO DZUWA	ELDER			/	
107	REHEMA KHA	ELDER			0718699532	R
108	UMAZI NYUNDO	ELDER				UAK
109	UMAZI CHUATSI	ELDER			0708624545	UAK
110	ASHA KITUMBO	ELDER			/	
111	KANGA NGUMBAN	PARENT			/	
112	BUNT CHAKA	PARENT			/	
113	SAUMU KELLEKULE	PARENT			/	
114	FATUMA SHABAN	PARENT			/	
115	LUVUNO LUQWA	PARENT			/	
116	MESAIID FUMBO	PARENT			/	
117	BINTI MOHAMED OMAI	YOUTH			/	
118	NZINGO NDARU	PARENT			/	
119	NZINGO MDDALI	PARENT			/	
120	MEJUMAA KADUNGE	PARENT			/	
121	MESAIID BETSUMA	PARENT			/	
122	MEAMBE NGUMBAN	PARENT			/	
123	LUVUNO NGUMBAN	PARENT			/	
124	MONICA OMAI	PARENT			/	
125	MISHI NGUMBAN	PARENT			/	
126	UMAZI LUQWA	PARENT			/	

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

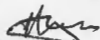


LIST OF PARTICIPANTS AT THE ESIA AND RAP SENSITIZATION MEETING

ESIA AND RAP FOR MARIAKANI-DONGO KUNDU 220Kv TRANSMISSION LINE

Venue of Meeting: \_\_\_\_\_

Date and Time of Meeting: \_\_\_\_\_

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
127	DZINGA CHONDO				0706722611	
128	Said Bakari					
129	MWANAMISANGA				0715568475	
130	HAMISI OMARI M				0795778168	
131	MZIPHE MWANGA					
132	HAMISI KITSAO				0705739967	
133	ARULLA ALI				0705395115	
134	MAREMB KADUNSE				0701444121	
135	MWIKHANGA					
136	Thomas Misona				0702841896	
137	Ali Mwaboma				0711974088	
138	Frediki Mangule				0705251581	
139	Mohammed Mwaboma				0704591878	
140	dola Sarel Vira				0799033068	
141	Ali Mwedosho				0716673030	
142	Fajjo Mwafujo					

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
143	ALI DASHU MWAMBEGA	Nyumbwa Kumi			0716900188	
144	MWANGALE MWAJISA	Nyumbwa Kumi			0710845133	
145	NDEGWA Mwandegwa	Community				
146	CHONCOMBE M.	-	-	-		
147	ARATHA Juma	-	-	-	0790734446	
148	MUBZO MPTANO	Nyumbwa Kumi	-	-		
149	NYOTA MANDARA	-	-	-		
150	ALI M. HAMISI				0705641844	
151	NDEGWA MWAJISA	Nyumbwa Kumi	-	-	0719553759	
152	MWANGORO DZISWA				0718712417	
153	DASHU ALI	-			0738428336	
154	MWATWE MWINGO				0731445805	
155	RAMAHHANI MWAYAMA	Yumba Kumi			07164680812	
156	ARUBALA ASANI					
157	CHIMERA NDAGO				0716056794	
158	SWALEHE HASSAN				0708497092	
159	MURUKU ABALA				0700048483	
160	SAMUEL YANI	PASTOR			0733473202	
161	AITHMAN NAGALALE				0700659284	
162	HASSANI SAMBERE					
163	S.M.R. ZAA				07232627	
164	HAMISI M. DOLA	-	-	-	0726138573	

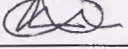
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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
165	ADIJA DOLA	PARENT				
166	BINTANUSI ALI	"				
167	FATUMA DINGO	"				
168	MUSAFA ISUMI	"				
169	MURTU LOGO	"				
170	MORAA KUMWA	"				
171	BINTI SWACHTA	"				
172	LULUND WANGANI	"				
173	ADIJA <del>KOMBE</del> <sup>SWACHTA</sup>	"				
174	JUMWA HAMISI	"				
175	MARIGA CATENGO	"				
176	NIIRA BUNGU	"				
177	MKAMBE NIIRA	"				
178	CATERI OMARI	"				
179	EHDOSHO NGOME	"				
180	HABIBA SIDI	"				
181	KYAMVULA NYALE	"				
182	MBOZE NYALE	"				
183	<del>KATIBIZI</del> <sup>CATIBIZI</sup> BETITO	"				
184	AMUNA MAJIMBA	"				
185	MERAKIAD MWINGO	"				
186	FATUMA SALIM	"				

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
187	TATU NGOME	PARENT			✓	
188	KANQA BESITO	PARENT			—	
189	KOZWE ZUMA	PARENT			—	
190	PAEL MARTIN	PARENT?			0710511638	Reheli
191	BIDALA ALI	PARENT			—	
192	KANGA DZISWA	PARENT				AV
193	MARIAMU TUMA	PARENT			—	
194	NIMAJIA MWAITA	PARENT				
195	NZALAMBI WANGON	"				
196	SHANI ABBIS	"				
197	MOHAMED ALI	"				
198	SULTMAN MUMBO	"				
199	MWANALIMA ZANI	"				
200	ZATUMA TEGE	"				
201	BZAMIE MASUBI	"				
202	MCHEGOWA MANGACE	"				
203	CHIZI MANGALE	"				
204	MAPENZI MWALIMU	"				
205	AMINA HAMISI	"				
206	NZAZE CHRIMANI	"				
207	MUPA NDEGWA	"				
208	ALICHA DENA	"				

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
209	MLOWO GAI SI	PARENT			/	
210	MWANASHI SALIM	NYUMBA IO			0708267521	M.S.J
211	MARIAMU ALI	NYUMBA IO			0731262170	MAZ
212	MWANASHI S. KAJANA	NYUMBA IO			0725362293	MAZ
213	KANINI DANIEL	PARENT			0707398893	KS
214	LUVUNO MUNGA	NYUMBA IO			0701388188	
215	DIZIKI MUKAMUMBA	PARENT			/	
216	MERASHI GAI SI	PARENT			/	
217	MARIAM KATIAMBO	PARENT			/	
218	UMAZI NZIJE	NYUMBA IO PARENT			/	
219	KWELWE KATIAMBO	PARENT			/	
220	METUMA SALIM	PARENT			0	
221	CHIZI SATI	PARENT			0715202869	CHIZI
222	UMAZI CHIMERA	PARENT			/	
223	AMINA AITHUMANI	PARENT			/	
224	MWADARUSI QUMAR	PARENT			0728437506	
225	KAGHI SALIM	PARENT			/	
226	MBEYU MBOGO	PARENT			/	
227	BINI ALI	PARENT			/	
228	KWELWE KOMBO	PARENT			/	MAZ
229	ESHA NDUNG	PARENT			/	
230	AMINA CHAKA	PARENT			/	

(12)

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
231	OMUMMIRATI' AENWAD	Researcher	Panafcon Ltd	omummirati@panafcon.com	0724939877	
232	JUMA S. KARANI	Nyumba Kumi			0729989118	
233	CHRISTOPHER MUDOLIA				0725573636	
234	J. KOMBO NYANI	Nyumba Kumi	Youth group		0711867716	
235	OMARI H. BAMBANTHA	COMMUNITY	-	-	-	
236	JUMA MWINYI	COMMUNITY	-	-	-	
237	MWANJOWO LUBANDO	COMMUNITY				
238	ALI DOLA	COMMUNITY				
239	MSTAMMED MWAMTUNZA					
240	HAMISI HASSOYO					
241	MUHAMMED SULGIMAN	COMMUNITY			0717372288	
242	JUNJA SHAUJI	community	-	-	0727578611	
243	MUSA SAIB MWACHAMOTO	Community	-	-	0716434707	
244	Juma Ali Mbwana	community	-	-	0705273637	
245	MBOYO MWAKUBA MWAMTUNZA	Community	-	-	0707634670	
246	AMANI ABDALLA	COMMUNITY	-	-	0775058171	
247	KAZUNGU RANDU	COMMUNITY	-	-		
248	ABDALLA ALI	COMMUNITY	-	-		
249	MAKARANI JUMU	C.	-	-		
250	SAMUEL KATARA	NYUMBA KUMI	-	-	0717128209	
251	OMADI KUFASA B.	NYUMBA KUMI	-	-	0740557210	
252	MWINYI ALI	-	-	-	07405572.10	

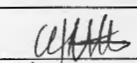
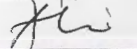
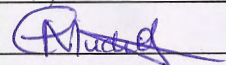
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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
254	MWAMBEGA A.					
255	ZAKARIYA DANDANI					
256	JUMA					
257	SWALEHE Ati maximo	nyumba kumi			0720209930	
258	HASSANI GUNI					
259	JUMA NYAE					
260	WANI MWAIWE					
261	OMADI MWAMABEDU					
262	PAMA RASHID				0714018249	
263	MWARIMU KITIEKE					
264	TSUMA SAID	—			0725744919	
265	RODGERS KOBU				0723534554	
266	SIMON KUBONGA				0725454457	
267	KUPASA MWAIWE				0740623421	
268	PAMA JUMA				0713376424	
269	HAMISI SWALEHE				0796694208	
270	NEGWA MASUDI					
271	NGALA CHANGOMA					
272	MWACHISUHU M.				0715120250	
273	MWBETSA NTAWA				0726615363	
274	CHAMANGA MTSUNGI				0717191852	
275	PAMA SAID				0704718095	

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
276	MOTAMED Musa				0701179652	
277	Mzungu Ju	-			0701625472	
278	Karisa Yaa	-			0716426444	
279	Kithi Yaa	-			0716656216	
280	Kapembe Kazungu	-			0797804641	
281	Hanisi SAIDI				0711240771	
282	Selin Hanisi MUSA					
283	ISUMA DANCA ISUMA					NLUMU
284	MWACHINDLE MWANIKU					MC
285	MAINZI NDANA	--			0723804122	
286	NYANJE KATANA				0704679312	NJY
287	MWASHANCA HASSAN				0704679312	
288	KAMWANA KARISA				0729657153	
289	NYAE NGAO				0714034708	
290	NDEGE KABWERE					
291	Mangisi Masudi					
292	GUDOLA NDEGWA					
293	ZAKARIA SUNDA					
294	MWANBIYA NYAMWI					
295	CHANINSAI NDESWA					
296	RAI Chetka				079772728	
297	MUSA MASUMBUKA				0705207913	



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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
298	Ali Samzuka				0723036346	
299	Mohamed Ali				0710540389	
300	Mwanungu nguti				0705286610	
301	Murilo Chifwotata				0792278531	
302	Ali Tsung				-	
303	Ali Bakani				-	
304	Mkusi Chembe				-	
305	Said Kufunda				0714818114	
306	Ali Kamadhani				0715332310	
307	Ngwa Bongo					
308	Mohamed Mwangi				0724258225	
309	Juma Ali				0716442098	
310	Irene Muchoki	RAP Team Leader	Panafcon Ltd	i.munene@panafcon.net	0724163255	
30.						
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**3. Ng'ombeni Location Sensitisation Meeting at Kiteje Assistant Chief's Office Ground**

**Minutes**

**Attendance Register**

**MINUTES OF THE SENSITIZATION MEETING FOR THE RAP AND ESIA STUDY FOR THE POWER SUPPLY COMPONENT OF THE MOMBASA SEZ DEVELOPMENT PROJECT HELD AT KITEJE ASSISTANT CHIEF'S OFFICE GROUNDS, NG'OMBENI LOCATION ON THURSDAY, 13 JULY 2017 STARTING AT 2:00PM.**

**ATTENDANCE LIST:**

No.	Name	No.	Name	No.	Name
1	Joshua P. Oyieko	35	Mariam Mwinyi	69	Sophia Manem
2	Athman Jiti	36	Mwanaisha Musa	70	Fatuma
3	Ramat Godana	37	Mwanamisi Rama	71	Marcili
4	Petro A. Munyalo	38	Fatuma Mwabungale	72	Mwanahewa Ali
5	Budgerree Langat	39	Suleiman Abdulla	73	Alima
6	Rahma Mwakisingo	40	Kashi Mohammed	74	Nasomo Biti
7	Irene Muchoki	41	Mwanamisi Kenyanga	75	Bintiali Juma
8	Cynthia Akinyi	42	Fatuma Ali Mgumi	76	Mwanaisha Rashid
9	Mbwana Hamisi	43	Mejuma Athumannsiasha	77	Asha Rashid
10	Swalehe Hassani	44	Mgeni Sheria	78	Mwanabasi Hamisi
11	Juma Hassani	45	Asha Abdallah	79	Mwanaisha Juma
12	Mwanajuma Ali	46	Mwanamisi Rashid Misaono	80	Rama Mwaum
13	Suleman Sitaufika	47	Mwanajuma Juma	81	Mwamauumau Mwalimu
14	Juma Suleman	48	Fosi Kassimu	82	Mariam Salim
15	Ndaro Mwandruo	49	Mariam Mwalimu	83	Asha Abdallah
16	Mwinyi Hassan	50	Hasha Amisi	84	Mejuma Mwajibu
17	Juma Mwalimu	51	Sunnah Shibu Suleiman	85	Mbonze Mwambo
18	Ali	52	Salama M. Suleiman	86	Mgalli Mwasimabo
19	Rashid M.Mwanjana	53	Mwanauba Mwinyi	87	Meali Mwalimu
20	Mwana H. Dzungu	54	Muinafuraha Mwangao	88	Binti Mwamadi
21	Hamisi Hassan	55	Nindaru Athman	89	Mwanalima Abdallah
22	Ali Mwinyi	56	Mimisi Mwamalumbo	90	Sikuruu Ali
23	Juma S	57	Mwanajuma Mwinyikombo	91	Omummitah Agwaro
24	Sefu	58	Mwanahisa Chiguru	92	Fatuma Kassim
25	Khamisi	59	Bijuma Selaman	93	Fatuma M. Mwabanda
26	Juma M. Chaki	60	Riziki Ali	94	Fatuma Abdallah
27	Ali H. Mwachalume	61	Mwanahawa Selaman	95	Fatuma Rama
28	Juma Said Nzau	62	Mwanakombo Mwedombo	96	Hamisi M. Chii
29	Juma Muhamed	63	Mwanaisha Swalei Mwande	97	Fatuma Suleiman
30	Abdalla Masadi	64	Fatuma Ali Chiriku	98	Fatuma Ali
31	Alifan Omari	65	Sade Idd Mwatunza	99	Mzuri Hamisi
32	Alifan Ali	66	Asha Keya Bweko	100	Juma M. Masha
33	Mohammed Juma	67	Mboni Shee	101	Mohamed J. Masha
34	Fatuma Ali	68	Mejumaa Abdallah	102	Matano Hamisi

**PANAFCON Ltd.**

<b>No.</b>	<b>Name</b>	<b>No.</b>	<b>Name</b>	<b>No.</b>	<b>Name</b>
103	Mariam Hamisi	145	Fatuma Ali	187	Rasid Bakari
104	Mwanamisi Abdalla	146	Halima Suleman	188	Ramathan Said
105	Umi Ali	147	Mesaid Juma	189	Hadija Juma
106	Amina Mwalimu	148	Mwana juma	190	Fatuma Rashid
107	Mwajuma Mohamed	149	Mealii Mwidau	191	Bakari Kazubure
108	Mejuma Mohamed	150	Fatuma Mwakutunga	192	Fatuma Dengo
109	Amina Omari	151	Tima Mohammed	193	Asha Ali
110	Mwanash Shee	152	Mwanajuma Kadume	194	Sofia Ali
111	Zuura Kazungu	153	Mwanajuma Salim	195	Mesweleh Said
112	Mariam Sabina	154	Zaituni o.Mlala	196	Mwanasha Dengo
113	Mapenzi Ali	155	Bintali Mwinyi Hamisi	197	Mwanarusi Nyaika
114	Mwanalima Juma	156	Baby Suleiman	198	Mebari Mwinyi
115	Meswaleh Furuzi	157	Mwanahamisi Juma	199	Dakina Salim
116	Wanjala M. Mara	158	Meali Rama	200	Mesaid Mwahui
117	Rengine Hamisi	159	Faiza Riziki Swaleh	201	Mwakombo Ali
118	Binti Rashid	160	Mwanamwinyi Mohommed	202	Asha Juma
119	Sali Ali	161	Fatuma S. Mwandilo	203	Bernard Said
120	Bent Mohammed Idd	162	Fatuma Jumaa	204	Jackson Nzomo
121	Hiari Abdullah	163	John Mwalwa	205	Mishi Bweta
122	Mwanaisha Omari	164	Simeon Mwalla	206	Dancan Ali
123	Mwanaid Ali	165	Brighton Lombo	207	Mwanaish Ali
124	Mire Hussein	166	Mudhiani kitili	208	Abdalla Hamisi Futi
125	Nsamba Baya	167	Hamisi Mwalimu	209	Saumu Ali
126	Mwanauba Omari	168	Kache Kalisa	210	Mwanajuma Juma
127	Mejumaa Juma	169	Dama Kinyama	211	Binti Hamisi Mwinyi
128	Miseleman L. Patani	170	Luvimo Dzomo	212	Mwanasha Said
129	Mwanajuma Hamisi	171	Anzazi Muti	213	M. Riziki Said
130	Mwanajuma Ganzala	172	John Mwachira	214	Mejuma Mdeka
131	Mariam Mwinyi	173	Kwekwe Tsuma	215	Mwanasiti Ngoro
132	Mwanaisha Ganzela	174	Dama Mwachiro	216	Fatuma Ali Kweli
133	Marlii Hassan	175	Mjemi Mwachiro	217	Mwanasha H. Mpeka
134	Mariam Rajabu	176	Chari Bongo	218	Rehema Francis
135	Zawadi Mwinyi	177	Mupa Mwachiro	219	Fatuma Said
136	Mwanakombo Ali	178	Elizabeth Umazi	220	Fatuma Rashid
137	Mwanakombo Hassan	179	Dama Dalu	221	Mwanarusi Hamadi
138	Mejuma Juma	180	Kanza Kalumu	222	Mealii Nasoro
139	Bint Bakari	181	Amos Chiro	223	Fatuma Sumuni
140	Mwanaisha Rashid	182	Dama Mwadal	224	Mesalimu Mgandi
141	Umanzi Mudalu	183	Kupha Safari	225	Rehema Mwanza
142	Karani Ngoro	184	Njomo Kalako	226	Saula Ali
143	Rehema Karisa	185	Mishi Bwaeta	227	Suleiman Juma
144	Ruki Kinyama	186	Mealii Rashid	228	Saidi Mwenje

No.	Name	No.	Name	No.	Name
229	Asha Alfani	232	Fatuma Rama	235	Asha Mwajuma
230	Agienes Benja	233	Mwanasiti Hamisi	236	Saumu Sauma
231	Mwanakombo Hamisi	234	Asha Abdallah		

### AGENDA OF THE MEETING

1. A word of prayer by one of the participants.
2. Introduction of the participants (Chief/KETRACO/JICA/Panafcon).
3. Purpose of conducting the Sensitisation Meeting with the Project Area Community (KETRACO).
4. Project brief on the components of the proposed 220kV Transmission Line from Mariakani-Dongo Kundu and a Substation (KETRACO/JICA)
5. Implementation Plan for the ESIA and RAP Studies of the proposed 220kV Transmission Line from Mariakani-Dongo Kundu and a Substation (Panafcon).
6. Views of the Participants on the Project - Comments, Question and Answer - Open Session (Chief/KETRACO/JICA/Panafcon).
7. Closing Remarks by (KETRACO/Chief).
8. A.O.B.
9. Closing Prayer.

#### Minute 01:

The meeting was called to order at 2pm and began with a word of prayer from one of the participants.

#### Minute 02: Introduction of the Participants.

The area chief welcomed everyone in attendance to the meeting. He acknowledged and thanked them for finding time to attend the meeting. He introduced the area Assistant Chief and Village Elders from various villages in the project area. He specifically welcomed the team of experts from JICA, KETRACO and Panafcon. He explained the purpose of the meeting and encouraged the stakeholders and the community members present to actively engage in the discussions about the proposed project.

Mr. Godana welcomed all the participants and introduced the KETRACO Team and Ms Mwakisingo from JICA who were present at the meeting. He explained the role of KETRACO, JICA and Panafcon in these two projects. Mr. Oyieko introduced the Consultant Team Members from Panafcon who are involved in the RAP and ESIA Studies and were in attendance at the meeting.

#### Minute 03: Purpose of conducting the Sensitisation meeting.

Mr. Oyieko gave a brief introduction of the project, a general history of the project, its design changes and hence the purpose of conducting a new RAP Study. He explained the importance of the project citing the positive impacts of the project, the negative impacts and the mitigation measures to reduce the negative impacts. He stated the legal requirement for public participation and consultation in any project or/and matter that affects them in any way. The right of the affected community to receive correct and timely information and engage with the project implementers is the main purpose of the Sensitisation meeting.

PAPs who have constructed their structures or have planted crops and trees on land that does not belong to them (squatters) will relocate elsewhere outside the wayleave corridor after compensation for these development is paid to them. The compensation money for the land will be paid to the registered/ legal land owner(s). Compensation for the losses will be at prevailing market value and at the replacement cost for land and structures respectively. Trees will be compensated for after they are felled according to the rates of various tree types, sizes, age and value as provided by Kenya Forest Service while crops will be compensated as per the guidelines provided by the Ministry of Agriculture if/after they are destroyed during the line construction. PAPs were again encouraged and reminded to avoid encroachment and further development on the wayleave corridor as they had been informed in the previous RAP study. Any further developments will not be compensated for by the KETRACO and the concern person(s) will remove these structures from the corridor at their own expense.

**Minute 04: Project brief on the components of the proposed Power Supply Components of the Mombasa SEZ Development Project**

The 220 kV transmission line will extend over a distance of approximately 53 km from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County. The following are the main components of the Project:

- Development of 220 kV transmission line with 40m wayleave from Mariakani 400/220 kV substation to Mombasa SEZ. The Mariakani 400/220 kV substation is however not included in this Project scope
- Development of 220/33 kV substation inside Mombasa SEZ
- Access road from Southern Bypass road to 220/33 kV substation. The approximate length the road is 700 m and Right of Way is 13.5 m.
- Development of 33 kV distribution line inside Mombasa SEZ from 220/33 kV substation

**Minute 05: Implementation Plan for the ESIA and RAP Studies of the Proposed Power Supply Components of the Mombasa SEZ Development Project**

The ESIA and RAP Studies of the proposed power transmission project involves sensitizing the project area community members who will be directly or indirectly affected by the project, carrying out 100% census and asset inventory surveys. The surveys will be along the 40 metre wide and 53km long corridor of the 220 kV transmission line, they will be carried out at the substation site area and along the 10 metre wide and 3km long corridor where the 33 kV distribution line and the access road from 220/33 kV substation will traverse inside the Mombasa SEZ. Directly affected PAPs will be consulted further in smaller and personalized PAP meetings after the completion of the census and asset inventory surveys, data analysis and data compilation. They will be informed of the various categories of affected assets and their entitlement for each category and projected timeframe.

Focus Group Discussions will be held with women during these PAP meetings where they can free air their view without the cultural limitation apparent in most the project area. This limitation is in that traditionally, women are not supposed to talk or express themselves before their men/ husbands. Ng'ombeni location is mainly dominated by the traditional Duruma and Digo Communities.

There will be the second round of Public Consultation Meetings in the entire project area where the Consultant will disclose/present ESIA Study findings (Positive and Negative Impacts and proposed mitigation measures for the negative impacts and Environmental and Social Management Plan) to the communitality and receive their feedback

**Minute 06: Views and Questions on the Proposed Power Supply Components of the Mombasa SEZ Development Project from the participants of the Sensitisation meeting with responses and clarifications given by KETRACO, Panafcon and JICA.**

**Q1: About 50% of land in the whole location has no title deed; what will happen in this case? (Suleiman Magomba).**

**A1:** The PAPs without title deeds for the land they occupy will be individually consulted at a later date but this process can and has been slow from KETRACO's similar experience elsewhere

**Q2: The cost rates of crops and trees at the Ministry of Agriculture and Kenya Forest Service are aged since they were established in the 60's and hence may disadvantage the PAPs if used to compensate them for destroyed crops and trees respectively. (Suleiman Magomba)**

**A2:** The rates to be used in compensating the PAPs will be the 2017 rates which are updated i.e. the compensation rates will be at the current/ prevailing market rates for lost assets. Compensation must be based on the full replacement cost as much as possible

**Q3: The survey team need to inform the village elders in a timely manners on the exact time period they will be carrying census surveys in the area so that they can mobilize the local community to wait for the survey team. They should not be ambushed (Ramadhan Mwalimu)**

**A3:** The village elders will be informed ahead of time before the survey team enters a particular village; there will be a seamless connection of one village elder with the next from the start to the end of the affected areas.

**Q4: Most of the trees in the project area are indigenous trees which are have medicinal value yet the project/ KFS may be paying for planted exotic trees. How will KETRACO establish/ know the value of these indigenous trees? (Ramadhan Mwalimu)**

**A4:** Project team get the value of all trees (both indigenous and exotic) from the Kenya Forest Service. There is no tree which grows on Kenyan soil that is not known and valued by KFS. Similarly all crops grown in Kenya have values established by Ministry of Agriculture. Grass is not compensated for.

**Q5: As per the previous surveys and beacons put up on the ground to mark the wayleave, most affected people are squatters on the land they have settled on. They have however planted crops on this land. Has the route of the line changed or it will still pass these areas. Has there been changes in the previous register of PAPs? (Mwanahamisi Nguzo)**

**A5:** PAPs who have constructed their structures or have planted crops and trees on land that does not belong to them (squatters) will relocate elsewhere outside the wayleave corridor after compensation for these development is paid to them. The compensation money for the land will be paid to the registered/ legal land owner(s). Compensation for the losses will be at prevailing market value and at the replacement cost for land and structures respectively.

Trees will be compensated for after they are felled according to the rates provided by Kenya Forest Service while crops will be compensated as per the guidelines provided by the Ministry of Agriculture if/after they are destroyed during the line construction.

So far there are no changes on the PAP list done in the previous surveys. The previously surveyed route may change or may have remain unchanged and that is why the current census and asset inventory surveys are been done to established exactly which people are now affected and what of their assets will be affected by the current design.

**Q6: The directly affected people (PAPs) need to be congregated at the chief's camp and engaged in further discussion and consultations on their compensation rates, entitlements and packages? (Mwanahamisi Nguzo)**

**A6:** Directly affected PAPs will be consulted further in smaller and personalized PAP meetings after the completion of the census and asset inventory surveys, data analysis and data compilation. They will be informed of the various categories of affected assets and their entitlement for each category and projected timeframe. Focus Group Discussions will be held with women during these PAP meetings where they can free air their view without the cultural limitation apparent in most the project area.

Valuation of affected assets will be done by a qualified and licensed valuer. The disclosure of individual compensation packages will be made to the individual persons or households and not to 3<sup>rd</sup> parties such as the chiefs who are not entitled to know how much individual PAPs gets unless the PAPs chose to disclose their compensation packages to 3<sup>rd</sup> parties.

**Q7: Could the project employ local youths in each location/ sub-location and village where the line passes? (Suleiman Saitoti)**

**A7:** The project is expected to create employment opportunities for members of the local communities during construction specifically in areas where the transmission line is expected to pass. Besides the direct employment by the project, other forms of employment are likely to result from the spill-off effects including establishment of local markets for providing goods and services during construction. KETRACO policy requires the contractor to employ youths from the particular location where they are working for the unskilled works. The chiefs and their assistants will need to bear this in mind and ensure it is enforced during the construction phase of the project.

#### **Minute 07: Closing remarks**

KETRACO facilitates the construction of houses for the vulnerable groups of people who may be physically displaced from the project corridor.

Compensation money paid for affected family assets must be ploughed back into the family and not misappropriated by segments of the household. This is followed up by KETRACO to ensure the money benefits the family.

The Chief thanked the community members for sparing their time to attend the meeting. He assured the directly affected persons that they will be consulted sufficiently. He reassured them the survey teams will always be accompanied by the relevant village elders during the field surveys. He asked them to cooperate with the Consultant and give required information honesty.



**Minute 08: AOB**

The chief made announcements about local issues of security, upcoming meetings, on-going campaigns and the need for all to maintenance of law and order.

**Minute 09: Closing Prayer**

The meeting ended with a word of prayer from one of the participants

LIST OF PARTICIPANTS AT THE ESIA AND RAP SENSITIZATION MEETING

ESIA AND RAP FOR MARIAKANI-DONGO KUNDU 220Kv TRANSMISSION LINE

Venue of Meeting: 13/7/2017 2:00 PM.









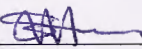
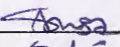
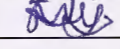

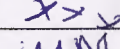
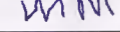
Date and Time of Meeting: KITALE ASS CHIEF'S OFFICE HGOMBINI LOCATION:

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1.	Joshua P. Oyiako	ESIA Study Team Leader	Panafcon Ltd	j.oyiako@panafcon.net	0722213826 0733428498	
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10.	SWALEHE HASSANI	Vigilante	-	-	0719896201	
11.	Juma Hassan	"	"	-	0798510828	
12.	RAMA MWAALIM MWAALIM	Receded	"	"	0701552845	
13.	SULEMAN SITAUFIKI	Receded	"	"	0736549992	
14.	JUMA SULEIMAN	V. Address	"	"	0704085539	
15.	NDARO MWANDRUP	"	"	"	0702464117	
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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
17.	JUMA MWAHIMO	-	-	-	-	
18.	Ali	-	-	-	-	
19.	RASHID M. MWAHIMU	"	"	"	"	
20.	MWAWANDA H. B...				0722954111	
21.	HAMISI HASSON	-	-	-	0701340634	
22.	ALI MUYIJI	-	-	-	0774216185	
23.	JUMA S	-	-	-	0726950874	
24.	SEFU					
25.	KHAMSI KHAMSI				0739595678	
26.	JUMA M. CHAKI	PEASANT	N/A	<sup>N/A</sup> 2710236873	0710236873	
27.	AZI H. MWACHALOME	"	"	"	0711764577	
28.	JUMA SAIDI NZAU	"	"	"	0796269694	
29.	JUMA MOHAMMED	MW. JUMA			0733407563	
30.	Abdella Masudi	MWACHAKA			0719823376	
31.	ALIIFAN OMARI	MWAPACHAKA			0204010249	
32.	ALIIFAN ALI	MWAPACHAKA				
33.	Miriam Juma	Driver	Agri Khan Hosp		07062418661	
34.	Fatuma Ali	Juma			0737897248	
35.	Mariam Hamisi	Chuye			0731837212	
36.	MWANAMISI ABDALLA	MKULIMA	N/A	N/A	N/A	MWANAMISI
37.	HMI ALI	MWACHAKA			0711815375	HMI
38.	AMINA MWAHIMO					

(2)

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39.	MARIAM MWINYI					
40.	MWANAISHA MUSA					
41.	MWANAMISI RAMA					
42.	FATUMA MUKABUNGALE				0717263186	
43.	SULEMAN ABDULLA				0718147908	
44.	KASHI MOHAMED				0718147908	
45.	MWANAMISI MOH'D KINYANGA					
46.	FATUMA ALI MUMI					
47.	ASHA RASHID				0737831039	
48.	mgemil Sheria				0706841327	
49.	ASHA Abdallah				0714446530	
50.	MWANAJUMA ALI					
51.	MWANAJUMA JUMA					
52.	FOSI KASSIMU					
53.	MARIAM MWALIMU					
54.	HASHA AMISI					
55.	SUNNAH SHIBU SULEIMAN				0790714421	
56.	SALAMA M. SULEIMAN C-H-V		KITEJE DISPENSARY		0716922182	
57.	MWANAUBA MWINYI C-H-V		KITEJE DISPENSARY		0705090284	
58.	MWANAFURAH MWANAFRAO C-H-V		KITEJE DISPENSARY		070382647	
59.	NINDARU ASUMAN				0700221621	
60.	MUMISI MWAMALUMBO					

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62	MWANAHISA	CHIGURO				
63	BIJUMA	Selaman			0704532050	BIS
64	RIZIKI	ALI				RIA
65	Mhlanakhalu	Selaman				MWA
66	Mwanga Kombo Mwanga Kombo	Mwendeng'o			0727067239	
67	Mwanga She	Sweet Mwendeng'o			0700484998	MS
68	FATUMA ALI CHIRAKI				078643197A	
69	SADIE IDO MWATU AZA				0786670871 <del>078643197A</del>	
70	ASHA KEYA	BWEKO				AK
71	MBONI	SHEE				
72	MEJUMAA	AB DALAH				IVH
73	FATUMA	ALI				
74	HALIMA	SULEMAN				
75	MESAIID	JUMAA				
76	MWANAJUMA	TAUFICI				
77	Sophora Mwanem					
78	Feling					
79	Mariuli					
80	Mwamehemwa Ali					
81	Alima					
82	Mg Soro Binti					

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
83	BINTALI JUMA				0700988782	B.J.
84	MWANAISHA RASHID				0700350803	<del>RA</del>
85	MEJUMA ATHUMAN NSIAMA	CHW				
86	MWANAMBASI HAMISI					<del>MA</del>
87	MWANAISHA JUMA					
88	MWANAMISI RASHID TSUMBA					<del>RA</del>
89	MWANAHUMALI Mwalimu					
90	MARIAM SALIM				0737729036	<del>ASMA</del>
91	ASTA ABDALLAH					
92	MEJUMA MWIJABU					
93	MBOZGE MWLAMA					
94	MALII MWASIMAMA					
95	MALII MWALIMU					
96	BINTI MWAMADI					
97	MWANALUMA ABDALLAH					<del>AA</del>
98	SUKUVU ALI					<del>AA</del>
99	MWANAJUMA Mwinnyikombi					<del>AA</del>
100	FATUMA KASIM					<del>AA</del>
101	FATUMA M. MABANDA				073684391	<del>FA</del>
102	FATUMA ABDALLA					<del>FA</del>
103	FATUMA RAMA					<del>FA</del>
104	HAMISI M. CHII				0703271408	H.M.C

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
105	FATIUMA SULEIMAN				0789793433	F.S
106	FATIUMA ALI				<del>0784</del>	F.A
107	MIZURI HAMISI				0787751103	<del>HA</del>
108	JUMA M. MASHA				0712488988	<del>MA</del>
109	MOHAMED J. MASHA				0741581192	<del>MA</del>
110	MARIANO HAMISI				0723049299	<del>MB</del>
111	RASHID BAKARI				0722618563	R.S
112	RAMADHANI SAID				0798330698	<del>HA</del>
113	HADIJA JUMA				0789574061	<del>HA</del>
114	FATIUMA RASHID					<del>HA</del>
115	MWANAJUMA MOHAMED					M.M.
116	MESJUMA MOHAMED					<del>HA</del>
117	AMINA DMARI				0796391602	A.O
118	MWANASH SHAE					<del>HA</del>
119	ZUORA KARUNGU					Z.K
120	MARIAMU SABANI					M.F
121	MADENZI ALI					<del>HA</del>
122	MWANALIMA JUMA					<del>HA</del>
123	MESWALEH FURUNZI					M.F
124	WABALA M. MARTA				0799033396	<del>HA</del>
125	PENGIWE HAMISI					P.H
126	BINI RASHID				0712888077	<del>HA</del>

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127	SALIM ALI	V/ELDER			0725067118	<del>SA</del>
128	BINE MUKOMBI LOD				0729026269	<del>BL</del>
129	HIARI ABDULLAH	ABDULLAH			0700513382	HI
130	MWANASHA OMARI				0704045605	<del>MO</del>
131	MWANAIID ALI				-	MIZE
132	MORE HUSSEIN				-	NR
133	NSUMBA BAYA				-	M.O
134	MWANASHA OMARI				0726598256	<del>MO</del>
135	MEJUMAA JUMA				-	<del>ME</del>
136	MISELEMANI, K. PATANI				-	<del>MI</del>
137	MWANAJUMA HAMISI				-	<del>MJ</del>
138	MWANAJUMA GANZALA				-	<del>MJ</del>
139	MARIAMU MWINYI				-	<del>MA</del>
140	MWANASHA GANZALA				0728574953	MA
141	MERLII HASSANI				-	MHC
142	MARIAMU RAJASU				-	NR
143	ZAWADI MWINYI				0726303127	ZM
144	MWANAKOMBO ALI				0714951422	MA
145	MWANAKOMBO HASSEN				-	MHC
146	MEJUMAA JUMA				-	<del>ME</del>
147	BARIT BAKARI				-	BBakari
148	MWANASHA RASHID				0714929046	MA

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
149	Umari Mudele				-	
150	Kerani Ndoro				-	
151	Rehema Karisa					
152	Ruki Rinyama					
153	ASHA ALPAN				-	AALPan
154	AGNES BEJA				-	AB.
155	MWANAKOMBO HAKISI				0718291150	MH
156	Fatuma Rama				0717527164	<del>FR</del>
157	Meali MWIDALI					
158	Fatuma Mwakubanga				0707444862	<del>FM</del>
159	Tima Mohomodi					
160	MWANAJUMA <sup>KADUME</sup> JUMA				07092	
161	MWANAJUMA SALIM				0705396388	Salim
162	ZAITUNI O. MLOLE				0700321863	Zola.
163	Bintali Mwingihamisi				0732553368	BMT
164	BABY SULEIMAN				0737692274	B
165	Mwanamisi Juma				-	
166	Meali RAMA				-	
167	FAIZA RIZIKI SWALEH				0739254451	<del>FR</del>
168	MWANAMWINGI MOHAMMED				-	
169	FATUMAS. MWANBULO				0727394866	<del>FR</del>
170	FATUMA JUMAA				0727432898	F.A.

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
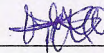

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172	SIMEON MUKWA			-	022 597 246	S
173	BRIGITTON LOMBO			-	0716 351685	Bando
174	Mudhami Kitili			-	0715 94 6636	Mu
175	Hannisi Mwalima			-	0720 661 076	Hannisi
176	Kache Karisa			-		K
177	Dama Kingana			-		D
178	Luvuno Dzombo			-		
179	Anzazi Muti			-		
180	John Mwachira			-	070 808 3702	J
181	Kweke Temu					K
182	Dama Mwachira			-	070 854 7027	
183	Mjeni Mwachira				070 842 4624	
184	Chari Bongo				0795 974431	
185	Mupa Mwachira					
186	Chirabeta Umazi				0727 371216	
187	Dama Dalu					
188	Kanze Kalumu					
189	Amos Chiro					
190	Dama Mwandalu					
191	Kupha Safari				0729 162 338	
192	Njomo Kalako					

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
193	MISHA BWETA					<i>MB</i>
194	MEALI RASHID				0700835068	<i>ME</i>
195	MWANABISI HAMISI				0795623415	<i>M.H</i>
196	ASHA ABDALLAH				0719359197	<i>AA.</i>
197	ASHA MWIJUMA					<i>AM</i>
198	SALUMU SALUMU					<i>SS</i>
199	BAKARI KAZIBURE				0712870441	<i>B.K</i>
200	FATUMA DENGIO				0724962777	<i>F.D</i>
201	ASHA ALI				0721100053	<i>A.A</i>
202	SOFIA ALI				0716236351	<i>S.A</i>
203	MESWALEH SAID				0715783086	<i>MS</i>
204	MWANASHA DENDE					<i>M.D</i>
205	MWANALISI NYALA					<i>M.A</i>
206	MERAKARI MWINYI				0	<i>M.M</i>
207	SACINA SALUM				.	
208	MESAIID MWALU				0723663891	
209	Mwakombu Ali				—	<i>mu</i>
210	Asha Juma				—	<i>ASHA</i>
211	Bernard Sain				—	<i>PHOTO</i>
212	Jackson Nzomo				—	<i>JA</i>
213	Mishi Bweta				—	
214	Dancan Ali				—	

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
215	Mwanasha Ali				0790186697	
216	Abdalla Hamisi faki					
217	Binti Hamisi mwingi					
218	Faumu Ali					
219	Mwanayuma Juma					
220	Mwanasha Said					
221	M Riziki Hassan					
222	MEJUMAB MIDEKA				0792083294	
223	MWANANASITI NDORO					
224	FATUMA ALI KWELI					
225	MWANANASHA H. MDEKA				0797574249	
226	REHEMA FRANCIS					
227	FATUMA SAID					
228	FATUMA RASHID					
229	MWANANARUSI HAMAM				0707896990	
230	MEALI NASORO					
231	FATUMA SUMUNI					
232	MESALIMU MGANDI					
233	Rehema Mwanza					
234	Saula Ali					
235	Sulema Juma					
236	Sauli Mueage					

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**4. Kasemeni Location Sensitisation Meeting at Mnyenzi Assistant Chie's Office Ground**

**Minutes**

**Attendance Register**

**MINUTES OF THE SENSITISATION MEETING FOR RAP & ESIA STUDY FOR THE POWER SUPPLY COMPONENT OF THE MOMBASA SEZ PROJECT HELD AT MNYENZENI ASSISTANT CHIEF'S OFFICE GROUNDS, KASEMENI LOCATION ON FRIDAY, 14 JULY 2017 AT 10:00AM.**

**ATTENDANCE LIST:**

No.	Name	No.	Name	No.	Name
1	Joshua P. Oyieko	38	Ruwa Nyanje	75	Nyondo Nyamari
2	Ramat Godana	39	Changoti Beziro	76	Matari N. Mtuku
3	Cyrus Mbisi	40	Mwatsuma Mwangolo	77	Ndegwa Omari
4	Rahma Mwakisingo	41	Ndegwa Madeni	78	Rashid Ngoro Rai
5	Cynthia Akinyi	42	Madeni Beziro	79	Diyo Jabu
6	Omummitah Agwaro	43	Nzunga Nyale	80	Umazi Chiboko
7	Ali Chiphoro Gwede	44	Shabani Omari	81	Chimene Mambo
8	Ruwa Tsuma	45	Zuma Ng'ome	82	Mwanyuni Tsuchizi
9	Gwede Tsuma	46	Mwangala Mwachupa	83	Baya Dzuni
10	Kombo Nyanje	47	Mwero	84	Dzombo Nyamawi
11	Makanzu Rashid	48	Dzuha Chiro	85	Fatuma M. Magongo
12	Mwagwanzu Mtsoma	49	Tsuma Zuma	86	Johnson Chilache
13	Vyani Zuma	50	Deyo Chungwa	87	Mrabu Nyamawi
14	Hamisi Makanzu	51	Mangale Chimera	88	Chaka Tsuma
15	Juma Nyenje Mdoe	52	Mangale Njema	89	Maauya Mangale
16	Ngoro Tsimba Ngoro	53	Macdonald Tsuma Nyenge	90	Beuchi Kwaka
17	Ruwa Mangale	54	Nyanje Damaris	91	Mwero Zuma
18	Simba Ngoro	55	Madeni Njeka	92	Chindoro Chonga
19	Saidi Ngoro	56	Jira Hamisi Jira	93	Kanze Jerumani
20	Tsuma Zuma	57	Hamisi Jira	94	Chimene Kwaka
21	Nyanje Zuma	58	Zuma Hamisi	95	Tsuma Matanga
22	Chari Ndegwa	59	Tungwa Mdoe	96	Mangale Madeni
23	Mjeni Mwakoga	60	Sombo Jabu	97	Matanga Konga
24	Mbonze Ndumo	61	Omari Mwadzikowa	98	Joho Ngoloko
25	Emily Mwangale	62	Mrisa Nyae	99	Chiro Nyamawi
26	Mwaka Chula	63	Ngombeko Mrisa	100	Kayanda Chirunga
27	Mlongo Kombo	64	Mangale Gwede	101	Mwaruwa Nyamawi
28	Uchi Beziro	65	Nyondo Simba	102	Bimba Kazungu
29	Tabu Gunda	66	Philip M. Chaka	103	Asha Mwachondo
30	Phenny C. Kuwa	67	Ngao Ngoro Rai	104	Mgaza Pili
31	Umazi Bega	68	Luvuno Vyani	105	Joackim Nyae Shehi
32	Kwekwe Ndegwa	69	Mwari Wanje	106	Mwaka Chiwaya
33	Umazi Mwayawa	70	Mashudi Mangale	107	Rehema Chakaya
34	Ngolokolo Ali Madeni	71	Mwatai Ngauri	108	Mwanapili Mwangale
35	Mwamuro B. Katana	72	Rashid Makanzu Hamisi	109	Nyamawi Diyo
36	Mohammed M. Hamisi	73	Ngala Mongo	110	Nyamawi Ndurya
37	Mwaruwa Makanzu	74	Kombo Mangale	111	Jira Kwaka Konga

No.	Name	No.	Name	No.	Name
112	Damau Nyanje	117	Yonga Mangale	122	Kwekwe Rai
113	Mwero Mwaruwa	118	Ngala W. Kitangalia	123	Tsuma Mrisa
114	Kwekwe Mingi	119	Benson K. Kokoi	124	Chizi Mangale
115	Mbenza Nyawa	120	Juma Kombo Done	125	Irene Muchoki
116	Nzara Nyawa	121	Omari Haranga		

## **AGENDA OF THE MEETING**

1. A word of prayer by one of the participants.
2. Introduction of the participants (Chief/KETRACO/JICA/Panafcon).
3. Purpose of conducting the Sensitisation Meeting with the Project Area Community (KETRACO).
4. Project brief on the components of the proposed 220kV Transmission Line from Mariakani-Dongo Kundu and a Substation (KETRACO/JICA)
5. Implementation Plan for the ESIA and RAP Studies of the proposed 220kV Transmission Line from Mariakani-Dongo Kundu and a Substation (Panafcon).
6. Views of the Participants on the Project - Comments, Question and Answer - Open Session (Chief/KETRACO/JICA/Panafcon).
7. Closing Remarks by (KETRACO/Chief).
8. A.O.B.
9. Closing Prayer.

### **Minute 01:**

The meeting was called to order at 11am and began with a word of prayer from one of the participants.

### **Minute 02: Introduction of the Participants.**

The area chief welcomed everyone in attendance to the meeting. He acknowledged and thanked them for finding time to attend the meeting. He introduced the area Assistant Chief, Village Elders from various villages in the project area and the representatives of the Kwale County Government. He specifically welcomed the team of experts from JICA, KETRACO and Panafcon.

He explained the purpose of the meeting and encouraged the stakeholders and the community members present to actively engage in the discussions about the proposed project.

Mr. Godana welcomed all the participants and introduced the KETRACO Team and Ms Mwakisingo and Mr. Mbisi from JICA who were present at the meeting. He explained the role of KETRACO, JICA and Panafcon in these two projects. Mr. Oyieko introduced the Consultant Team Members from Panafcon who are involved in the RAP and ESIA Studies and were in attendance at the meeting.

### **Minute 03: Purpose of conducting the Sensitisation meeting.**

Mr. Oyieko gave a brief introduction of the project, a general history of the project, its design changes and hence the purpose of conducting a new RAP Study. He explained the importance of the project citing the positive impacts of the project, the negative impacts and the mitigation measures to reduce the negative impacts.

He stated the legal requirement for public participation and consultation in any project or/and matter that affects them in any way.

The right of the affected community to receive correct and timely information and engage with the project implementers is the main purpose of the Sensitisation meeting.

PAPs who have constructed their structures or have planted crops and trees on land that does not belong to them (squatters) will relocate elsewhere outside the wayleave corridor after compensation for these development is paid to them. The compensation money for the land will be paid to the registered/ legal land owner(s). Compensation for the losses will be at prevailing market value and at the replacement cost for land and structures respectively. Trees will be compensated for after they are felled according to the rates of various tree types, sizes, age and value as provided by Kenya Forest Service while crops will be compensated as per the guidelines provided by the Ministry of Agriculture if/after they are destroyed during the line construction. PAPs were again encouraged and reminded to avoid encroachment and further development on the wayleave corridor as they had been informed in the previous RAP study. Any further developments will not be compensated for by the KETRACO and the concern person(s) will remove these structures from the corridor at their own expense.

#### **Minute 04: Project brief on the components of the proposed Power Supply Components of the Mombasa SEZ Development Project**

The 220 kV transmission line will extend over a distance of approximately 53 km from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County. The following are the main components of the Project:

- Development of 220 kV transmission line with 40m wayleave from Mariakani 400/220 kV substation to Mombasa SEZ. The Mariakani 400/220 kV substation is however not included in this Project scope
- Development of 220/33 kV substation inside Mombasa SEZ
- Access road from Southern Bypass road to 220/33 kV substation. The approximate length the road is 700 m and Right of Way is 13.5 m.
- Development of 33 kV distribution line inside Mombasa SEZ from 220/33 kV substation

#### **Minute 05: Implementation Plan for the ESIA and RAP Studies of the Proposed Power Supply Components of the Mombasa SEZ Development Project**

The ESIA and RAP Studies of the proposed power transmission project involves sensitizing the project area community members who will be directly or indirectly affected by the project, carrying out 100% census and asset inventory surveys. The surveys will be along the 40 metre wide and 53km long corridor of the 220 kV transmission line, they will be carried out at the substation site area and along the 10 metre wide and 3km long corridor where the 33 kV distribution line and the access road from 220/33 kV substation will traverse inside the Mombasa SEZ.

Directly affected PAPs will be consulted further in smaller and personalized PAP meetings after the completion of the census and asset inventory surveys, data analysis and data compilation. They will be informed of the various categories of affected assets and their entitlement for each category and projected timeframe.

Focus Group Discussions will be held with women during these PAP meetings where they can free air their view without the cultural limitation apparent in most the project area.



This limitation is in that traditionally, women are not supposed to talk or express themselves before their men/ husbands. Kasemeni location is mainly dominated by the traditional Duruma Community.

There will be the second round of Public Consultation Meetings in the entire project area where the Consultant will disclose/present ESIA Study findings (Positive and Negative Impacts and proposed mitigation measures for the negative impacts and Environmental and Social Management Plan) to the communality and receive their feedback

**Minute 06: Views and Questions on the Proposed Power Supply Components of the Mombasa SEZ Development Project from the participants of the Sensitisation meeting with responses and clarifications given by KETRACO, Panafcon and JICA.**

**Q1: How will the courts confirm the true heirs of a deceased person's land in the succession process? (*Mohamed Hamisi*).**

**A1:** The succession process starts at the local chief's office who knows the members of the concern family and the matter is escalated further up to the courts who make a determination. All interested family members are involved in every step in the succession process

**Q2: During the previous census and asset inventory survey, he was advised not to continue with the construction of his family house whose construction was active at that time. He stopped construction but this has affected him negatively since the stonework which was incomplete has deteriorated/depreciated due to continued exposure to the weather elements. He has visited KETRACO office in Nairobi at least twice to lodge his complains about the continued losses. How will this his case handled whether he is affected by the current line corridor or not (*Nyololo Ali Madeni*)**

**A2:** Such cases will be evaluated and determined in a manner not to disadvantage the PAP. He was advised not to remove the house at all until such evaluation are completed and compensation paid out to him. His complains must have been recorded at KETRACO and being handled by relevant officers

**Q3: Is the line 40 meters wide or 40 metre long (*Abdalla Yonga*)**

**A3:** The line is 40 metres wide and approximately 53 kilometres long traversing eight (8) administrative locations

**Q4: Will the PPAs be paid the compensation promptly or they will wait till they die waiting as happens in many government projects? (*Abdalla Mwaile*)**

**A4:** The government (KETRACO) pay promptly upon verification of true owners of affected property more so if the ownership of land or other affected assets is not in dispute.

**Q5: KETRACO representative mentioned 70% and 15%. These are percentages of what? (*Chimene Mambo*)**

**A5:** These are percentages of the total value of the individual household or person's affected assets

**Q6: How will affected trees be valued/ compensated, by size or by age or by what? (Chineme Mambo)**

**A6:** Trees will be compensated for after they are felled according to the rates of various tree types, sizes, age and value as provided by Kenya Forest Service while crops will be compensated as per the guidelines provided by the Ministry of Agriculture if/after they are destroyed during the line construction.

**Q7: Most of the trees in this project area are indigenous trees which are have medicinal value yet the project/ KFS may be paying for planted exotic trees. How will KETRACO establish/ know the value of these indigenous trees if not provided for by KFS? (Johnson Kilache)**

**A7:** Project team get the value of all trees (both indigenous and exotic) from the Kenya Forest Service. There is no tree which grows on Kenyan soil that is not known and valued by KFS. Similarly all crops grown in Kenya have values established by Ministry of Agriculture. Grass is not compensated for.

**Q8: What will KETRACO do if the line passes through a family's gravesite or over any grave for that matter? (Chira Kwakwa Konga)**

**A8:** KETRACO do not interfere with nor compensate for graves but their contractor are normally under KETRACO's strict instructions and supervision not to put any pylons or do any excavations at the graveyard site nor at a grave site that would disturb the dead

**Q9: During the previous census and asset inventory survey in 2014, he was advised not to continue with the construction of his family house whose construction was active at that time. He stopped construction but this has affected him negatively since the stonework which was incomplete has deteriorated/depreciated due to continued exposure to the weather elements. How will this his case handled whether he is affected by the current line corridor or not (Tungwa Mdoe Njira)**

**A9:** Such cases will be evaluated and determined in a manner not to disadvantage the PAP. He was advised not to remove the house at all until such evaluation are completed and compensation paid out to him.

**Q10: What will happen if the line corridor affects Kaya shrine(s) which are common in the project area (Ndoro Simba Ndoro)**

**A10:** KETRACO route selection criteria aims to avoid public institutions such as shopping centres, schools, health centres and places of worship such as the shrines, churches and mosques. If such facilities were to be found during ground surveys, KETRACO will further aim to avoid them by changing the position of the line corridor in a particular locality.

**Q11: What will happen if the affected land is not adjudicated and hence has no title deed (Tsuma Gongga)**

**A11:** Land in Kasemeni location has been adjudicated, given title numbers but title deeds have not been issued. The Chief reminded the participants that to receive the compensation money for affected land whose registered owner is deceased, the heirs of such estate must do succession to transfer the land ownership from the deceased person to themselves. Those whose such land is affected were strongly advised to initiate the succession process so that they can be ready to receive compensation money.

**Minute 07: Closing remarks**

The Chief thanked the community members for sparing their time to attend the meeting. He assured the directly affected persons that they will be consulted sufficiently. He reassured them the survey teams will always be accompanied by the relevant village elders during the field surveys. He asked them to cooperate with the Consultant and give required information honestly.

**Minute 08: AOB**

The chief made announcements about local issues of security, on-going campaigns and the need for all to maintenance of law and order and of upcoming meetings

**Minute 09: Closing Prayer**

The meeting ended with a word of prayer from one of the participants.

LIST OF PARTICIPANTS AT THE ESIA AND RAP SENSITIZATION MEETING

ESIA AND RAP FOR MARIAKANI-DONGO KUNDU 220Kv TRANSMISSION LINE

Venue of Meeting: MHY ENZEMI ASSISTANT CHIEF'S OFFICE GROUND

Date and Time of Meeting: 14/07/2017 10:00 AM KASEMENI LOCATION

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
1.	Joshua P. Oyioko	EIA Study Team Leader	Panafcon Ltd	j.oyioko@panafcon.net	0733 428 498 0722 213 826	
2.	Ramat Godana	Env Expert	Ketraco	rgodana@ketraco.co.ke	0720537137	
3.	Cyrus Wabisi	ENVIRAP	JICA Design Team	cudisi@gmail.com	0720727259	
4.	Prabha Mwakisingo	Research Assistant	JICA Design Team	sahmamwali@gmail.com	0712219475	
5.	CYNTHIA AKINYI	ENVIRONMENTALIST	PANAFCON LTD	c.akinyi@panafcon.net	0713842550	
6.	OHUMUNIAH' KWARO	Researcher	PANAFCON LTD	oakum@panafcon.net	0724939677	
7.	ALI CHIPHORO GWIWEDE				0795899149	
8.	RUWA Tsuma					
9.	Gwede Tsuma				0722218831	
10.	Kombo Nyanje	Village elder	CKK	-	0720735188	
11.	MAKANZU RASHID	ADMINISTRATIVE	E. K. C. C.	rashidmakanzura@yahoo.com	0710701696	
12.	Mwagwani Mtorwa				0713661981	
13.	Vijani Zuma					
14.	Hamisi Makanzu					
15.	Juma Njonye Mdoe				0710415006	
16.	Ndoro Tsimba Ndoro				0723955929	

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
17.	RUMA MANGALE				0700336537	<i>Ruma</i>
18.	Simba Aldoro					<i>SA</i>
19.	Saidi Aldoro					<i>Saidi</i>
20.	Tsuma zuma					<i>Tsuma</i>
21.	Nyanje zuma					<i>Nyanje</i>
22.	Chari Ndegwa					<i>Chari</i>
23.	Mjeni Mwakoga					<i>Mjeni</i>
24.	Mbonze Ndumo					<i>Mbonze</i>
25.	Emily Mangale				0727396802	<i>Emily</i>
26.	Mwaka chula					<i>Mwaka</i>
27.	Mlango Kombo					<i>Mlango</i>
28.	Lchi Beziro					<i>Lchi</i>
29.	Tabu Gunda				0700660208	<i>Tabu</i>
30.	PHENNY C. RUWA				0717231796	<i>Phenny</i>
31.	Umazi Bega					<i>Umazi</i>
32.	Kwekwe Ndegwa					<i>Kwekwe</i>
33.	Umazi Mwayawa					<i>Umazi</i>
34.	Ngolokolo Ali Madeni					<i>Ngolokolo</i>
35.	Rashidi Makanzu Hamisi				0717082255	<i>Rashidi</i>
36.	Mohamed Makanzu Hamisi				0723458986	<i>Mohamed</i>
37.	Mwaruwa Makanzu					<i>Mwaruwa</i>
38.	Daman Nyanje				0701623009	<i>Daman</i>

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
39.	Mwera Mwaruwa					<del>Mwera</del>
40.	Kwekwe Mingi					<del>Kwekwe</del>
41.	Mberiza Nyawa					<del>Mberiza</del>
42.	Nzara Nyawa					<del>Nzara</del>
43.	Ruwa Nyanje				0705224669	<del>Ruwa</del>
44.	Changoti Beziro				0711526076	<del>Changoti</del>
45.	Mwatsima mwagolo				0701845187	<del>Mwatsima</del>
46.	NDESWA MADENI				0706460166	<del>Ndeswa</del>
47.	Madeni Beziro				0701335372	<del>Madeni</del>
48.	Nzungu Nyale					<del>Nzungu</del>
49.	Shabani Omari				0726276714	<del>Shabani</del>
50.	Zuma Ngome				0710598988	<del>Zuma</del>
51.	MWANGALA Mwachupa					<del>Mwangala</del>
52.	MWERO			mwachupamwero@gmail.com	0721397969	<del>Mwero</del>
53.	BZUKHA CHIRO				0711567279	<del>Bzuka</del>
54.	Tsuma Zuma				0710330641	<del>Tsuma</del>
55.	Doyo Alungwa				0725075875	<del>Doyo</del>
56.	Mangale Chimera				0714272461	<del>Mangale</del>
57.	Mangale Mjima				0704151230	<del>Mangale</del>
58.	MACDONALD Tsum Nyenge				0714617176	<del>Macdonald</del>
59.	Nyanje Samau					<del>Nyanje</del>
60.	Madeni Njeka				0714566260	<del>Madeni</del>

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
61	Jira Hamisi Jira				0720604092	
62	Hamisi Jira				0708656941	
63	Zuma Hamisi				0798905485	
64	Tungwa Mdoe				0721976118	
65	Sombo Jabu				0716399257	
66	Omari Mwadzikawa				0707710340	
67	Mrisa Nyae					
68	Ngombeko Mrisa					
69	Mangale Gwede				0708108509	
70	Nyondo Simba					
71	Philip M. Chaka				0712393096	
72	NGDO NDORO RAI				0791903291	
73	Luvuno Vyani					
74	Mwari Wanje					
75	Mashuti Mangale				0796490203	
76	Musatai Ngauri				0707558159	
77	Muramuna B. Kotema	M/Adm	CGIL	benyakatana 83@gmail	0721787563	
78	Ngala Mungo				0705621314	
79	Kambo Mangale				0700156806	
80	Yonga Mangale				0710895876	
81	NGALA MUKIANGALA	ASSISTANT CHIEF	O O P		0707 256946	
82	BENSON K. KOKOI	CHIEF	SOP-INTERIOR	benson.kokoi@yahoo.com	0724024180	

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
83	Juma Kombo Dene				0710895950	
84	Omari Haranga				0723105992	
85	HYONDO NYAMAWI				0727391673	
86	MAIRI N. MUKU				0727564395	
87	Aldegwa Omari				0715175851	
88	RASHID NLOKO BAI				0719537658	
89	Diyo Tabu				0720439300	
90	Umari Chiboko					
91	Chimene Mamba				0721941584	
92	Mwanguni Tsuchizi				0711844301	
93	Baya Dzuni				0718693346	
94	Nyamawi Mwandzamba				0708828964	
95	Dzombo Nyamawi				0701458199	
96	Fatuma Mbeyu Magongo				0715153595	
97	Jackson Ghilache				0725062467	
98	Mrabu Nyamawi				0790323407	
99	Chaka Tsuma				0708250800	
100	Munya Mangale				0706137727	
101	Beuchi Kwaka				0707442255	
102	Mwero Zuma				0724907797	
103	Chindoro Chonga				0750296765	
104	Kanze Jerumani				0726596741	



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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
105	Chimene Kwaka				0708829939	
106	Tsuma Matanga				072574856	Tsuma
107	Mangale Madeni				0714939093	
108	Matanga Konga				0712525880	
109	Joho Ngolokolo				0707043349	
110	Chiro Nyamawi					
111	Kayanda Chirunga					KAYANDA
112	Mwaruwa Nyamawi					
113	Bimba Kazungu				0706005979	
114	Asha Mwachondo				0719432857	ASHA
115	Mgaza Pili					
116	Joackim Nyge Shehi				0703927220	
117	Mwaka Chiwaya					
118	Retema Chakaya					
119	Mwanapili Mangale					
120	Nyamawi Diyo					
121	Nyamawi Ndunya				0796776657	
122	Tira Kwaka Konga				0720665628	
123	Kwekwe Rai					
124	Tsuma Mrisa					
125	Chizi Mangale					
126	Irene Muchoki	RAP Team Leader	Panafcon Ltd	imuenene@panafcon.net	0724163255	

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**5. Gandini Location Sensitisation Meeting at AP Camp Grounds**

**Minutes**

**Attendance Register**

**MINUTES OF THE SENSITIZATION MEETING FOR ESIA AND RAP STUDY FOR THE POWER SUPPLY COMPONENT OF THE MOMBASA SEZ DEVELOPMENT PROJECT HELD AT LUTSANGANI AP CAMP GROUNDS, GANDINI LOCATION ON FRIDAY, 14 JULY 2017 AT 2:00PM.**

**ATTENDANCE LIST:**

No.	Name	No.	Name	No.	Name
1	Irene Muchoki	37	Elvis Kombo	73	Mattii Duga
2	Budgeree Langat	38	Mwero Swalehe	74	Mwaiwe Kulara
3	Ramat Godana	39	Swalehe Kusema	75	Bekdmoti Bemakodza
4	Joshua Oyieko	40	Musha Ham Mwatela	76	Juma Lufasa
5	Mazera Mwachupa	41	Kufasa Mwenda	77	Mazera Beja
6	Mweru Kombo	42	Juma Baushi	78	Stephen Munga
7	Mwangoka Chirongo	43	Salim Bakari	79	Omummitah Agwaro
8	Omar Suleiman	44	Mkuba Nzole Suleiman	80	Mnyazi Bavu
9	Mshahama Nguta	45	Kalimbo Mwero	81	Salma Mbodze Bavu
10	Mgala Mwadeje	46	Ruwa K. Mwangunya	82	Kwekwe Kajimbi
11	Munga Ndegwa	47	Gube Zuma	83	Mwaka Mrina
12	Jumapili Mdoe	48	Bedzame Kitumbo	84	Meloma Mwadeje
13	Samson Mbatu Moshi	49	Munga Samuel	85	Aisha Hamadi
14	Margret Tatari	50	Warati Mlandi	86	Nyamvula Shikari
15	Mlongo Mdzomba	51	Hassan Msinda	87	Dzame Beja
16	Memsapu Mwanza	52	Pola Hassan	88	Kanga Msiti
17	Riziki Mweruphe	53	Hamisi Muhga	89	Mwanasiti Omar
18	Chirima Mgamani	54	Juma Chilembi	90	Agnes Mupa Nyamani
19	Ali Said	55	Ali Rama	91	Anzaze Choga
20	Said Chirinzi	56	Swaleh Bakari	92	Binti Choga
21	Mwalwe Mgamani	57	Ngovi Swaleh	93	Fatuma Mupa Ruwa
22	Betunda Kulaza	58	Kadzingo Bakari	94	Umazi Beziro
23	Voya Katambo	59	Nyamule Mrabu	95	Sidi Makazi Chengo
24	Ndegwa Menza	60	Nzaphila Zuma	96	Ega Mwadiga
25	Kombo Chimoyo	61	Juma Rashidi	97	Mbeyu Tandi
26	Chale Omar Kengo	62	Ali Mnyika	98	Nadzuwa Majima
27	Mjama Ndungo	63	Chuphi Ngala	99	Chizi Ndegwa
28	Ndegwa Mwachari	64	Nyawa Charo	100	Umazi Garandani
29	Tsuma Jira	65	Mhanje Mwakisenge	101	Mishi Mwenda Mgalla
30	Mwambii Mgamani	66	Beuchi Choga	102	Umazi Juma
31	Kitumbo Ndeme	67	Chilembi Jamu	103	Mejumaa Mwadeje
32	Robert Chaka	68	Choga Mwenda	104	Umazi Swalehe
33	Mkala Mwachupa	69	Hamisi Bora Bodvoe	105	Saumi Juma
34	Mabugu Mzirwa	70	Nikinyi Choga	106	Mariam Juma
35	Mohammed Mwinyi	71	Kufasa Gopholo	107	Mbeyu Kadenge
36	Ndoro Swaleh	72	Nigasare Mwakuwewa	108	Njira Mgandi

**PANAFCON Ltd.**

No.	Name	No.	Name	No.	Name
109	Wilfred Kombo	153	Mgandi Mwambii	197	Imani Charles
110	Swaleh Mwinyi	154	Njei Bagala	198	Meswalehe Swalehe
111	Mbodze Chidilo	155	Mwatiga Ndegwa	199	Adam Juma
112	Mariga Gube	156	Gube Malau	200	Kombo Gari
113	Chari Haranga	157	Atamu Salim	201	Kombo Dora
114	Umazi Msiti	158	Suleiman Ruwa Kajimbi	202	Rashid Beja
115	Mjem Chindoro	159	Kajimbi Kambi Moses	203	Mbarish Juma
116	Mbodze Charo	160	Magangi Mwangoka	204	Mangale Masudi
117	Ega Mangale	161	Mwangoka Magangi	205	Said Mwatemo Ngao
118	Nadzuwa Mgaza	162	Mwero Chirinizi	206	Lete Mwenda
119	Fatima Kassim	163	Mwaiwe Mavune	207	D. Kwaka Chindoro
120	Kwekwe Kuto	164	James Joto	208	Mangale Munga
121	Medza Diyo	165	Hamisi Betunda	209	Mkala Mumba
122	Mbodze Mwangunya	166	Msiti Mwachupa	210	Omari B. Mussah
123	Chinyamvu Kadi	167	Chidzao C. Mwanzuki	211	Mgamani Mwambii
124	Mlongo Mwayaya	168	Mangal Nyund	212	Mavune Betunda
125	Mwaka Kulala	169	Nyae Mwambire	213	Nzai Randu Nzai
126	Kwekwe Kulala	170	Kaomboza Mardize	214	Mwero Haranga
127	Chizi Kwaka	171	Ali M. Ndovo	215	Beja Lewa
128	Selina Tsuma	172	Said B. Njei	216	Karabu Muenda
129	Fatuma Mwikali Mwee	173	Mohammed B. Kulala	217	Chinodo
130	Muhache Mzungu	174	Musa Govi	218	Ali Govi
131	Mbodze Mbui	175	Mganti Mambo	219	Bati Ngao Bati
132	Nadzuwa Kamwana	176	Yamba Beja	220	Kwaka Mwalungo
133	Khadija Mwero	177	Ali Mongo	221	Mlei Mwambii
134	Asha Beja	178	Charles Tsuma	222	Juma Rashid
135	Dzame Mwadiga	179	Juma Salimu	223	Pala Ndeme
136	Mariam Tsuma	180	Salim Dumbo	224	Mwachenda Ndeme
137	Mbeyu Kutasa	181	Mavune Kombo	225	Nyae Mwangunya
138	Mlongo Ruwa	182	Gube Mzirwa	226	Hamisi M. Menza
139	Mbodze Mzirwa	183	Beja Guni	227	Jumatatu Kambi
140	Hamisi C. Kombo	184	Juma B. Bechia	228	Jamo Ali
141	Mgaza Zuma	185	Mbeyu Mwagomba	229	Chitumb Bedzame
142	Mejumaa Ali	186	Mangale Mwagari	230	Zuma Nzole
143	Chizi Chidombo	187	Chirima Ziru	231	Chai Lung'anzi
144	Rehema Hamisi	188	Lete Mwangwaru	232	Mangale Kai
145	Chirima Mwangoka	189	William Madafu	233	Charo Mangale
146	Hafianga Mwangolo	190	Maskaka Ngoro	234	Charo Mwembe
147	Musa Garashi	191	Salim Chimera	235	Charo Meje
148	Mpango Laini	192	Tsuma Mvungu	236	Ndeme Mwak
149	Kari Mwangale	193	Binti Kombo	237	Medza Mwamvula
150	Jomo Lae	194	Kache Ngala	238	Mejumaa Chembe
151	Fatuma Rahab	195	Mlongo Jackbon Charo	239	Ngoro Tsimba
152	Hamisi John	196	Mwaka Dzombo	240	Nyanje Demwua

No.	Name	No.	Name	No.	Name
241	Peter Mwembe	247	Dzalambi Msiti Kolo	253	Maweui Njeka
242	Riziki Ngembene	248	Mbanza	254	Rebecca Mazera
243	Mwapapa Ngao	249	Mariam Jondo	255	Zuma Ngome
244	Mwajuma Mbile	250	Nyamvula Lengo	256	Kwekwe Mingi
245	Chinyamu Jaji	251	Mwanalima Chonzwe	257	Runa Kwekwe
246	Mbeyu Rumba	252	Riziki Chigamba		

## AGENDA OF THE MEETING

1. A word of prayer by one of the participants.
2. Introduction of the participants (Chief/KETRACO/JICA/Panafcon).
3. Purpose of conducting the Sensitisation Meeting with the Project Area Community (KETRACO).
4. Project brief on the components of the proposed 220kV Transmission Line from Mariakani-Dongo Kundu and a Substation (KETRACO/JICA)
5. Implementation Plan for the ESIA and RAP Studies of the proposed 220kV Transmission Line from Mariakani-Dongo Kundu and a Substation (Panafcon).
6. Views of the Participants on the Project - Comments, Question and Answer - Open Session (Chief/KETRACO/JICA/Panafcon).
7. Closing Remarks by (KETRACO/Chief).
8. A.O.B.
9. Closing Prayer.

### Minute 01:

The meeting was called to order at 2pm and began with a word of prayer from one of the participants.

### Minute 02: Introduction of the Participants.

The area chief welcomed everyone in attendance to the meeting. She acknowledged and thanked them for finding time to attend the meeting. She introduced the area Assistant Chief, Village Elders from various villages in the project area and the representatives of the Kwale County Government. She specifically welcomed the team of experts from JICA, KETRACO and Panafcon.

She explained the purpose of the meeting and encouraged the stakeholders and the community members present to actively engage in the discussions about the proposed project.

Mr. Godana welcomed all the participants and introduced the KETRACO Team and Ms Mwakisingo and Mr. Mbisi from JICA who were present at the meeting. He explained the role of KETRACO, JICA and Panafcon in these two projects. Mr. Oyieko introduced the Consultant Team Members from Panafcon who are involved in the RAP and ESIA Studies and were in attendance at the meeting.

### Minute 03: Purpose of conducting the Sensitisation meeting.

Mr. Oyieko gave a brief introduction of the project, a general history of the project, its design changes and hence the purpose of conducting a new RAP Study. He explained the importance of the project citing the positive impacts of the project, the negative impacts and the mitigation measures to reduce the negative impacts.

He stated the legal requirement for public participation and consultation in any project or/and matter that affects them in any way. The right of the affected community to receive correct and timely information and engage with the project implementers is the main purpose of the Sensitisation meeting.

PAPs who have constructed their structures or have planted crops and trees on land that does not belong to them (squatters) will relocate elsewhere outside the wayleave corridor after compensation for these development is paid to them. The compensation money for the land will be paid to the registered/ legal land owner(s). Compensation for the losses will be at prevailing market value and at the replacement cost for land and structures respectively. Trees will be compensated for after they are felled according to the rates of various tree types, sizes, age and value as provided by Kenya Forest Service while crops will be compensated as per the guidelines provided by the Ministry of Agriculture if/after they are destroyed during the line construction. PAPs were again encouraged and reminded to avoid encroachment and further development on the wayleave corridor as they had been informed in the previous RAP study. Any further developments will not be compensated for by the KETRACO and the concern person(s) will remove these structures from the corridor at their own expense.

**Minute 04: Project brief on the components of the proposed Power Supply Components of the Mombasa SEZ Development Project**

The 220 kV transmission line will extend over a distance of approximately 53 km from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County. The following are the main components of the Project:

- Development of 220 kV transmission line with 40m wayleave from Mariakani 400/220 kV substation to Mombasa SEZ. The Mariakani 400/220 kV substation is however not included in this Project scope
- Development of 220/33 kV substation inside Mombasa SEZ
- Access road from Southern Bypass road to 220/33 kV substation. The approximate length the road is 700 m and Right of Way is 13.5 m.
- Development of 33 kV distribution line inside Mombasa SEZ from 220/33 kV substation

**Minute 05: Implementation Plan for the ESIA and RAP Studies of the Proposed Power Supply Components of the Mombasa SEZ Development Project**

The ESIA and RAP Studies of the proposed power transmission project involves sensitizing the project area community members who will be directly or indirectly affected by the project, carrying out 100% census and asset inventory surveys.

The surveys will be along the 40 metre wide and 53km long corridor of the 220 kV transmission line, they will be carried out at the substation site area and along the 10 metre wide and 3km long corridor where the 33 kV distribution line and the access road from 220/33 kV substation will traverse inside the Mombasa SEZ.

Directly affected PAPs will be consulted further in smaller and personalized PAP meetings after the completion of the census and asset inventory surveys, data analysis and data compilation. They will be informed of the various categories of affected assets and their entitlement for each category and projected timeframe.

Focus Group Discussions will be held with women during these PAP meetings where they can free air their view without the cultural limitation apparent in most the project area.

This limitation is in that traditionally, women are not supposed to talk or express themselves before their men/ husbands. Gandini location is mainly dominated by the traditional Duruma Community.

There will be the second round of Public Consultation Meetings in the entire project area where the Consultant will disclose/present ESIA Study findings (Positive and Negative Impacts and proposed mitigation measures for the negative impacts and Environmental and Social Management Plan) to the communality and receive their feedback

**Minute 06: Views and Questions on the Proposed Power Supply Components of the Mombasa SEZ Development Project from the participants of the Sensitisation meeting with responses and clarifications given by KETRACO, Panafcon and JICA**

**Q1: PAPs should not be oppressed nor disadvantaged in the valuation and compensation process (*Hamisi Menza*).**

**A1:** Compensation for the losses will be at prevailing market value and at the replacement cost for land and structures respectively. Trees will be compensated for after they are felled according to the rates of various tree types, sizes, age and value as provided by Kenya Forest Service while crops will be compensated as per the guidelines provided by the Ministry of Agriculture if/after they are destroyed during the line construction. This way, nobody will be disadvantaged as the compensation will be just and commensurate with the impact on affected asset

**Q2: Will compensation cash be disbursed directly to the PAPs accounts or it will be paid through another government office e.g. through the chief's office. (*Hamisi Menza*).**

**A2:** The disclosure of individual compensation packages will be made to the individual persons or households and not to 3<sup>rd</sup> parties such as the chiefs who are not entitled to know how much individual PAPs gets unless the PAPs chose to disclose their compensation packages to 3<sup>rd</sup> parties. Compensation cash will be wired directly to the particular PAPs bank accounts.

**Q3: Would the Consultant & KETRACO involve other bodies such NGOs who are already involved in environmental conservation in the area (*Dickson Kwakwa*)**

**A3:** The present NGOs and other will be consulted by the Consultants and can already exchange contact for further engagement.

**Q4: How will the local community members benefit from the power transmission project? (*Dickson Kwakwa*)**

**A4:** When the electric power is made to readily available to all Kenyans in the project area and surround areas, this will spur economic growth which is good for all Kenyans. The project is expected to create employment opportunities for members of the local communities during construction specifically in areas where the transmission line is expected to pass. Besides the direct employment by the project, other forms of employment are likely to result from the spill-off effects including establishment of local markets for providing goods and services during construction. KETRACO policy requires the contractor to employ youths from the particular location where they are working for the unskilled works. The chiefs and their assistants will need to bear this in mind and ensure it is enforced during the construction phase of the project

**Q5: Explain what the percentages (%) mentioned by KETRACO officer mean? (Dickson Kwakwa)**

**A5:** These are percentages of the total value of the individual household or person's affected assets

**Q6: Who are the owners of the 46 affected parcels of land that KETRACO officer mentioned? (Mangale Munga Munga)**

**A6:** This numbers is on the map and the Consultant role is to establish and confirm who owners of these 46 affected parcels of land are.

**Q7: Where is the project exactly passing in the particular area/ location?**

**A7:** This will be shown to the PAPs by the Consultant Surveyor during ground truthings/ surveys in the coming weeks **(Mangale Munga Munga)**

**Q8: How will the community know who is affected and who is not? (Choga Peku)**

**A8:** This will be confirmed by the Consultant during the census and asset inventory surveys in the coming weeks

**Q9: How will the community members who have complaints about the project or the compensation packages lodge them? (Choga Peku)**

**A9:** The community members have a right to complain and appeal against any activity or offer done or made by KETRACO or its assigns. This will be through the Grievance Redress Mechanisms (GRM) which start with lodging the issue/ complain with the village elder at the lowest administrative level and escalating it higher until it is resolved.

**Q10: KETRACO should avoid making affected members of the community disadvantaged as happened with another government project (KPLC) in the area. Secondly, the compensation paid by SGR project to the fishing forks was about Ksh 20,000 yet they lost their livelihood that they depended on for many years. The compensation was not commensurate with the losses they suffered and the value of the project (Ramadhan Mlandi)**

**A10:** KETRACO does want to indulge into the doings of other government agencies since they were not consulted nor involved. KETRACO follows its resettlement policy which is very sound and fair.

**Q11: Why does KETRACO lease land from the project affected people (PAPs) and pay them a monthly fee since they kind of lose that land for life by the reduction of the activities they can carry out on the wayleave (Ali Govi)**

**A11:** KETRACO follows Land Act 2012 which does not allow it to lease land for transmission lines

**Q12: After compensation for affected assets is received by the PAPs, how long does it take for the construction activities of the line to start and how long does it take to complete construction (Munga Mangale)**

**A12:** PAPs are given 3 months' notice to vacate from the wayleave corridor. If for any genuine reason a PAP cannot vacate within this period, KETRACO will extend this period by a reasonable period. It takes approximately 2 years to construct such a line



**Q13: What will KETRACO do if the line passes through a family's gravesite or over any grave for that matter? (*Mkala Mumba*)**

**A13:** KETRACO do not interfere with nor compensate for graves but their contractor are normally under KETRACO's strict instructions and supervision not to put any pylons or do any excavations at the graveyard site nor at a grave site that would disturb the dead

**Q14: Will the larger community benefit from KETRACO inform of Corporate Social Responsibility activities in the area or it will only benefit directly affected people? (*Baruku Juma*)**

**A14:** KETRACO has specific mandate which is to design, construct and maintain high voltage transmission lines. KETRACO is funded by the exchequer to do this alongside other government departments concern with such things as water provision, roads and education. If KETRCAO could spend cash for Corporate Social Responsibility, it will only be through reasonable humanitarian grounds which is the sole discretion of the top management.

**Q15: Many people do not have title deeds for the land they occupy. Who will be compensated for such land; the title holder or the current land occupier (*Mpango Laini*)**

**A15:** Land ownership is known whether the land has title deed or not. However without a title deed it will be difficult to ascertain ownership which cannot be confirmed until one produces a title deed or until it is issued by the relevant government entity. PAPs without title deeds to the land they occupy were encouraged to get them as with a title deed, compensation for the affected land will be straightforward and prompt

#### **Minute 07: Closing remarks**

The Chief thanked the community members for sparing their time to attend the meeting. She assured the directly affected persons that they will be consulted sufficiently. She reassured them the survey teams will always be accompanied by the relevant village elders during the field surveys and any issue can be raised with her office at any time. She asked them to cooperate with the Consultant and give required information honesty.

#### **Minute 08: AOB**

The chief made announcements about local issues of security, on-going campaigns and the need for all to maintenance of law and order during the campaigns, during and after August 8 general elections.

#### **Minute 09: Closing Prayer**

The meeting ended with a word of prayer from one of the participants.

LIST OF PARTICIPANTS AT THE ESIA AND RAP SENSITIZATION MEETING

ESIA AND RAP FOR MARIAKANI-DONGO KUNDU 220Kv TRANSMISSION LINE

Venue of Meeting: LUTSANGANI AP CAMP GROUND

Date and Time of Meeting: 14/07/2017 2:00PM GANDINI LOCATION

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
1.	Irene Muchoki	RAP Team Leader	Panafcon Ltd	imuchoki2004@gmail.com	0724163255	
2.	BUDGEREE LANGAT	ENGINEER	KETRACO	blanglat@ketaco.co.ke	0787141255	
3.	RAMAT GODANA	Env expert	KETRACO	rgodana@kelco.co.ke	0720537137	
4.	Joshua Oyiexo	EA Team Leader	Panafcon Ltd	j.oyiexo@panafcon.net	0733428998	
5.	MARERA MUKELUPA				0714410386	
6.	MWERI KUMBO				0788403003	
7.	MWANGOKA CATRONCO				0705543843	
8.	NIKUBA NZOLE SHSINDO	V/ADMIN	KWATE COUNTY Gov	nikubanzole@gmail.com	0701850922	
9.	Mshahama Nguta		Fisherama		0703314067	
10.	RUMA KASSIM MWANGUNYA	V/ADMIN	KWCCV	Ruma.kassim@gmail.com	071285233	
11.	MUNGA NDEGWA	ASST CHIEF	D.O.P		0705811862	
12.	TIMAPILI MDOE	V/ELDER			0701909917	
13.	SAMSON MBAFI MASHI	V/ELDER			0728460453	
14.	MARGRET TATARI	V/ELDER			0715211505	
15.	MWANGO MDZOMBA	V/ELDER			0706459123	
16.	MEMSAPU MIWANZA	V/ELDER			0728957327	

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
17.	RIZIKI MWIBUSHE	VLEDER			0792444205	
18.	CHIRIMA MAMANI				0712462428	
19.	ALI SAID					
20.	SAID CHIRINZI				0738534497	
21.	MWISIKE MAMANI				0707276133	
22.	BETUNDA KUKAZA					
23.	VOTA KATAMBO					
24.	NDEGWA MENZA					
25.	KOMBO CHIMOTO				0729835362	
26.	CHALE OMAR KENGO				0701137613	
27.	MJAMA NDUNGO					
28.	NDIGWA MWAGARI				0732598480	
29.	TSUMA ZIAA				0700022849	
30.	MWAMBII MAMANI					
31.	KIUMBU NDEME				0716749330	
32.	ROBERTI CHAKA				0721559024	
33.	MKALA MWACHUPA				0719377598	
34.	MABUGU NIZIRWA					
35.	MOHAMMED MWINYI				07	
36.	NDORO SWALEH				0723855430	
37.	WILFRED LOMISO				0720603539	
38.	SWALEH MWINYI				0725663808	

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
39.	ELWID KUMBO				0723616360	<i>[Signature]</i>
40.	MWERO SWALEHE				0725732365	<i>[Signature]</i>
41.	SWALEHE KUSEMA				0726426768	<i>[Signature]</i>
42.	MUSHA HAM MWATEKA					<i>[Signature]</i>
43.	KUFASA MWENDA					<i>[Signature]</i>
44.	JUMA BAUHI				0702727861	<i>[Signature]</i>
45.	SALIM BAKARI				07	<i>[Signature]</i>
46.	OMAR SULEMANI					<i>[Signature]</i>
47.	KALIMBU MWERO				0719603519	<i>[Signature]</i>
48.	MARLA MWADEJE					<i>[Signature]</i>
49.	GUBE ZUMI					<i>[Signature]</i>
50.	BEDZAME KIJUMBU					<i>[Signature]</i>
51.	MUNGA SAMUEL				0712195175	<i>[Signature]</i>
52.	WAKATI MWANDI				0705210145	<i>[Signature]</i>
53.	HASSAN MSINDA				0715456971	<i>[Signature]</i>
54.	DOLA HASSAN				0732486119	<i>[Signature]</i>
55.	HAMISI MUTIGA				0723461988	<i>[Signature]</i>
56.	JUMA CHILEMBI					<i>[Signature]</i>
57.	ALI KAKIA				0706736755	<i>[Signature]</i>
58.	SWALEH BAKARI					<i>[Signature]</i>
59.	NGOVI SWALEH				0712744097	<i>[Signature]</i>
60.	KAZINGO BAKARI				0709424296	<i>[Signature]</i>

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
61	NYAMULE MRABU				0712395529	
62	NRAPHILA ZERRA				0710801642	
63	JUMA RASHIDI					
64	ALI MNYIKA				0728461380	
65	CHURHI NGALAA				0727642879	
66	NYAKSA CHARO					
67	MWANJE MWAKISENGE					
68	BEUCHI CHOGA				0715098250	
69	CHLEMBI JUMU				0727559427	
70	CHOGA MWENDE					
71	HAMISI BORA BAIWE				0726753046	
72	MUKINTI CHOGA				0708655783	
73	KUFASA COPHULO				0737816524	
74	NIGASARE MWAKUWETA				0718762350	
75	NGANDI MWAMBILI				0768764715	
76	HJELI BAKALA					
77	MATTHI DURA				076163811	
78	MWOTAR KUHARA				0727432573	
79	BEKOMOTI BEMAKODRA					
80	JUMA KUFASA				0797935941	
81	MAZERA BEJA				0706459225	
82	STEPHEN MUKETA				072419608	

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83	OMUMNITATI' AGWAS	Researcher	Panafcon Ltd	ocommunity@afg	0724939877	
84	MNYAZI BAYU					
85	SALMA MBONZE BAYU	PEACE BUILDING COMMITTEE			0740231019	
86	KWEKWE KAJIMBI					
87	MWAKA MRINA					
88	MELOMA MWADEJE					
89	AISHA HAMANI				0703927137	
90	NYAMVULA SHUKARI				0700427146	
90	DZAME BEJA					
92	KANITA MSITI				0714083292	
93	MWANASIT OMAR				0716581112	
94	BERNEO MUPA NYAMANI				07	
95	ANZAZI CHOCIA					
96	BINTI CHOCIA				0707923075	
97	FATIUMA MUPA RUKWA				0791633842	
98	UMAZI BEURO					
99	SIDI MACHAZI CHENGO					
100	EGTA MWAFICIA					
101	MBEYU TANDI					
102	MADZUWA MAJINAT					
103	CHAZI MDEGWA					
104	UMAZI ETAKAMANI					

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
105	MISHI MWENDA MGAHA	-	-	-	-	U
106	UMAZI MUMBA	-	-	-	-	U
107	MEJUMA MWADEJE	-	-	-	0711383136	<del>MEJUMA</del>
108	UMAZI SWALEHE	-	-	-	-	B
109	SALMI JUMA	-	-	-	-	SALMI
110	MARIAM JUMA	-	-	-	-	MARIAM
111	MBEYU KADENGE	-	-	-	-	MBEYU
112	NJIRA MGAHA	-	-	-	0795507716	NJIRA
113	IMANI CHARLES	-	-	-	0727034809	<del>IMANI</del>
114	MESWALEHE SWALEHE	-	-	-	-	M
115	MBONZE CHINDILO	-	-	-	-	M
116	MARICA TUBE	-	-	-	-	O
117	CHARI HARANGA	-	-	-	-	S
118	UMAZI MSITI	-	-	-	-	U
119	MJEM CHINDORO	-	-	-	-	O
120	MBODZE CHARO	-	-	-	-	M
121	ECTA MANGALE	-	-	-	0704581424	<del>ECTA</del>
122	MADJWA MGAHA	-	-	-	0712794819	M
123	FATUMA KASSIM	-	-	-	0715654927	<del>FATUMA</del>
124	KWEKWE KUD	-	-	-	-	K
125	MEDIA DIYO	-	-	-	-	M
126	MBODZE MWANGUMA	-	-	-	-	S

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
127	CHINYAMW KADI					C
128	MWONGO MWAJAZA				0740392648	M
129	MWAKA KULALA					<del>C</del>
130	Kwekwe Kulala				0740 601963	<del>C</del>
131	CHIZE KWAKA				0719514003	C
132	SELINA TSUMA				0700878774	<del>H</del>
133	JATUMA MUKALU MWEE				07	C
134	MUHACHE MZUNGU					C
135	MRODZE MBUI					M
136	MASZUBWA KAMLEANA					N
137	KHADJIA MWERE					K
138	ASHA BEJA				0713554968	A
139	DUME MWAJAZA				0740281487	D
140	MARIAM TSUMA					M
141	MREYU KUTASA				0703582592	M
142	MWONGO RUWA				0711593839	M
143	MRODZE MZIRWA					M
144	HAMISI C. KOMBO				0706113182	H
145	MREYU GUYI MWAJAZA				0707563180	MREYU
146	MESUMA ALI					S
147	CHIZI CHIDOMBO				0707059097	C
148	REHEMA HAMISI					R

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
149	CHIRIKIA MWANGOKA				0702663470	
150	HAFALIGA MWANGOKO			Garaslizzo	0702664175	
151	Musa Garastu			Garaslizzo@gmail.com	0795294084	
152	MPANGO LAIRI					
153	MWALIGA NEEGWA				0719570275	
154	GUBE TITAU				0703274023	
155	HAMU SALIM				0795659495	
156	SULEIMAN RUWA KAJIMBI				0702064044	
157	KAJIMBI KAMBI MOSES				0706771529	
158	MAGARAJI MWANGOKA				0798474802	
159	MWANGOKA MAGANGA				0725535817	
160	MWERO CHININZI				0735471234	
161	MWALWE MAVUNGU				0723626603	
162	JAMES JOTO				0721345140	
167	HARISI BEWIRDA				0740623350	
168	MUSITI MWACHUPA				0728383057	
169	CHIDZAO C MWANZUKI				0712608307	
170	MANGALU NYUNGU				0728768088	
171	NYAE MWAMBIRE				0724993089	
172	KOMBORA MARIKO				0729563570	
173	ALI M. NDOVO				0706760469	
174	SAID B. NJEI				0701104856	

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175	MOHAMED B. KULOCA				0737111398	
176	MUSA G. DYI				0726734790	
177	MGARFI MAMBO				0716607948	
178	YAMBA BEJA				0738304408	
179	ALI MONGO					
180	CHARLES TSUMBA					
181	JURTA SALIMU					
182	SALIM DUMBO				0702058817	
183	MAVUNGU KOMBO				0723424955	
184	GUBE MZIRWA				<del>07</del>	GUBE
185	BEJA GURU					BC
186	JUMA B. BECHA				0727218520	
187	MGAZA ZUMA				0707269392	
188	MANSALE MWAGAR				0701790158	
189	KLIRIMBA ZIRU				0720601334	
190	LETE MWANGWARU				0799814225	
191	WILLIAM MANKFU				0705083038	
192	MASHAKA NEMO					
193	SALIM CHIMERA				0717431174	
194	BURTA MUMBU				0726537964	
195	ADAM JUMU				0713017550	
196	KOMBO GARI				0715827294	

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197	ASHID BEJA			rashidbeja101@gmail	0723530209	
198	RASHID BEJA				0727716134	
199	MBARUK JUMA				0726573807	
200	MANGALE MASUJI				0710956908	
201	SAYO MWATEMO NGAO				0716581127	
202	LETE MWETEKA					
203	D. KWAKA CHIMBORO				070644359 0720050178	
204	MANGALE MWINA				0728680564	
205	MKALA MUMBA				0703797926	
206	OMARI B. MUSSALI				0712838705	
207	NZAI RANDI NZAI				0713693236	
208	MERAMANI MUMBIJI				-	
209	MWUNE BETUNDA				0713414508	
210	MWERA HARAUCA			HARAUCA MWAMVULA	0726028105	
211	BEJA LEWA				0713260181	
212	KARABU MWETEKA				0726307135	
213	CHINJO MWAJUMBE				0795761203	
214	ALI GORI			aligor9073@gmail.com	0700704993	
215	BATI NGAO BATI				0713912607	
216	KWAKA MWAMUNGO				07044447490	
217	MLEI MUAMBII				-	
218	JUMA RASHID				-	

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219	DALA NDEME					
220	MWACHENDA NDEME					
221	NYAE MWANGUNYA				0721777319	
222	HAMISI M. MENZA				0734396608	
223	Jumatale Kambi				0700188643	
224	JOMO Ali				23	
225	CHITUMB BENAME				239 0715814899	
226	UMWA NZOLE				0724228579	
227	CHAI LUNGANZI				0714442404	
228	MANGALE KAI					
229	CHIRO MANGALE				0718962539	
230	CHIRO MWEEMBE				0717009129	
231	Chemo Meje				TT	
232	NDEME MWAK				0734396608	
233	Kemr Mwangala				+	
234	Jumo LAE U				0718962539	
235	Faulina Rahamb				-	
236	Hamisi John				0718962539	
237	Peter Mweembe				0724228579	
238	Riziki Ngembene				-	
239	Mwapapa Ngoro				0721777319	
240	Mwaguma Ndole				-	

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
241	CHINYAMWU JAJI					
242	MBEYU RUMBA					
243	BINTI KOMBO				0710623329	
244	KACHE NGAHA					
245	MWONGTO JACOBSON CHAZO					
246	MWAKA DZOMBO				0729086302	
247	DZALAMBI MSTITI KOLA				0720474462	
248	MARIAM JONDO					
249	NYAMVELA LENCZA				0719232769	
250	MWAKA <sup>MALIMA</sup> CHENZWE				0727153326	
251	RIZIKI CHICAMBA				<del>0710623329</del>	
252	REBECCA MAZERA				0710755627	
253	MEDZA MCOAMBA				0798437889	
254	MELUMAA CHEMBE					
255	Ndoro Tsimba				—	
256	Nyenge Demung				—	
257	Mauleni Mpelka				—	
258	Kwekwe MINGI				—	
259	Runes Kwekwe				—	
260	Mbanza				—	
261	Zuma Nyome				—	
262	Cynthia Minyi	Environmentalist	Panafcon Ltd	c.minyi@panafcon.net	0713242550	

**6. Mwavumbo and Mwatate Locations Sensitisation Meeting at Mwanda Dispensary Grounds**

**Minutes**

**Attendance Register**

**MINUTES OF THE SENSITIZATION MEETING FOR THE ESIA AND RAP STUDY FOR THE POWER SUPPLY COMPONENT OF THE MOMBASA SEZ DEVELOPMENT PROJECT HELD AT MWANDA DISPENSARY GROUNDS ON TUESDAY, 18 JULY 2017 AT 2:00PM.**

**ATTENDANCE LIST:**

No.	Name	No.	Name	No.	Name
1	Joshua Oyieko	38	Hamis Jefa	75	Luvuno Mwamose
2	Rahma Mwakisingo	39	Ndegwa Chidoti	76	Kuphenya Dalu
3	Samson Chale Joho	40	Johana N. Nyale	77	Mary Kombo
4	James Nyawa	41	Khamisi S. K. Kadide	78	Omari Kwaza
5	Ali M. Bagalla	42	Buguta Dzeha	79	Hamisi Mwaya
6	Daniel Wanini Dalu	43	Mazera Chinango	80	Kwekwe Nzomo
7	Francis Mnyika Dalu	44	Juma Kombo	81	Luvuno Kadzingo
8	Sudi Bagala	45	Rashid C. Mbiti	82	Mlongo Munga
9	David Mgani Wanini	46	Omar Akili Mwachiteme	83	Njira Mangale
10	Bagala Dalu	47	Mnyika Dalu	84	Kwekwe Kombo
11	Ruwa Mwambire	48	Mvurya Meti Mvurya	85	Mejumaa Luganje
12	Amos M. Katembe	49	Mkalla Bagalla	86	Chiphenyo Mkundya
13	Jira Kuphenya	50	Mwazuma Mwabodze	87	Nyamula Ngala
14	Meri Kuphenya	51	Matano Kalimbo	88	Luvuno Chiguba
15	Mbetsa Kimaira	52	Jackson M. Mwachilole	89	Mchemwigo Chikololo
16	Mwamwero Mwazuma	53	Matano Saidi	90	Mbeyu Ruwa
17	Mwurya Mwahdoro	54	Chimaira Kalimbo	91	Ibrahim Chiphyzoza Jawa
18	Muthoka Mbindyo	55	Katembe Nzembe	92	Harrison K. Mwandoro
19	Buru Tengete	56	Kombo Ndaro	93	Nyale Katana
20	Husseni Mutsololo	57	Rashid Mgeli Jimbale	94	Wilson J. Mwangale
21	Patrick Munga Mgalla	58	Francis Kuphenya	95	Purity Katana
22	Nyawa Mwamose	59	Nyondo Rai	96	Masha Katana
23	Mwero Wato	60	Anderson K. Jira	97	Zuma Kombo
24	Jeffa Chiti Kalu	61	Mwaka Musa	98	Ziro Katana Ziro
25	Nuru Mazera	62	Kalume Mwigo Kamume	99	Nyawa Wato
26	Malembi	63	Hamisi Kwala	100	Nadzua Mkamba
27	Ali Mulua Nzemi	64	Sinema Chimega	101	Omumitah Agwaro
28	Hamisi Mwatsahu	65	Omari M. Kidauga	102	Mbovu Mgalla
29	Dalu Dudu	66	Mwaka Chau	103	Maria Mbovu
30	Dalu	67	Nadzua Lomba	104	Mariam Solomon
31	Nyale Wanje	68	Kwekwe Mangale	105	Ruth Mbala
32	Hassan Banju Mgala	69	Fatuma Mwanzuha	106	Nadzua Chaka
33	Nelson Mutoi	70	Mbovu Kateme	107	Margaret Mganga
34	Gereza Mkala	71	Mgandi K. Nyawa	108	Amina Chiphenyo
35	Mreje Nyanje	72	Mgandi Mbao	109	Dama Mbovu
36	Samuel Mkallah	73	Mwadahabu	110	Mbeyu Mwachilole
37	Kuphenya Gwama	74	Nganwa Mwanyoha	111	Luvuno Mbagala

No.	Name	No.	Name	No.	Name
112	Ngombo Kazungu	136	Kwekwe Kombo	160	Mnyazi Gwama
113	Mwaka Gwama	137	Nadzuwa Jira	161	Chiberya Chiraho
114	Saumu Nyanga	138	Mbovu Chigamba	162	Nzembe Chigamba
115	Dhahabu Mbogu	139	Kuphenya Chigulu	163	Luvuno Tungwa
116	Mbeyu Gwama	140	Banju Mgandi	164	Myamuula Chiti
117	Khadija Kadzo	141	Chiguba Mwambodze	165	Solomon K Dalu
118	Mwaka Lunganje	142	Munga Mwatsahu	166	Josephine C. Chai
119	Mjeni Jira	143	Chrispus Tsuma	167	Irene Muchoki
120	Ngonda Mreje	144	Khamisi Jawa	168	Cynthia Akinyi
121	Rehema Samy	145	Ramadhan Chinago	169	Chai Mgandi
122	Nyamvula Mwawira	146	Mangale Zuma mdoe	170	Samin Buru
123	Said Baya	147	Mwazuma Nyasi	171	Mugeni Munalo
124	Hamisi Katembe	148	Mungana Mwazuma	172	Mbeyu Mwatsahu
125	Chai D. Chai	149	Zuma Ndaro	173	Kahaso katana
126	Choga Chirima	150	Munga Chigamba	174	Kambua Katembo
127	Walid Dena Jawa	151	Malembi	175	Mwanajuma Mwamba
128	Jumaa M. Malembi	152	Safari Mwakui	176	Mupa Chidzidziongo
129	Rajab K. Mwachilole	153	Salim Matoto	177	Chari Kambi
130	Nyawa Mgandi	154	Dalu Chigamba	178	Patricia Mbathe
131	Mwamvula Tembo	155	Ali M. Bagala	179	Nyamawi Mwero
132	Hamisi Nyawa Yama	156	Kaema J. Kinago	180	Cosmas N. Kuphenya
133	Baru Yama	157	Naftal Malembi	181	Munga C. Mzembe
134	Hamisi Mdao	158	Evans Mwachilole	182	Naomi Dalu
135	Kusowa Mgandi	159	Ramadhan Mbao	183	Hadija Kadzo

## AGENDA OF THE MEETING

1. A word of prayer by one of the participants.
2. Introduction of the participants (Chief/KETRACO/JICA/Panafcon).
3. Purpose of conducting the Sensitisation Meeting with the Project Area Community (KETRACO).
4. Project brief on the components of the proposed 220kV Transmission Line from Mariakani-Dongo Kundu and a Substation (KETRACO/JICA)
5. Implementation Plan for the ESIA and RAP Studies of the proposed 220kV Transmission Line from Mariakani-Dongo Kundu and a Substation (Panafcon).
6. Views of the Participants on the Project - Comments, Question and Answer - Open Session (Chief/KETRACO/JICA/Panafcon).
7. Closing Remarks by (KETRACO/Chief).
8. A.O.B.
9. Closing Prayer.



**Minute 01:**

The meeting was called to order at 2pm and began with a word of prayer from one of the participants. This baraza comprised of people from Mwavumbo and Mwatate locations jointly holding a meeting at a jointly agreed-on venue in Mwavumbo location (Mwanda Dispensary Grounds).

**Minute 02: Introduction of the Participants.**

The Mwatate chief welcomed everyone in attendance to the meeting and recognized the Mwavumbo location Chief for the honour of hosting him and people from his location. He acknowledged and thanked them for finding time to attend the meeting. He introduced the Village Elders from his location who were in attendance. The area Chief later introduced the area Assistant Chief and Village Elders from various villages in the project area. She specifically welcomed the team of experts from JICA, KETRACO and Panafcon.

Both chiefs explained the purpose of the meeting and encouraged the stakeholders and the community members present to actively engage in the discussions about the proposed project.

Mr. Godana welcomed all the participants and introduced the KETRACO Team and Ms Mwakisingo and Mr. Mbisi from JICA who were present at the meeting. He explained the role of KETRACO, JICA and Panafcon in these two projects. Mr. Oyieko introduced the Consultant Team Members from Panafcon who are involved in the RAP and ESIA Studies and were in attendance at the meeting.

**Minute 03: Purpose of conducting the Sensitisation meeting.**

Mr. Oyieko gave a brief introduction of the project, a general history of the project, its design changes and hence the purpose of conducting a new RAP Study. He explained the importance of the project citing the positive impacts of the project, the negative impacts and the mitigation measures to reduce the negative impacts. He stated the legal requirement for public participation and consultation in any project or/and matter that affects them in any way. The right of the affected community to receive correct and timely information and engage with the project implementers is the main purpose of the Sensitisation meeting.

PAPs who have constructed their structures or have planted crops and trees on land that does not belong to them (squatters) will relocate elsewhere outside the wayleave corridor after compensation for these development is paid to them. The compensation money for the land will be paid to the registered/ legal land owner(s). Compensation for the losses will be at prevailing market value and at the replacement cost for land and structures respectively. Trees will be compensated for after they are felled according to the rates of various tree types, sizes, age and value as provided by Kenya Forest Service while crops will be compensated as per the guidelines provided by the Ministry of Agriculture if/after they are destroyed during the line construction. PAPs were again encouraged and reminded to avoid encroachment and further development on the wayleave corridor as they had been informed in the previous RAP study. Any further developments will not be compensated for by the KETRACO and the concern person(s) will remove these structures from the corridor at their own expense.

**Minute 04: Project brief on the components of the proposed Power Supply Components of the Mombasa SEZ Development Project**

The 220 kV transmission line will extend over a distance of approximately 53 km from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County. The following are the main components of the Project:

- Development of 220 kV transmission line with 40m wayleave from Mariakani 400/220 kV substation to Mombasa SEZ. The Mariakani 400/220 kV substation is however not included in this Project scope
- Development of 220/33 kV substation inside Mombasa SEZ
- Access road from Southern Bypass road to 220/33 kV substation. The approximate length the road is 700 m and Right of Way is 13.5 m.
- Development of 33 kV distribution line inside Mombasa SEZ from 220/33 kV substation

**Minute 05: Implementation Plan for the ESIA and RAP Studies of the Proposed Power Supply Components of the Mombasa SEZ Development Project**

The ESIA and RAP Studies of the proposed power transmission project involves sensitizing the project area community members who will be directly or indirectly affected by the project, carrying out 100% census and asset inventory surveys. The surveys will be along the 40 metre wide and 53km long corridor of the 220 kV transmission line, they will be carried out at the substation site area and along the 10 metre wide and 3km long corridor where the 33 kV distribution line and the access road from 220/33 kV substation will traverse inside the Mombasa SEZ.

Directly affected PAPs will be consulted further in smaller and personalized PAP meetings after the completion of the census and asset inventory surveys, data analysis and data compilation. They will be informed of the various categories of affected assets and their entitlement for each category and projected timeframe. Focus Group Discussions will be held with women during these PAP meetings where they can free air their view without the cultural limitation apparent in most the project area. This limitation is in that traditionally, women are not supposed to talk or express themselves before their men/ husbands. Mwavumbo and Mwatate locations is mainly dominated by the traditional Duruma Community. They are some Kamba immigrants in the area too. The entire two locations are under the Mwavumbo Group Ranch.

There will be the second round of Public Consultation Meetings in the entire project area where the Consultant will disclose/present ESIA Study findings (Positive and Negative Impacts and proposed mitigation measures for the negative impacts and Environmental and Social Management Plan) to the communality and receive their feedback

**Minute 06: Views and Questions on the Proposed Power Supply Components of the Mombasa SEZ Development Project from the participants of the Sensitisation meeting with responses and clarifications given by KETRACO, Panafcon and JICA**

**Q1: What will happen if my house is just outside the 40metre wayleave e.g. a house or a tree that is just 1 metre outside the wayleave edge, Will it be left? (Daniel Dalo)**

**A1:** A structure anywhere outside the 40metres wayleave is very safe for occupation and other uses and tall trees can grow anywhere outside the 40 metres wayleave

**Q2. Will the PAPs be allowed to salvage any building materials from their affected structures after compensation? (Daniel Dalo)**

**A2:** PAPs will be allowed to salvage any building materials they may consider useful to them within the notice period. Any structures not removed from the corridor by the expiry of the notice period without a good and valid reason will be pulled down by the Contractor and the PAPs would not be able to salvage any materials after that. The felled trees belongs to the PAPs to sell or use them in any manner necessary.

**Q3. Will crops which were enumerated during the previous RAP survey but have since been harvested be factored in and compensated for in the current study? (Daniel Dalo)**

**A3:** The current RAP study will only evaluate the line corridor as it is now and record all assets as they are currently and not as it was historically.

**Q4: Will the community members be able to get power in their homes from the line or will this power line just pass over them? (Jackson Mambo)**

**A4:** The transmitted power belongs to the local communities and their neighbours. However, distribution of power to their homes is the responsibility of Kenya Power. KETRACO only does power transmissions which is among the first steps to people accessing power in their homes after which distribution is done by Kenya Power from the KETRACO Substations

**Q5: Will already fallen houses which were on the wayleave previous be compensated for? (Harrison Katendwa)**

**A5:** The current RAP study will only evaluate the line corridor as it is now and record all assets as they are currently and not as it was historically.

**Q6: Can the community members continue burying their dead below the line (on the wayleave) once it is constructed and energized? (Chrispus Tsuma)**

**A6:** *Maybe since it is not construction of structures and burial activity may take only a few hours below the line but KETRACO to give final guidance*

**Q7: Will the compensation rate paid for the land where the pylon/ tower is constructed be the same amount as where the line only pass over the land? (Bagala Dalu)**

**A7:** Yes, the same land compensation rate applies regardless of whether the land will have a tower or towers erected on it or the power line will only pass over it.

**Q8: Will there be a special/ additional payment for the vulnerable group of people such as the physically challenged persons? (Katana Ziro– who looked like he is mildly mentally/ physically challenged but could communicate)**

**A8:** Yes, KETRACO and JICA Resettlement Policies is keen to ensure that the vulnerable groups are identified, considered and provision made for their resettlement assistance during the resettlement project implementation phase

**Q9: He was away during the previous RAP surveys and the line passed through his land and was therefore not enumerated? (Stephen Chai)**

**A9:** He will be enumerated if it is established that his assets are on the wayleave corridor.

All the eligible PAPs will be enumerated during the current census survey with the confirmation of ownership of land being confirmed by a title deed where available or using the established local mechanism to confirm ownership of affected land. The ownership of developments on the land such as structures, trees and crops will be established by the members of the affected household in the presence of the village elders

**Q10: He has a dispute over the land on the wayleave corridor and the other disputing party is hostile and cannot amicably come together so as to look for a way of resolving the dispute? (Stephen Chai)**

**A10:** Such a dispute should be channelled through the office of the chief for easier, safer and quicker resolution.

**Q11: There are people who are clearing land somewhere in Mwavumbo location claiming that it is a power line wayleave? (Jackson Mambo)**

**A11:** If there be such a case, it is not being done by Panafcon and neither does Panafcon have information who these could be nor confirm if the source of this information is legitimate.

#### **Minute 07: Closing remarks**

Both Chiefs thanked the community members for sparing their time to attend the meeting. They assured the directly affected persons that they will be consulted sufficiently. They reassured them the survey teams will always be accompanied by the relevant village elders during the field surveys and any issue can be raised with her office at any time. They asked them to cooperate with the Consultant and give required information honestly.

#### **Minute 08: AOB**

The chiefs made announcements about local issues of security, on-going campaigns and the need for all to maintenance of law and order during the campaigns, during and after August 8 general elections. The Pastor who was invited to do the closing prayer strongly urged people to stop killing each other accusing the victims to be witches. He challenged them that even if they kill people suspecting them to be witches, they cannot kill the acts of witchcraft as they do not understand that witchcraft is not merely a human activity but a spirit which they cannot kill by killing their brothers and neighbours.

#### **Minute 09: Closing Prayer**

The meeting ended with a word of prayer from the above mentioned Pastor

LIST OF PARTICIPANTS AT THE ESIA AND RAP SENSITIZATION MEETING

ESIA AND RAP FOR MARIAKANI-DONGO KUNDU 220Kv TRANSMISSION LINE

Venue of Meeting: MWANDA DISPENSARY GROUNDS

Date and Time of Meeting: 18-07-2017, 2:00 P.M MWAVUMBO/MWATATE LOCATION:

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
1.	Joshua Oyiero	ESIA Team Leader	Panafcon Ltd	j-oyiero@panafcon.net	0722 213 826 0733 428 498	
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5.	ALIM. BAGALLA	MWANDA	-	-	0725051826	
6.	DANIEL WANINI DALU	TEACHER	ISC	danielwanini@gmail.com	0720480828	
7.	FRANCIS MNYIKA DALU	FARMER	-	-	0727691013	
8.	SUDI BAGALLA	-	-	-	0724891131	
9.	David Mgani Wanini	-	-	-	0726126538	
10.	Bagala Dalu	-	-	-	0729646273	
11.	Ruma Mwaumbire	-	-	-	0740086885	
12.	AMOS M. KATIEMBE	-	-	-	0715,632 861	
13.	JIRA KUPHANYA	-	-	-	-	
14.	MERI KUPHANYA	-	-	-	0713428415	
15.	JACKSON M. MWACHIKOLE	TEACHER (RTD)	-	C/O P.O Box 104/ MARIAKANI	0726128869	
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22.	NYAWA MWAMOSE	-	-	P.O. BOX 104 MKI	0704193380	-
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25.	KALUMEMWINGO KALU	-	-	P.O. Box 370 MKI	0723357705	KALU
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27.	ALI MALIWA NZANI		-	P.O. Box 104 MKI	0714255072	<del>ALI</del>
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74	MW ADAH ABU	-	-	P.O. Box 104	0721362477	<i>MW ADAH</i>
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79	Mony Kumbo	-	-			<i>Mony</i>
80	Omari Kwanza	-	-			
81	Hamisi Mwaya	-	-			
82	Kwekwe Nzomo	-	-			<i>Kwekwe</i>

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
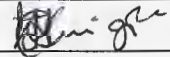




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89	MARGARET MAGANGA				0715088114	
90	ATMONA CHAHENTO				0726887133	
91	DAMA MBOU				-	
92	MIBETU MWACHILOLE				-	
93	LUVUNO BAGALA				-	
94	MINYAZI GWAMA				-	
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96	SAMBU NYANGA				0728114347	
97	CHAHABU MBOU				0718308609	
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100	MWAKA LUGANJE				-	
101	TOJENI JIRA				-	
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111	NYAMVULA NGALA				-	
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113	MICHEMWINGO CHIKOLOLO				-	
114	TIBEYU RUWA				-	
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120	WILSON J. MWANGALE				0702248411	
121	PURITY KAMIA				0721733214	
122	MASHA KATANA				0787459306	MASHA
123	ZUMA KOMBO				0716061450	
124	ZIRO KATANA ZIRO				0715296468	Katana
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131	Royab. K. MWACHILE				0727493535	Royab
132	DYAWA MGAZI				0711469031	Dyawa
133	MWAMVULA TEMBO				-	Mwamvula
134	HAMISI NYAWA YAMA				0716095813	Hamisi
135	BURU YAMA				0712457987	Buru
136	HAMISI MBO				0716354517	Hamisi
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138	CHAI MGAZI				0716330993	Chai
139	SAMINI BURU				0703220646	Samini
140	MUGENI MUNAZO				-	
141	TOBETU MWATSAMU				-	
142	KAHASO KATANA				-	
143	KAMBUA KATEMBO				0727132342	
144	MWANAJUMA MWAHARA				-	
145	MUPA CHIRIDZINGO				-	
146	CHARI KAMBI				-	
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148	MWAMWI MWERO				-	

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154	MBUVU CHIGAMBA				0707858111	
155	KUPHENYA CHIGULU				0713171340	
156	BANSU MGANDI				0724076054	
157	CHIGUBA ISWAMBUDZE				0733926188	
158	MUNGA NIWATLAHU				0740552071	
159	CHRISPK TSUMA				0714914130	
160	KHAMISI JANA				0716490478	
161	RAMADHAN CHINAGO				0727415329	
162	LANGAZE ZUMA MDOE				0728474393	
163	MWAZUMA NYASI				0710841071	
164	MUGANA MWAZUMA				0706859782	
165	ZUMA NYALUPO				0790432264	
167	MUNGA CHIGAMBA				0729995768	
168	MALEMBI				0716001609	
169	SAFARI MWAKAUI				0725082789	
170	SALIM NATOTO				0726912411	
171	DARU CHIGAMBA				0740480676	

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176	RAMADHAN MBAO				0731949713	
177	CHIBERYA C/HRATHA				0723734358	
178	DZEMBE CHIGAMBA				-	-
179	LUVUNO TUNWA				-	-
180	NYANINDLA CHITI				0702518691	
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**7. Mtongwe Locations Sensitisation Meeting at Dongo Kundu AP Camp**

**Minutes  
Attendance Register**

**MINUTES OF THE SENSITISATION MEETING FOR RAP & ESIA FOR THE POWER SUPPLY COMPONENTS OF THE MOMBASA SEZ PROJECT HELD AT THE DONGO KUNDU AP CAMP IN MTONGWE LOCATION, LIKONI SUB-COUNTY, MOMBASA COUNTY ON TUESDAY, 20 MARCH 2018 STARTING AT 10:00AM.**

**ATTENDANCE LIST**

1	Joshua Oyieko	39	Abdulla Mussa	77	Rev Eric Simiyu
2	Herman Kivunira	40	Gitau Ngunjiri	78	Hamisa Mkongo
3	Rasheed Abdallah	41	Mohammed Shakombo	79	Swaleh Masudi
4	Omummitah Agwaro	42	Abdallah Kimengi	80	Kamanza Mwatela
5	Eliatha Mate	43	Abdallah Mwalimu	81	Hassani Juma
6	Nyundo B. Mweru	44	Jefa Waia	82	Baraka Beja
7	Abdalla Feisal	45	Beja Ngudo	83	Kalimbo Mweru
8	Majid M. Menya	46	Salim Abdallah	84	Charles Musa
9	Shahidi Juma	47	Alifukira Juma	85	Stephen Akula
10	Mohammed Chala	48	Sunday Salimu	86	Rashid Sudi
11	Amisi Omari	49	Lema Bati	87	Mwinyihamsi Bongo
12	Bemrarad Mi	50	Mohamed Beja	88	George Mwanyiro
13	Mohamed Mwinyi	51	Shaban Kuremwa	89	Bakari Hassan
14	Ali Mukabana	52	Dadi Kesi	90	George Mwshighadi
15	Salimu Hassan	53	Sudi Abdallah	91	Mwanzamu
16	Yarabi Abdalla	54	Saidi Sudi	92	Mohamed Hassan
17	Suleiman Said	55	Mwangama Gunda	93	Juma Mohamed
18	Rama Athumani	56	Abdallah Omari	94	Abdallah Mohamed
19	Juma Fimbo	57	Bakari Idd	95	Rashidi Mwinyi
20	Mwanamisi Rashid	58	Bakari Rashidi	96	Dominic Mosei
21	Ramat Godana	59	Suleiman Goodluck	97	Eunice Moraa Moenga
22	David Thuo	60	Mohamed Shabani	98	Abdirahman Swaleh
23	Harrison Odhiambo	61	Muli Nzue	99	Mwawako Salimu
24	Zuma Dambo	62	Juma Hamisi	100	Idi Mukila
25	Bakari Hassan	63	Kassim F. Hussein	101	Jefa Muia
26	Abdalla Hamisi	64	Kadza Gamba	102	Rashid Omar
27	Stephen Lucas	65	Ali Bakari	103	Juma Matumbo
28	Juma Chuma	66	Diki Mwaroho	104	Mohamed Ali Mwasi
29	Mariam Juma	67	Mwenda Mubamu	105	Daniel Machana Dongo
30	Rama Abdallah	68	Ramadhani	106	Amri O. Shilingi
31	Mwinyi Omari	69	Abdullahi Hassani	107	Hamisi Mwanyiro
32	Ouma Reuben	70	Laurence Dena	108	Issa Zahoro
33	Nelson Mwangela	71	Joseph Kaunda	109	Juma Chombo
34	Mohamed Ali	72	Athuman Ali	110	Mohamed Ali Mzungu
35	Saidi Simba	73	Hamisi Suleiman	111	Patrick
36	Katana S. Kalaria	74	Kajei	112	Mwinyi Ali
37	Chilembi B. Chilimbi	75	Ramadhan Mwalimu	113	Mgaza
38	Ali Kodi	76	Silas Mwangangi	114	Kirisotafa Lugwe

No.	Name	No.	Name	No.	Name
115	Ramadhan Ali	157	Hamisi Hassan	199	Monica Mwainzi
116	Rama Sawsawa	158	Salim Sudi	200	Mwanahalima Dola
117	David Ng'ambo	159	Rama Vurya	201	Mwanajuma Mwachana
118	Ali Matano	160	Guni	202	Fatuma Ali Juma
119	Hassan Mwinyi	161	Athumani Mwanduri	203	Kajima Silippa
120	Juma Dari	162	Dzango Keshi	204	Athumani Mwangunya
121	Mohammed Juma	163	Peter Macharia	205	Josephine N. Ihatiku
122	Rehema Lowayo	164	Elizabeth M. George	206	Mlonga Mrema
123	Juma Abdallah	165	Nyamawi Ramba	207	Tabitha Koki
124	Hussein Salimu	166	Mbaraka Rumba	208	Elizabeth Musau
125	Mwinyi Hajji Rama	167	Beja Lewa Rumba	209	Anna Ndetei
126	Chili Salimu	168	Fatuma Dzombo	210	Constance kalato
127	Rashid Omari	169	Mary Mlongo Nyamawi	211	Asha Mohamed
128	Hamisi Swalehe	170	Mariam Mwachirumbi	212	Teresia N. Musila
129	Nyanje Mwero	171	Agnes Mbui	213	Salome Kitawa
130	Juma Ali	172	Hadijja Juma	214	Mwanasha B. Mwavuli
131	Steve Chirege	173	Mlongo Hamisi	215	Toto Ngombo
132	Jana Gonja	174	Mlongo Baya	216	Zainabu Guyo
133	Chirongo Munga	175	Nusu Yusuf	217	Philomena Mbau
134	Johnson Mwahanje	176	Meali Hamisi	218	Esta Tsuma
135	Livingston Mbaru	177	Hadija H. Muta	219	Kamwenga Mazera
136	Abdallha Idd	178	Kash Mohamed	220	Mwanaidi Suleiman
137	Andre Kennedy	179	Kibibi Hussein	221	Kahdija Mangale
138	Hamisi Ramadhani	180	Rose Mwende	222	Mohamed Mbwana
139	Juma Chilembi	181	Catherine Mwameso	223	Rhodah John
140	Moris Edward	182	Mwanamisi Athumani	224	Jane Zakaria
141	Hamisi Salimu	183	Chupe Yogwe Chupe	225	Halima Kesi
142	Rama Suleiman	184	Nyundo Mwandebwa	226	Jumaa Mwaponda
143	Hamisi Kunena	185	Mlongo Nyamawi	227	Mwanasiti Kisalu
144	Iddi Yusuf Hassan	186	Ntsuma Mzomba	228	Maryam Mzee
145	Hamisi Mohamed	187	Mwangala Zinyau	229	Rachael Sidi
146	Nyae Mwangolo	188	John Charo	230	Hellen Keara
147	Daniel Mwainzi	189	Lugo Mwavuo	231	Kibibi Abdallah
148	Masaaku	190	MarilynChao Ouma	232	Mwalimu Mohamed
149	Kombo Nyasi	191	Amina Bahamadi	233	Arch. Jaffar S. Mosheh
150	Kalos Boga	192	Gitumbui Mutongoi	234	Esther Kalondu
151	Saidi Mwijaka	193	Monica Malonza	235	Cristom K. Mwalimu
152	George Musuya	194	Priscilla Nzioka	236	Nason Kimuyu
153	Mbaruku Abdallah	195	Asiya Gasiya	237	Hamisis S. Madindima
154	Mwinyihaji Ali	196	Mary Ziro	238	Daudi Juma
155	Benard Kioko	197	Kajumwa John	239	George M. Kalato
156	Suleiman Mwahui	198	Mary Benard	240	Nicholas Mangi



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241	Juma Suleiman Haga	284	Taitas Musyoka	327	Suaad Salim S. Ali
242	Salim Salim	285	Athuman Abdalla	328	Mwinyi Omari Nzinda
243	Gwama Katembe	286	Said Omari	329	James Helambue
244	John Hamisi	287	Mwanajuma Mwidadi	330	Salam H. Baya
245	Julius Mureithi	288	Mwanasha Babu	331	Mohamed Hassan
246	Fatima Ali	289	Mwinyi Ali Makoko	332	Simon Gichohi
247	Rukia Rashidi	290	Mwatele Nyamawi	333	Summi Juma
248	Fatuma Juma	291	Mutunga Nzioka	334	Mohamed Chombo
249	Bahati Mbao	292	Suleiman Mgala	335	Seif M. Manuari
250	Elizabeth Kipara	293	Bemwaka T. Muryani	336	Suleman Omari
251	Ali Khadi Ramadhani	294	Joash Oindo	337	Mwalimu Omari
252	Juma Ramadhani	295	Fedinard Mumo	338	Mwanasiti Mwakurumwa
253	Mwalimu Kithi	296	Felix Maiya	339	Luvuno Tsuma
254	Priscila M. Rai	297	Erustus S. Mwatime	340	Mwanasha Ali
255	Omari Ali	298	Chari Salimi	341	Mwanasiti Mfaki
256	Swaleh Hamisi	299	Hajj Ramadhan	342	Mishi Omari
257	Mariam Mwakunena	300	Geoffrey Mirasi	343	Halima Swalehe Tendo
258	Mwanarusi Juma	301	Mwaka Awale	344	Fatuma Ningeyo
259	Salma Madizi	302	Kinyanjui Mbiyu	344	Bikashi Mwajuma
260	Athman Kibwana	303	Binti Hassan	345	Bikashi Mwajuma
261	Juma Athman	304	Masi Kasweche	346	Nzai
262	Kipara Mwangangi	305	Mwana Mwisho	347	Mejumaa Salim
263	Zuma Nyasi	306	Christine Muoki	348	James Juma Lunani
264	Mwingi Sudi	307	Salama Deche	349	Sudi Omari Mjama
265	Omari S. Matabu	308	J. Athumani Mwangovi	350	Suleiman Juma
266	Mangale Nyundo	309	Juma M. Mohamed	351	Meseleman Swaleh
267	Salimu Ali	310	Dzame Besada	352	Kache Chaka
268	Raphael R. Dume	311	Nicholas Songora	353	Umazi Ngome
269	Rama N. Nyanje	312	Myoni Mzungu	354	Halima Mohamed
270	Mwema Kilonzo	313	Riziki Juma	355	Umazi Chaka
271	Ally Sasabu	314	Fatuma Suleiman	356	Fatuma Jira
272	Walter Kisti	315	Fatuma Shir	357	Mebakari Rama
273	Solomon Musyoka	316	Mary Muthoni	358	Lucy Manyi
274	Said Ali Chingonda	317	Fatuma Hamisi	359	Uba Salim
275	Salim Hassan	318	Fatuma Juma Hassan	360	Hassan Hussein
276	Lilian Nabwire	319	Mbodze Abdalla	361	Kidodo Nyamawi Kambi
277	Zuma Mwandori	320	Salim Ali Mwahaji	362	Shuruti Mwajirani
278	Hassan Idd	321	Musa Mohamed Mwadzuphi	363	Chizi Tsuma Kombo
279	Fatuma Swalehe	322	Amina Ali	364	Mesaid Said
280	Mwashuhuli Mohamed	323	Agnes Emmanuel	365	Mwanalii Kahindi
281	David Kalato George	324	Kwaka Mungwaru	366	Asha Said
282	Philip Nzoka	325	Swalehe Salim Bongo	367	Mary Moki
283	Jane Kambura	326	Fatuma Chilumbi Bidu		

## AGENDA OF THE MEETING

1. A word of prayer by one of the participants.
2. Introduction of the participants (Chief/KETRACO/JICA/Panafcon).
3. Purpose of conducting the Sensitisation Meeting with the Project Area Community (KETRACO).
4. Project brief on the components of the proposed 220kV Transmission Line from Mariakani-Dongo Kundu and a Substation (KETRACO/JICA)
5. Implementation Plan for the ESIA and RAP Studies of the proposed 220kV Transmission Line from Mariakani-Dongo Kundu and a Substation (Panafcon).
6. Views of the Participants on the Project - Comments, Question and Answer - Open Session (Chief/KETRACO/JICA/Panafcon).
7. Closing Remarks by (KETRACO/Chief).
8. A.O.B.
9. Closing Prayer.

### Minute 01:

The meeting was called to order at 10.15am and began with a word of prayer from Mzee Bakari and Mr Jira. Mr Salim (a thespian/comedian) entertained the gathering.

### Minute 02: Introduction of the Participants.

The Assistant Chief of Mtongwe Sub-location (Mr Rasheed Abdallah) welcomed everyone in attendance to the meeting. He acknowledged and thanked them for finding time to attend the meeting. He welcomed Mr Felix Maiaya, the area Assistant County Commissioner (ACC) to highlight the Agenda of the meeting.

The ACC introduced the village elders and the former Ward Administrator of Mtongwe.(Madam Esther). He also welcomed the following representatives to introduce themselves:

- County Government of Mombasa
- JICA Design Team (JDT)
- Kenya Electricity Transmission Company (KETRACO)
- National Land Commission (NLC)
- Panafcon Ltd (ESIA and RAP Study Consultants)

He explained the purpose of the meeting and encouraged the stakeholders and the community members present to actively engage in the discussions about the proposed project.

### Minute 03: Purpose of Conducting the Sensitisation Meeting.

Mr Joshua Oyieko (Panafcon Ltd) briefly explained the reason of convening the sensitisation meeting and called upon Mr Richard Godana to elaborate further on the same. Mr. Godana started by welcoming all the participants and thanked them for attending the meeting.

Mr Godana explained the role of KETRACO, JICA and Panafcon in the project. He emphasized that as KETRACO continues building transmission lines, they are also concerned about the impacts that could occur hence Panafcon Ltd has been engaged to carry out Environmental and Social Impact Assessment (ESIA) and Resettlement Action Plan (RAP) studies.

He mentioned that purpose of convening the Sensitisation meeting is to inform the community about positive and negative impacts of the project and explain how the negative impacts are being addressed.

Mr Mirasi of KETRACO further elaborated on the importance of convening such meetings and discussing project impacts and how mitigations should be implemented. He emphasized the need to identify the vulnerable persons for special attention.

**Minute 04: Project brief on the components of the proposed Power Supply Components of the Mombasa SEZ Development Project**

The 220 kV transmission line will extend over a distance of approximately 53 km from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County. The main component of the Project is the development of 220 kV transmission line with 40m wayleave from Mariakani to Dongo Kundu in Mombasa SEZ. And a substation in Dongo Kundu

**Minute 05: Implementation Plan for the ESIA and RAP Studies of the Proposed Power Supply Components of the Mombasa SEZ Development Project**

Mr Oyieko mentioned that ESIA and RAP Studies of the proposed power transmission project involves sensitizing the project area community members who will be directly or indirectly affected by the project, carrying out 100% census and asset inventory surveys. The surveys are to be along the 40 metre wide and 53km long corridor of the 220 kV transmission line and the substation.

Directly affected PAPs will be consulted further in smaller and personalized PAP meetings after the completion of the census and asset inventory surveys, data analysis and data compilation. They will be informed of the various categories of affected assets and their entitlement for each category and projected timeframe.

There will be other Consultation Meetings in the entire project area where the Consultant will disclose/present ESIA Study findings (Positive and Negative Impacts and proposed mitigation measures for the negative impacts and Environmental and Social Management Plan) to the communality and receive their feedback

**Minute 06: National Land Commission (NLC)**

Mr Joash Oindo elaborated on the functions of the National Land Commission

**Minute 07: Views and Questions on the Proposed Power Supply Components of the Mombasa SEZ Development Project from the participants of the Sensitisation meeting with responses and clarifications given by KETRACO, Panafcon and JICA.**

**Q1: In 2012, surveys were carried out without informing property wners/ community? (James Jira).**

**A1:** Surveys should be carried out in the presence of the property owner and the impact of the project should be fully disclosed to the affected persons. Panafcon will coordinate with village elders and other leaders to ensure that all affected persons are informed about the surveys and are present when the surveys are carried out.

**Q2: People residing in Mwangala area in Dongo Kundu do not have Title Deeds. Will they benefit from the project (Suleiman Said Magomba)**

**A2:** Land will be compensated to the rightful owner

**Q3: He does not have confidence in compensation (*Pastor Martin*)**

**A3:** PAPs will be consulted and involved in the whole process of census survey compensation. Compensation covers loss of land, structures, trees, crops and business.

**Q4: All residents should be involved in the whole process-in meetings, compensation**

**-timely flow of information? (*Suleiman Salim Manundu*)**

**A4:** Panafcon will ensure all affected persons are duly informed and involved in the process of surveys, compensation and resettlement.

**Q5:**

- **Where will the transformers be placed along the corridor?**
- **How will data be recorded?**
- **Recommended Use of ID card copies in registering the affected? (*Simon Gichohi*)**

**A5:** Transformers will be placed at the proposed substation site.

- Data will be recorded in a computer tablet.
- IDs are always used.

**Q6: Dongo Kundu Community need Title Deeds. Where will residents of Dongo Kundu go if they are not compensated for land? There is concern that residents of Dongo Kundu are being called invaders (*Abdallah Mwalimu Ali*)**

**A6:** The issue of land ownership and land documents is in progress at very high level.

**Q7: How will payment be done without Title Deeds? (*Abdulrahman Swaleh*)**

**A7:** When the RAP Report is ready, NLC will assess and provide appropriate guidelines on compensation where titles are not ready.

**Q8: People of Dongo Kundu need title deeds? Who is the owner of Dongo Kundu Land? Land must be compensated (*Shaban Said*)**

**A8:** NLC does not issue title deeds. NLC will evaluate the situation and provide appropriate guidance on compensation for land.

**Q9: How will children, mothers benefit since almost all property is owned the men (*Elizabeth Msindi*)**

**A9:** The Land Act 2012 protects children, spouses from being denied access to compensation funds.

**Q10: Will you compensate me since I only keep livestock (*Madam Suad Salim*)**

**A10:** Keeping of livestock will not directly be affected hence there will be no compensation. Livestock owners may continue using the TL corridor.

**Q11: Who will be employed when the project takes off (*Madam Said Said*)**

**A11:** Community members are be given first priority for job opportunities especially the unskilled labour.

**Q11:**

- **Is there any CSR in the project?**
- **Was the community involved?**
- **Are stakeholders involved?**
- **Are women Youth Vulnerable groups involved?**

- **How many villages are involved?**
- **Is there any laid platform for complaints?**
- **Is there a strategic plan?(Nicholas Songora)**

**A11:** KETRACO has put in place all the above. As a matter of fact the present meeting is one of the avenues of consulting and making sure community members and stakeholders get involved in the project. During the RAP Study a comprehensive grievance redress mechanism will be developed to ensure all complaints are promptly and appropriately addressed..

**Minute 07: Closing remarks**

The ACC thanked the community members for sparing their time to attend the meeting. He reiterated that their issue regarding land has been taken by the team and will be sufficiently addressed. He assured the directly affected persons that they will be consulted sufficiently. He reassured them that the survey team will always be accompanied by the relevant village elders during the field surveys. Since the census survey will begin on March 21, 2018 in Dongo Kundu, he asked the community to support the Consultant and give required information truthfully..

**Minute 08: AOB**

There was no AOB

**Minute 09: Closing Prayer**

The meeting ended at 1315 with a word of prayer from Mzee Bakari.

LIST OF PARTICIPANTS AT THE ESIA AND RAP SENSITIZATION MEETING

ESIA AND RAP FOR MARIAKANI-DONGO KUNDU 220Kv TRANSMISSION LINE


Venue of Meeting: Dongo Kundu AP Camp – Likoni Sub-County

Date and Time of Meeting: March 20, 2018 Starting at 9.30am



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29.	Mariam Juma				0702776263	
30.	Rama Abdallah				0724881587	
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49.	Jenna Bati	Dongokundu	Farmer		0716976064	
50.	Mohamed Beja	Dongokundu	Farmer		0711101287	
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55.	Muhammad gunda	Dongokundu			0704664535	
56.	Abdullahi Omani	Mbuta			07	
57.	Bakani Abd	Dongokundu			0710498458	
58.	Bakani Fashidi	Dongokundu			0702505073	
59.	Sukerman Goodluck	Mwangala			0727623237	

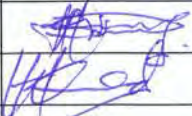
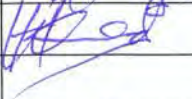



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116	Juma Semasawa	Keyo Mlongue	Farmer	—	07 -	
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135	KWIKWIKI Mbutu	Mwangi	Farmer	dunemburu@yakoo.com	0700656272	
136	Abdulla Idd	mbuta	Business	abdulla@mwasina.com	0795010072	
137	Alice Kennedy	Mwangi	Muro		074119907	
138	HAMISI BOMADHANI	Mwingi			0712672225	
139	Jamesi Chukwani	Kaji Mwangi	Farmer		0713619541	
140	Morris Edumad	Mbuta	Farmer		0707117988	
141	Jamesi Salimu	Keteje	Farmer		0799149106	
142	Pana Suleman	Mwangondani	Farmer			
143	Jamesi Kunena	Mwangondani	Farmer		0751603519	
144	Iddi Yusuf Husin	Mkajuni	"	iddibnanga@gmail.com	0731396738	
145	Hamis Mahana	Mbuta	"	Mkongwe		
146	Mwal Mwangi	Dongo Kundu	"		0710632650	
147	Daniel Mwangi	Dongo Kundu	farmer		0705271938	

Sensitization Meeting at Dongo Kundu – Mariakani-Dongo Kundu 220kv Transmission Line for the Mombasa SEZ Project

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
148	MAGWAKU				0727870314	[Signature]
149	KOMBO-NYASI				0713861626	[Signature]
150	KALOS. BOSAI				0708090831	[Signature]
151	SAIDI MWITAKA				0719433742	[Signature]
152	GEORGE MUSAHA					[Signature]
153	MBARUKU ABDALLA				0708014918	[Signature]
154	MWINYI HAJI ALI				0706664537	[Signature]
155	BENJAMIN KIOKO				0707087697	[Signature]
156	SULEIMAN MWATUI				0717018063	
157	HAMISI HASSAN				0701604601	[Signature]
158	SALIM SUDI				072649618	[Signature]
159	RANJA VURYA				0724778461	[Signature]
160	BRAT GUNI					
161	ATHUMANI MWANDUTI				0702508849	[Signature]
162	DZANGE KASHI				0707583292	[Signature]
163	PETER MACHARIA				0705206797	[Signature]
164	ELIZABETH M-GEORGE				0715618001	[Signature]
165	NYAMAWI RUMBA				0727290949	[Signature]
166	MBIRARA RUMBA				- - -	[Signature]
167	BETA LEWA RUMBA				0746422720	[Signature]
168	FATUMA DZOMBO				<del>0715618001</del>	[Signature]
169	MARY MLONGO NYAMAWI				0795649585	[Signature]





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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
170	Mariamly Mwachirumbi				0708266451	<i>MP</i>
171	Agnes Mbuli				-----	
172	HADWA Juma				-----	
173	Mlongo HAMISI				0792 80 7071	<i>Mlongo</i>
174	Mlongo Bayo				-----	
175	Nuru Yusuf				0738059634	
176	Meali Hamisi				0729228162	
177	HADIJA-H. MUTA				0718893975	<i>Hadi</i>
178	BASH Mohamed				0780025305	<i>Bash</i>
179	Khibili MUSEWA				0731338409	
180	Rose Mwanje				0721977521	<i>Rose</i>
181	Catherine Mwanjese				0714999356	<i>Cathi</i>
182	Mwanamisi Mthepani				0706835975	<i>Mwan</i>
183	CHUPE YOGNE CHUPE				0724139476	<i>Chu</i>
184	NYUNDO MWANDEBWA				0788141868	<i>Nyundo</i>
185	MLONGO NYAKIANI				-----	<i>MLongo</i>
186	NTSUMA MZOMBA				-----	
187	Mwangata Zinyau				0714490168	<i>Zinyau</i>
188	John Charo				-----	
189	LUGO Mwaru				0793349275	<i>Lugo</i>
190	MARILYN CHAO Ouma				0725428012	<i>Mofu</i>
191	Amina Bahamadi				0723206315	

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192	EITumbi Mutongoi				-----	
193	Monica Malonza				07240 88894	Monica
194	Pirisiia NZIOKA				-----	Pirisi
195	Asiya GASIYA				-----	Asiya
196	Mary ZIRO				0718 29756	
197	Ihajumwa John				0720519350	
198	Mary Berard				0725530287	
199	Monica Mwarizi				0725996284	
200	Mwanahabima Dola				-----	
201	Mwanajuma Mwaraha				-----	
202	Fatuma Ali Juma				-----	
203	Halima SILIPPA				0701010803	
204	Ahtumari Mwangura				-----	
205	Joshpina Nkhathi				0762016691	
206	Mlongo MRema				-----	
207	TABITHA KOKI				0710135182	
208	Elyabeth Musau				0705376751	
209	Ann's Hdetee				0727708613	
210	Constance Kalato				0715661909	
211	Asha Mohamed				0714100702	Ashma
212	TERESA N. MUSILA				0717144506	
213	Salome Kitanda				0729457531	

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214	Mwanashe B. Mwakuli				0705069704	MWANASHE
215	TOTO NGOMBO				0708515216	TOTO
216	ZAINABU <del>MUSA</del> GUYO				0723791721	ZAINABU
217	Philomena Mbatu				0729856081	Philomena
218	Esther Tsuma				075030818	Esther
219	Hamwengo Mazera				---	
220	Mwanaidi Sulaiman				0741950493	MS
221	Khadija mangale				0792299165	
222	Mohamed MBWANA				078876737	Mohamed
223	Rhodah JAHU				0711729381	Rhodah
224	Jane ZABARIA				0796047337	JZ
225	Halima KESI				0790915527	
226	Jumaa Mwaponda				0753971096	
227	MWANASII KISALU				0704775153	MWANASII
228	MARIAM MARE	ASSISTANT DIRECTOR	MSA COUNTY	maryamzamba@yahoo.com	0722343882	Mariam
229	RACHAEL SIDI		MSA COUNTY	sidi2cra@gmail.com	0723848902	RACHAEL
230	Hellen Kears		"	hellenkears@gmail.com	0727304758	Hellen
231	Kibibi Abdallah	DIRECTOR	MSA COUNTY	K.abdallah@mombasa.go.ke	0714970310	Kibibi
232	MWALIMU MOHAMMED	SUB-COUNTY ADMINISTRATOR	Koni MSA COUNTY	mmscajmc@hotmail.com	0720345122	MWALIMU
233	Abd JAFFAR S. MOSHEH	COUNTY CHIEF OFFICER	MOMBASA COUNTY	j.suleiman@mombasa.go.ke	0720760456	JAFFAR
234	Festher Kalonda	WARD ADMIN	"	astarcalonduka@gmail.com	0719132475	Festher
235	CRISTOM K. MWALIMU	for chief-officer	MSA County	ckmwahimu@gmail.com	0724862583	CRISTOM

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
236	Narou Kimuyu	Land Surveyor	Moa County		0722699987	
237	HANISI S. MADINDIMA	FARMER	MWANGALA	-	0715 921 002	
238	Daudi Juma	Farmer	Mbita		0729857091	
239	GEORGE M KALALO	FARMER	Mbita		0720576606	
240	NICHOLAS MANGI	FARMER	MWANGALA		0726931065	
241	JUMA SULAMAN HAGA	FARMER	MBUTA	ST	0722590042	
242	SALIM SALIM	FARMER	MWANGALONI		0708049027	
243	GWAMA KATEMBE	FARMER	MWANGALI		0724632928	
244	Jahur Hamis	Farmer	Mwangala		0712046494	
245	JULIUS MUREITHI	FARMER	KAYA MONGWE		0701498097	
246	Fatuma Ali	Farmer	Mbita		0701130501	
247	Dalia Dastidi	Farmer	Mbita		0708947480	
248	Fatuma Juma	Farmer	Mbita		0733579101	
249	Bethcet, Mbaro	Farmer	Dongo Kundu		07	
250	Zwaabathi Ngana	Farmer	Mwangala		0796268799	
251	Ali KHAN RAPPALANI	Farmer	Mwangala		0702197032	
252	Juma Ramadhan	Farmer	Mbita			
253	Muhammad Kithi	Farmer	Mbita		0711367319	
254	PRISCILA M. RAI	Farmer	D. Kundu		0703994505	
255	Omari Ali	MAMA			0740970270	
256	SWALEH HAMIS	IMAN	D. KUNDU		0701621556	
257	Mariamur Mwakupena	Farmer	Mbita			

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
258	Muancarusi Juma	Farmer	Mkumbi			
259	Salim Madizi	farmer	Magda Comm	Salimmadizi@gmail.com	0702230681	<i>Salim</i>
260	Amman Kubwama	farmer	Mkumbi	-	0708916810	<i>Amman</i>
261	JUMA JHIMAN	SEN II	MIBUFA		0794082293	<i>Juma</i>
262	Kipara Mwangangi	farmer	Mwangala	-		
263	Zenna Nyasi	farmer	Mwangala			
264	Mwingi Sudi	farmer	Mwangala		0741750074	
265	Amari S. Matabi	farmer	Kiteje			
266	Mangale Nyundo	farmer	Dongo Kundu			
267	Salimu Akhi	Farmer	Mbita		0722567118	
268	Raphael R. Bume	Farmer	Mwangala	raphaelbume@gmail.com	0720594408	
269	Rama N. Nyanjie	farmer	Mwangala	ramanyanjie732@gmail.com	0727365739	<i>Rama</i>
270	Muema Kihanzo	MIS	Intercom	muema@145eg.mw.com	07316447813	<i>Muema</i>
271	Ahly Sasabu	MEA Rep	Mbasa County	Sasabu@hu.com	0712466101	<i>Ahly</i>
272	Walter Kisti	Peace & Cohesion	" "	Walterkisti@gmail.com	0701566150	<i>Walter</i>
273	J. L. MUSAHA	Farmer	Mwangala		0714833882	<i>J. L. MUSAHA</i>
274	SALI HI CHIMBONDA	Farmer	MIBUFA		0728502458	<i>SALI HI CHIMBONDA</i>
275	SALIM HASSAN				072394418	<i>SALIM HASSAN</i>
276	LILIAN NABWIRE	FARMER	Mwangala		0726049323	<i>LILIAN NABWIRE</i>
277	Zuma Mwanjari	Farmer	Dongo Kundu			<i>Zuma Mwanjari</i>
278	Hassan Isid	Farmer	Dongo Kundu		0796697636	<i>Hassan Isid</i>
279	Fatima Sudi	Farmer	Mkumbi			<i>Fatima Sudi</i>

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280	Mwashuhuli Moki's		Farmer	Rashid.moki's543@gmail	0724484862	
281	David Kalato George		Farmer	Kalato.david@gmail.com	0727639056	
282	PHILIP NZOKA		mkulima	←	0717 910 648	
283	SABE KAMBUBA		farmer	-	0711424620	
284	TATIAS MUSYOKA		MUKIMA	-		
285	ATHUMAN ARIAM		FARMER	-	-	
286	SAID. OMARI		FARMER	-	0705433307	
287	MWANJUMA MWIDEDI		FARMER	-	-	
288	MWANJUMA BABUWA		FARMER	-	-	
289	MUKINYI ALIMAKOKO		FARMER		6665270	
290	MUCITULO NYEMANA				<del>0705589704</del> 0705589704	
291	MUTUNGA NZIOKA				07011880390	
292	SULSMAN MGALA		FARMER		0706789723	
293	BGMWAKA J. MURYANI		FARMER		-	
294	Joash Oinilo	Director K/TAx	NLC	homaokido@gmail.com	0722-556549	
295	Ferdinand Mumo	Officer incharge AP	Interiors and construction	ferdinandmumo@yahoo.com	0721102597	
296	Felix maiya	Acc-Lounge	Interion	maiya.felix@jda.com	0722591161	
297	Bastus S. Muryani	SUB-COUNT FISHERIES OFFICER	Fisheries	erastusmuryani@gmail.com	0721562476	
298	Chari Sulini					
299	Haji Ramadhan	SNR INFO OFFICER	SCACO	Hajiramadhan@gmail.com	0723432291	
300	Geoffrey Mirasi	Snr. Sous Economist	KETRACO	gmirasi@ketraco.co.ke	0722442297	
301	MWAKA AWALE	SECRETARY	PANAFCON LTD	Jasminawale@gmail	0720960374	

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302	KWYANJUI MBITU	VALUER	N.L.C	kmbiyug9@gmail.com	0786 232 593	
303	Bauli Hassani				07	
304	Mosi Kabwele					
305	Mwana Mwisho					
306	Christina Mushi					
307	Sulema Deche					
308	J. Alhamoni mwango				0717256826	
309	JUMA M. MOHAMMED	PO GOVERNANCE ADVOCACY GOVERNANCE	MANYATTA YOUTH FMT -- CBD	muubuyjuma@gmail.com	0726091051	
310	DRAME BESADA					
311	NICOLAS SONGORA	BEERWING DIRECTOR	MANYATTA YOUTH FMT -- CBD	songoranicholas@gmail.com	0712747656	
312	Mgani Mzungu					
313	Riziki Juma				0702566356	
314	FATUMA SULEIMAN				0705762685	
315	Fatuma shrr				0792791534	
316	Mary Muthoni				0706724962	
317	Fatuma Hamisi					
318	Fatuma Juma Hassan					
319	Mbadzer Abdalla					
320	Salim Ali Mwachaji					
321	MUSA MOHAMMED MUSA				0713529374	
322	Amina Ali				0711737675	
323	Agnus Emmanuel					

Sensitization Meeting at Dongo Kundu – Mariakani-Dongo Kundu 220kv Transmission Line for the Mombasa SEZ Project

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
324	Kwaka Mungwara					
325	Swalhr Salim Bongo				0717017241	
326	Fatumu Chilambi Bidu					
327	Suward Salim S.Ali	Business Lady			0724105775	
328	Mwaji Imavinzi DA				0716084289	
329	James Njamburi	Kenya			0712386594	
330	Salim H Baya	Retired Ass. Chief	MIONWE		072210483X	
331	Mohamed Hassan					
332	Simon Gichohi	VESSEL INSPECTOR	KENYA MARITIME	sgichohi@kma.go.ke	0729403638	
333	Summi Juma					
334	Motomona Otondo	Business	DONGO		0722309824	
335	SEIF. M. MANUARI				0796102694	
336	Suleman Amari				0721910532	
337	Mwalimu Omeri					M-O
338	Mwanariti Mwakunmwa					
339	Luvina Tesma					L
340	Mwathi Ali				0716872933	
341	Mwanariti Mfaki				0713089247	
342	Michi Omeri					
343	Halima Salhr Tendo				0704689541	
344	Fatumu Ningejo					
345	Bikashi Mwangi					

Sensitization Meeting at Dongo Kundu – Mariakani-Dongo Kundu 220kv Transmission Line for the Mombasa SEZ Project

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
346	N/A				0700357530	
347	Mujumag Salim					
348	Jamso Juma Lunani					
349	Sudi Omar Mjama				0703504798	
350	Suliman Juma					Fulman
351	Mrs. Mr. Man Gwalch					-
352	Kachr chaka				0725673585	
353	Umazi Mgombe					
354	Halima Mohamed					
355	Umazi chaka					
356	Fatuma Jiva					
357	Mbakari Rama					
358	Lucy Manyi					
359	Uba Salim				0722450411	
360	Hassan Hussein.				0715703086	
361	Kidodo Nyamwi Kumbi					
362	Shirazi MWAJIRANI				0725154692	
363	Chizi Tsamu Kombo					
364	Mrs. Said Said					
365	Mwanalis Kahindi					
366	Asha Said					
367	Mary Meki					

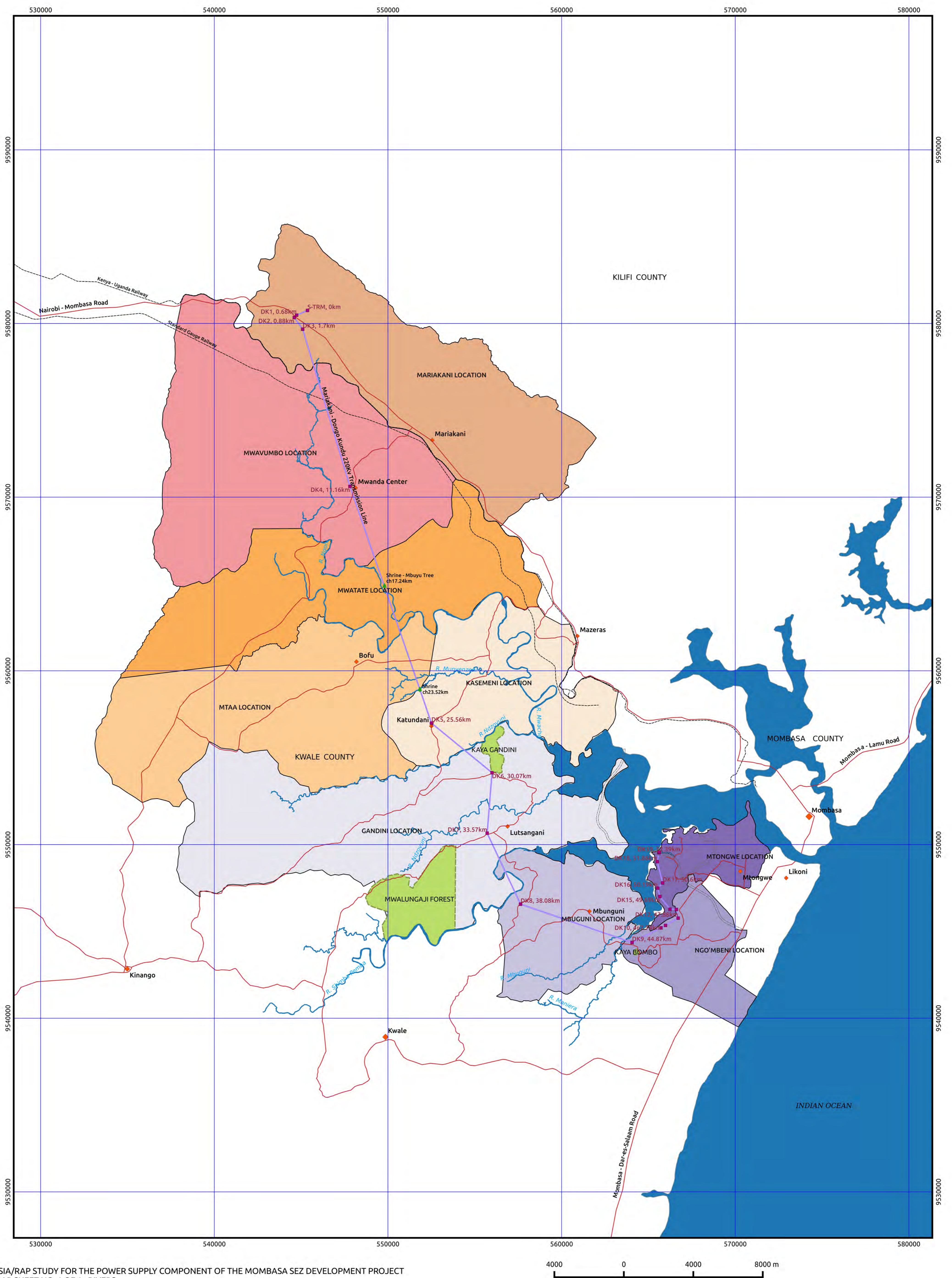
**Annex 6: Transmission Line Coordinates**

COORDINATES FOR THE PROPOSED MARIAKANI-MOMBASA SEZ TRANSMISSION LINE							
Name	Description	WGS84 - UTM		WGS84 - Lat/Long		ARC1960 - UTM	
		Easting	Northing	Latitude	Longitude	Easting	Northing
M-TRM	Terminal Point inside Mariakani ss	545465.160	9580450.990	-3.7956385	39.4094727	545368.00	9580750.00
DK1	Near MSA-NBI (to avoid School)	544839.160	9580177.990	-3.7981109	39.4038360	544742.00	9580477.00
DK2	Near MSA-NBI Highway (crossing)	544704.160	9580038.990	-3.7993690	39.4026207	544607.00	9580338.00
DK3	Next to Shangia Primary School	545188.160	9579369.990	-3.8054192	39.4069825	545091.00	9579669.00
DK4	Behind Mwanda Dispensary	547911.160	9570318.000	-3.8872973	39.4315476	547814.00	9570617.00
DK 5 NEW		552601.560	9556697.070	-4.0104973	39.4738642	552504.41	9556996.06
DK 6a NEW	To avoid Kaya Gandini	555999.000	9553905.000	-4.0357190	39.5045030	555906.01	9554210.06
DK 6b NEW	To avoid Kaya Gandini	556082.000	9553765.000	-4.0370130	39.5052517	555988.06	9554067.17
DK 7 NEW		555811.890	9550356.290	-4.0678419	39.5028192	555714.75	9550655.27
DK8 NEW		557735.570	9546267.710	-4.1048182	39.5201733	557638.43	9546566.68
DK9	Small Hill Approx. 70m from Mud Hut	564156.130	9544062.030	-4.1247318	39.5780324	564059.00	9544361.00
DK10		565820.904	9544903.340	-4.1171099	39.5930255	565723.78	9545202.30
DK11		566083.169	9545043.750	-4.1158379	39.5953874	565986.05	9545342.72
DK12		566809.797	9545464.440	-4.1120273	39.6019310	566712.68	9545763.41
DK13		566707.850	9545963.660	-4.1075119	39.6010091	566610.73	9546262.63
DK14		566339.511	9545975.700	-4.1074055	39.5976906	566242.39	9546274.67
DK15		565756.257	9546708.500	-4.1007802	39.5924310	565659.14	9547007.47
DK16	To avoid Kaya & Residential Area	565632.672	9547192.190	-4.0964054	39.5913144	565535.55	9547491.16
DK17	To avoid Kaya & Residential Area	565914.178	9547490.990	-4.0937005	39.5938485	565817.06	9547789.96
DK18		565606.920	9548715.770	-4.0826227	39.5910723	565509.80	9549014.75
DK19		565704.105	9549230.450	-4.0779661	39.5919444	565606.98	9549529.43
S-TRM	Terminal Point at SEZ SS	565728.273	9549255.430	-4.0777399	39.5921620	565631.15	9549554.41



COORDINATES FOR THE PROPOSED DONGO KUNDU SUBSTATION 220/33 KV						
Name	WGS84 37S for CAD		Arc 1960 37S		Google Earth	
	N	E	N	E	S	E
SS1	9,549,414.770	565,812.691	9,549,717.069	565,716.743	4°4'34.67"	39°35'34.52"
SS2	9,549,319.890	565,904.993	9,549,622.189	565,809.045	4°4'37.76"	39°35'37.51"
SS3	9,549,302.132	566,192.506	9,549,604.431	566,096.558	4°4'38.33"	39°35'46.84"
SS4	9,549,245.641	566,363.466	9,549,547.940	566,267.518	4°4'40.17"	39°35'52.38"
SS5	9,549,014.997	566,628.608	9,549,317.296	566,532.660	4°4'47.67"	39°36'0.99"
SS6	9,548,974.322	566,590.451	9,549,276.621	566,494.503	4°4'49.00"	39°35'59.75"
SS7	9,549,030.139	566,513.892	9,549,332.438	566,417.944	4°4'47.18"	39°35'57.27"
SS8	9,549,109.784	566,364.592	9,549,412.083	566,268.644	4°4'44.59"	39°35'52.42"
SS9	9,549,157.257	566,222.678	9,549,459.556	566,126.730	4°4'43.05"	39°35'47.82"
SS10	9,549,179.372	566,099.481	9,549,481.671	566,003.533	4°4'42.33"	39°35'43.82"
SS11	9,549,188.639	565,966.918	9,549,490.938	565,870.970	4°4'42.03"	39°35'39.52"
SS12	9,549,196.474	565,786.092	9,549,498.773	565,690.144	4°4'41.78"	39°35'33.66"
SS13	9,549,208.169	565,664.755	9,549,510.468	565,568.807	4°4'41.40"	39°35'29.72"
SS14	9,549,281.814	565,674.403	9,549,584.113	565,578.455	4°4'39.01"	39°35'30.04"

**Annex 7: Map Showing Main Rivers and Mwaluganje Forest Reserve**



ESIA/RAP STUDY FOR THE POWER SUPPLY COMPONENT OF THE MOMBASA SEZ DEVELOPMENT PROJECT  
 MAP SHEET NO. 1 OF 1 : RIVERS

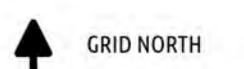


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 DEVELOPMENT CONSULTANTS

**Legend**

- Angle Point, Chainage
- ◆ Administration & Market Center
- Transmission Line
- River
- Road
- Sub-Station & Access Road
- Mangrove Vegetation
- County Boundary



Grid: UTM ZONE 37S  
 Projection: Transverse Mercator  
 Spheroid: Clarke 1880 (Modified)  
 Reference Meridian: 0  
 Reference Latitude: Equator  
 Coordinates of Origin: 500000m Easting, 10000000m Northing  
 Datum: Arc 1960 (Modified)  
 Units of Measurement: Meters (m)





**Annex 8: Ecological Findings along Transmission Line**

**Ecological Findings along Transmission Line Corridor**


Flora and Fauna along the Transmission Line (TL) Corridor


No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
<b>Kilifi County</b>								
1	Substation area in Mariakani – DK1	Mariakani	Mitangoni	<ul style="list-style-type: none"> <li>Area is generally flat grassland with scanty vegetation.</li> <li>Small sized maize farms, most affected by fall army worm.</li> <li>Small water pans located near DK1</li> </ul>	<p><b>Flora</b></p> <p>a) Mwanga (Giriama) <i>Madagascar Terminalia, Terminalia Spinosa</i></p> <p>b) Mbono (Giriama) <i>Castor Oil -Ricinus Communis</i></p> <p>c) Mkone (Giriama/Swahili) <i>Grewia plagiophylla</i></p> <p><b>Fauna</b></p> <ul style="list-style-type: none"> <li>African Grey Hornbill (<i>Lophoceros nasutus</i>)</li> <li>Pied Crow (<i>Corvus albus</i>)</li> </ul>	<p><b>Flora</b></p> <p><i>This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.</i></p> <ul style="list-style-type: none"> <li><b>Mwanga Tree</b></li> </ul> <p><i>These taxon have not yet been assessed for the IUCN Red List, but is in the Catalogue of Life</i></p> <ul style="list-style-type: none"> <li><b>Castor Oil “Mbono”</b></li> <li><b>“Mkone”</b></li> </ul> <p><b>Fauna</b></p> <ul style="list-style-type: none"> <li><b>Status:</b> <i>Least Concern ver 3.1</i></li> <li><b>Population trend:</b> <i>stable</i></li> </ul>	<p>a) Shade, Ornamental, Timber (Building and Furniture)</p> <p>b) Medicine</p> <p>c) Construction, medicine, fruit</p>	 <p>“Mwanga” Tree <i>Madagascar Terminalia</i></p>
2	DK2-DK3	Mariakani	Mitangoni	<ul style="list-style-type: none"> <li>Area is generally flat grassland with scanty vegetation.</li> <li>Small sized maize farms, most affected by fall army worm.</li> </ul>	<p><b>Flora</b></p> <p>a) Mkone (Giriama/Swahili) <i>Grewia plagiophylla</i></p> <p><b>Fauna</b></p> <ul style="list-style-type: none"> <li>African Grey Hornbill (<i>Lophoceros nasutus</i>)</li> <li>Pied Crow (<i>Corvus albus</i>)</li> </ul>	<p><b>Flora</b></p> <p><i>This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life</i></p> <ul style="list-style-type: none"> <li><b>“Mkone”</b></li> </ul> <p><b>Fauna</b></p> <ul style="list-style-type: none"> <li><b>Status:</b> <i>Least Concern ver 3.1</i></li> <li><b>Population trend:</b> <i>stable</i></li> </ul>	<p>a) Construction, medicine, fruit</p>	 <p>“Mkone” Tree</p>

No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
3	DK3-DK4	Mariakani and Mwavumbo	Mitagoni and Kalalani	<ul style="list-style-type: none"> <li>Area is generally flat grassland with scanty vegetation.</li> <li>Small sized maize farms, most affected by fall army worm.</li> <li>Clusters of aloe vera species</li> </ul>	<b>Flora</b> a) Mkwaju (Giriama) <i>Tamarind-Tamarindus Indica</i> b) Muarubaini (Swahili/Digo) <i>Neem-Azadirachta indica</i> c) Mwanga (Giriama) <i>Madagascar Terminalia, Terminalia Spinosa</i> d) Chigundigundi (Digo) Nile Thorn - <i>Acacia Nilotica</i> e) Mkunazi (Swahili) <i>Jujube-Ziziphus mucronata</i> f) Mkone (Giriama/Swahili) <i>Grewia plagiophylla</i> g) Mbambakofi (Swahili/Digo) Mahogany bean- <i>Azelia quanzensis</i> h) Mkasorina (Swahili) <i>Casuarina equisetifolia</i> i) Mbuyu (Swahili) <i>Baobab- Adansonia digitata</i> j) Mgoza (Swahili) <i>African Star Chestnut - Sterculia africana</i> k) Kikwata (Swahili/Digo) <i>Gum Acacia - Acacia Senegal</i>	<b>Flora</b> <i>Status: Least Concern ver 3.1</i> <i>Population trend: stable</i> <ul style="list-style-type: none"> <li>“Mkwaju” Tamarind</li> </ul> <i>Status: Least Concern ver 3.1</i> <i>Population trend: decreasing</i> <ul style="list-style-type: none"> <li>“Muarubaini” Neem</li> </ul> <i>This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.</i> <ul style="list-style-type: none"> <li>“Mwanga” Tree</li> <li>Nile Thorn</li> </ul> <i>This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life</i> <ul style="list-style-type: none"> <li>“Mkunazi” Jujube</li> <li>“Mkone”</li> <li>“Mbambakofi”</li> <li>“Mkasorina”</li> <li>“Mbuyu” Baobab</li> <li>“Mgoza” Star Chestnut</li> <li>“Kikwata” Gum Acacia</li> </ul>	a) Edible fruit, firewood, poles charcoal, timber, furniture b) Medicine, firewood, fruit charcoal, furniture, poles, fruit, fodder, shade, soap making. c) Shade, Ornamental, Timber (Building and Furniture) d) Firewood, charcoal, poles, medicine, fodder), live fence, dead fence and toothbrushes. e) Firewood, charcoal, timber, furniture), poles, edible fruit, medicine, fodder, bee forage, dye shade, tannin, f) Construction, fruit, medicine g) Construction, medicine, shade h) Firewood, furniture, poles, fodder, shade, ornamental i) Edible fruit, fodder, medicine, ornamental (one of the “mbuyu” (baobab) trees located at chainage 17.2km is used as a Shrine at j) Timber, furniture, bee	 <p>“Mbuyu” Baobab Tree used as Shrine</p>

No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
					<b>Fauna</b> <ul style="list-style-type: none"> <li>Rock Dove (<i>Columba livia</i>)</li> <li>Pied Crow (<i>Corvus albus</i>)</li> </ul>	<b>Fauna</b> <b>Status:</b> <i>Least Concern ver 3.1</i> <b>Population trend:</b> <i>decreasing</i>	forage, mats k) Firewood, poles, medicine, fodder	
4	DK4-DK5	Mwavumbo	Kalalani	<ul style="list-style-type: none"> <li>Area is generally flat grassland with scanty vegetation.</li> <li>Small sized maize farms, most affected by fall army worm.</li> <li>Dry river valleys</li> </ul>	<b>Flora</b> <ol style="list-style-type: none"> <li>Mbuyu (Swahili) <i>Baobab- Adansonia digitata</i></li> <li>Mkunazi (Swahili/Digo) <i>Ziziphus mucronata</i></li> <li>Muarubaini (Swahili/Digo) <i>Neem- Azadirachta indica</i></li> <li>Mkwaju (Giriama) <i>Tamarind-Tamarindus Indica</i></li> <li>Mwembe (Swahili) <i>Mangoes – Mangifera Indica</i></li> <li>Mwanga (Giriama) <i>Madagascar Terminalia,</i></li> <li>Munyumbu (Swahili) <i>Lannea schweinfurthii</i></li> <li>Mnazi (Swahili, Giriama, Digo) <i>Coconut Palm -Cocos Nucifera</i></li> <li>Mpera (Swahili) <i>Guava - Psidium guajava</i></li> <li>Mkone (Giriama/Swahili) <i>Grewia plagiophyll</i></li> </ol>	<b>Flora</b> <i>This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life</i> <ul style="list-style-type: none"> <li>“Mbuyu” <i>Baobab</i></li> <li>“Mkunazi”</li> <li>“Munyumbu”</li> <li>“Mnazi” <i>Coconut Palm</i></li> <li>“Mpera” <i>Guava</i></li> <li>“Mkone”</li> <li>“Mgandi” <i>Cape Fig</i></li> </ul> <b>Status:</b> <i>Least Concern ver 3.1</i> <b>Population trend:</b> <i>decreasing</i> <ul style="list-style-type: none"> <li>“Muarubaini” <i>Neem</i></li> </ul> <b>Status:</b> <i>Least Concern ver 3.1</i> <b>Population trend:</b> <i>stable</i> <ul style="list-style-type: none"> <li>“Mkuaju” <i>Tamarind</i></li> </ul> <b>Status:</b> <i>Data Deficient ver 2.3 (needs updating)</i> <ul style="list-style-type: none"> <li>“Mwembe” <i>Mango</i></li> </ul> <i>This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.</i>	a) Edible fruit, fodder, medicine, ornamental b) Firewood, charcoal, timber, furniture), poles, edible fruit, medicine, fodder, bee forage, dye shade, tannin, c) Medicine, firewood, fruit charcoal, furniture, poles, fruit, fodder, shade, soap making. d) Edible fruit, firewood, charcoal, timber, furniture, poles e) Fruit, juice, fodder, shade, ornamental, vet medicine f) Shade, Ornamental, Timber (Building and Furniture) g) Firewood, furniture, edible fruit, medicine, fodder, shade h) Firewood, timber, poles, fruit, drink, edible oil, ornamental, thatching leaves and handicraft i) Edible fruit, firewood,	 <p>“Mgandi” (Cape Fig Tree) used as Shrine</p>




No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
					<p>k) Mkorosho (Swahili) Cashew Nut - <i>Anacardium occidentale</i></p> <p>l) Mgandi (Digo) Cape Fig - <i>Ficus sur</i> (<i>F. capensis</i>)</p> <p><b>Fauna</b></p> <ul style="list-style-type: none"> <li>Rock Dove (<i>Columba livia</i>)</li> <li>Pied Crow (<i>Corvus albus</i>)</li> </ul>	<ul style="list-style-type: none"> <li>“Mwanga” Tree</li> <li>Nile Thorn</li> <li>“Mkorosho” Cashew Nut</li> </ul> <p><b>Fauna</b></p> <p><b>Status:</b> Least Concern <u>ver 3.1</u></p> <p><b>Pop. trend:</b> decreasing for rock dove while stable for pied crow</p>	<p>medicine, fodder</p> <p>j) Construction, fruit, medicine</p> <p>k) Firewood, charcoal, edible nuts, livestock feed, medicine, shade</p> <p>l) Firewood, furniture, edible fruit, medicine, fodder, shade. One of the “mgandi” tree located at chainage 23.5km is used as a Shrine</p>	
5	DK5-DK6	Kasemeni	Munyenzi	<ul style="list-style-type: none"> <li>Area is slightly sloppy, comprises of dry river beds</li> <li>Grassland area with a height of more than 1 m</li> <li>Small sized maize farms, most affected by fall army worm.</li> <li>Scattered indigenous and commercial trees</li> </ul>	<p><b>Flora</b></p> <p>a) Mwembe (Swahili) Mango- <i>Mangifera Indica</i></p> <p>b) Mnazi (Swahili) Coconut Palm - <i>Cocos Nucifera</i>)</p> <p>c) Mkorosho (Swahili) Cashew Nut - <i>Anacardium occidentale</i></p> <p>d) Munyumbu (Swahili) <i>Lannea schweinfurthii</i></p> <p>e) Muarubaini (Swahili/Digo) <i>Neem-Azadirachta indica</i></p> <p>f) Mwanga (Giriama) Madagascar <i>Terminalia, Terminalia Spinosa</i></p> <p>g) Mbuyu (Swahili)</p>	<p><b>Flora</b></p> <p><b>Status:</b> Data Deficient <u>ver 2.3</u> (needs updating)</p> <ul style="list-style-type: none"> <li>“Mwembe” Mango</li> </ul> <p><i>This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life</i></p> <ul style="list-style-type: none"> <li>“Mbuyu” Baobab</li> <li>“Munyumbu”</li> <li>“Mnazi” Coconut Palm</li> <li>“Mukuyu Fig Tree</li> </ul> <p><i>This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.</i></p> <ul style="list-style-type: none"> <li>“Mwanga” Tree</li> <li>“Mkorosho” Cashew Nut</li> </ul>	<p>a) Fruit, juice, fodder, shade, ornamental, vet medicine</p> <p>b) Firewood, timber, poles, fruit, drink, edible oil, ornamental, thatching leaves and handicraft</p> <p>c) Firewood, timber, furniture, edible nut, medicine, shade, ornamental</p> <p>d) Firewood, timber, furniture, medicine, fodder</p> <p>e) Medicine, firewood, fruit charcoal, furniture, poles, fruit, fodder, shade, soap making.</p> <p>f) Shade, Ornamental, Timber (Building and</p>	 <p>“Mkorosho” Cashew Nut Tree</p>


No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
					<p><i>Baobab- Adansonia digitata</i></p> <p>h) Mukuyu (Swahili) Fig Tree - <i>Ficus sycomorus</i></p> <p>i) Mbonobono (Swahili) Indian Charcoal Tree - <i>Trema orientalis</i></p> <p>j) <i>Muchinda nugu</i> (Swahili) Mexican Weeping Pine - <i>Pinus patula</i></p> <p><b>Fauna</b></p> <ul style="list-style-type: none"> <li>• Rock Dove (<i>Columbia livia</i>)</li> <li>• Pied Crow (<i>Corvus albus</i>)</li> </ul>	<p><b>Status: Least Concern ver 3.1</b> <b>Population trend: decreasing</b></p> <ul style="list-style-type: none"> <li>• “Muarubaini” Neem</li> </ul> <p><b>Status: Least Concern ver 3.1</b> <b>Population trend: unknown</b></p> <ul style="list-style-type: none"> <li>• “Mbonobono” Indian Charcoal Tree</li> </ul> <p><b>Status: Least Concern ver 3.1</b> <b>Population trend: stable</b></p> <ul style="list-style-type: none"> <li>• “Muchinda Nugu” Mexican Weeping Pine</li> </ul> <p><b>Fauna</b> <b>Status: Least Concern ver 3.1</b> <b>Pop. trend: decreasing for rock dove while stable for pied crow</b></p>	<p>Furniture)</p> <p>g) Edible fruit, fodder, medicine, ornamental</p> <p>h) Firewood, construction, furniture, medicine, fodder, shade, ornamental</p> <p>i) Firewood, poles, shade, medicine, fodder</p> <p>j) Firewood, construction, posts, resin</p>	
6	DK6-DK7	Gandini	Gandini Lutsangani	<ul style="list-style-type: none"> <li>• Area is slightly sloppy, comprises of Kaya Gandini Forest Vegetation of various species.</li> </ul>	<p><b>Flora</b></p> <p>a) Munyumbu (Swahili) <i>Lannea schweinfurthii</i></p> <p>b) Mkwaju (Giriama) Tamarind-Tamarindus Indica</p> <p>c) Mpingo (Swahili/Digo) African Blackwood - <i>Dalbergia melanoxylon</i></p> <p>d) Mwembe (Swahili) Mango- <i>Mangifera Indica</i></p> <p>e) Mnazi (Swahili) Coconut Palm - <i>Cocos Nucifera</i>)</p>	<p><b>Flora</b> <i>This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life</i></p> <ul style="list-style-type: none"> <li>• “Munyumbu”</li> <li>• “Mnazi” Coconut Palm</li> <li>• “Kikwata”</li> <li>• “Kimwea”</li> <li>• “Mnafisi”</li> <li>• “Uban” Frankinsense</li> <li>• “Mpeketo”</li> <li>• “Mnyumbu”</li> </ul> <p><b>Status: Least Concern ver 3.1</b></p>	<p>a) Firewood, furniture, edible fruit, medicine, fodder, shade</p> <p>b) Edible fruit, firewood, charcoal, timber, furniture, poles</p> <p>c) Firewood, construction, furniture, poles, medicine, fodder</p> <p>d) Fruit, juice, fodder, shade, ornamental, vet medicine</p> <p>e) Firewood, timber, poles, fruit, drink, edible oil, ornamental, thatching</p>	 <p>“Munyumbu” <i>Lannea schweinfurthii</i></p>

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No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
					<p>f) Muarubaini (Swahili/Digo) <i>Neem-Azadirachta indica</i></p> <p>g) Kikwata (Swahili/Digo) <i>Gum Arabic Acacia - Acacia senegal</i></p> <p>h) Kimwea (Kamba)</p> <p>i) Mnafisi (Swahili)</p> <p>j) Ubani (Swahili) - Frankincense;</p> <p>k) Myombo (Swahili) – <i>Brachystegia</i></p> <p>l) Mkarakara (Swahili)</p> <p>m) Mkangu (Swahili) – Long-pod cassia</p> <p>n) Msufi(Swahili) – Kapok orSilk Cotton Tree</p> <p>o) Mpeketo (Swahili)</p> <p>p) Mkoma (Swahili) – Doum Palm</p> <p>q) Mvule (Swahili)</p>	<p><b>Population trend: stable</b></p> <ul style="list-style-type: none"> <li>• <b>“Mkuaju” Tamarind</b></li> <li>• <b>“Mkarakara”</b></li> </ul> <p><b>Status: Lower Risk/near threatened ver 2.3 (needs updating)</b></p> <ul style="list-style-type: none"> <li>• <b>“Mpingo” African Blackwood</b></li> <li>• <b>“Mwembe” Mango</b></li> <li>• <b>“Mvule”</b></li> </ul> <p><b>Status: Least Concern ver 3.1</b></p> <p><b>Pop. trend: decreasing for rock dove while stable for pied crow</b></p> <ul style="list-style-type: none"> <li>• <b>“Muarubaini” Neem Tree</b></li> </ul> <p><i>This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.</i></p> <ul style="list-style-type: none"> <li>• <b>Willow warbler</b></li> <li>• <b>“Myombo” Brachystegia</b></li> <li>• <b>“Mkangu” – Kong Pod Cassia</b></li> </ul> <p><b>Status: Least Concern ver 3.1</b></p> <p><b>Pop. trend: unknown.</b></p> <ul style="list-style-type: none"> <li>• <b>“Msufi” Kapok Tree</b></li> <li>• <b>“Mkoma” Doum Palm</b></li> </ul>	<p>leaves and handicraft</p> <p>f) Medicine, firewood, fruit charcoal, furniture, poles, fruit, fodder, shade, soap making.</p> <p>g) Firewood, poles, medicine, fodder</p> <p>h) Firewood, charcoal, medicine, fodder, shade</p> <p>i) Firewood, furniture, medicine, bee forage, shade, toothbrushes</p> <p>j) Firewood, furniture, drink (tea made from bark), medicine, fodder, resin (as wood preservative and incense), tannin, dye (bark), toothbrushes, insect repellent.</p> <p>k) Firewood, charcoal, timber, furniture, poles, medicine, fodder, shade, nitrogen-fixing, tannin.</p> <p>l) Firewood, charcoal, timber, poles, edible fruit, medicine bee forage, shade, mulch, red dye</p> <p>m) Firewood, timber, poles (construction), furniture, medicine, ornamental, tannin</p>	

No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
					<p><b>Fauna</b></p> <ul style="list-style-type: none"> <li>• Rock Dove (<i>Columba livia</i>)</li> <li>• Pied Crow (<i>Corvus albus</i>)</li> <li>• Willow warbler (<i>Phylloscopus rochilus</i>)</li> <li>• Spotted Ground Thrush (<i>Geokichla guttata</i>)</li> <li>• Fischers Turaco (<i>Tauraco Fischeri</i>)</li> <li>• Sokoke Pipit (<i>Anthus sokokensis</i>)</li> <li>• Plain-backed Sunbird (<i>Anthreptes reichenowi</i>)</li> </ul>	<p><b>Fauna</b></p> <p><b>Status:</b> <i>Endangered ver 3.1</i>  <b>Population trend:</b> <i>decreasing</i></p> <ul style="list-style-type: none"> <li>• <b>Spotted Ground Thrush</b></li> </ul> <p><b>Status:</b> <i>Near Threatened ver 3.1</i>  <b>Population trend:</b> <i>decreasing</i></p> <ul style="list-style-type: none"> <li>• <b>Fischer's Turaco</b></li> </ul> <p><b>Status:</b> <i>Endangered B1a ver 3.1</i>  <b>Pop. trend:</b> <i>decreasing</i></p> <ul style="list-style-type: none"> <li>• <b>Sokoke Pipit</b></li> </ul> <p><b>Status:</b> <i>Near Threatened ver 3.1</i>  <b>Pop. trend:</b> <i>decreasing</i></p> <ul style="list-style-type: none"> <li>• <b>Plain-backed Sunbird</b></li> </ul> <p><b>NB</b>  <i>The above 4 birds that are either threatened or near threareened were not encountered during field work session but are being reported here since they have been recorded in the <b>Important Bird Areas in Kenya Report by Leon Bennun and Peter Njoroge (1999)</b></i></p>	<p>n) Firewood, timber, edible fruit, medicine, fodder, bee forage, shade, ornamental, soil conservation, stuffing mattresses, oil.</p> <p>o) Firewood, poles, tool handles, edible fruit, medicine, fodder, shade, ornamental, soil conservation, dye.</p> <p>p) Firewood, timber, poles, posts, beehives (trunk), edible fruit, drink (palm wine from the stem, juice from young fruit), shade, baskets and mats, roofing (leaves), fishing rafts, carpets,.</p> <p>q) Firewood, charcoal, timber, poles, furniture, tool handles, boat building, medicine, fodder, bee forage, shade, ornamental</p>	


No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
7	DK7-DK8	Gandini	Gandini Lutsangani	<ul style="list-style-type: none"> <li>Area is slightly sloppy, comprises of dry river beds</li> <li>Grassland area with a height of more than 1 m</li> <li>Small sized maize farms, most affected by fall army worm.</li> </ul>	<p><b>Flora</b></p> <p>a) Mtomoko (Swahili/Digo) Custard Apple - <i>Annona cherimola</i></p> <p>b) Mukuyu (Swahili) Fig Tree - <i>Ficus sycomorus</i></p> <p>c) Mnazi (Swahili) Coconut Palm - <i>Cocos Nucifera</i></p> <p>d) Muarubaini (Swahili/Digo) <i>Neem-Azadirachta indica</i></p> <p>e) Mwembe (Swahili) Mango- <i>Mangifera Indica</i></p> <p>f) Mkorosho (Swahili) Cashew Nut - <i>Anacardium occidentale</i></p> <p>g) Mbuyu (Swahili) Baobab- <i>Adansonia digitata</i></p> <p>h) Mwanga (Giriama) Madagascar <i>Terminalia, Terminalia Spinosa</i></p> <p>i) Mtimbao (Swahili) Sydney Blue Gum - <i>Eucalyptus saligna</i></p> <p><b>Fauna</b></p> <ul style="list-style-type: none"> <li>Rock Dove (Columbia</li> </ul>	<p><b>Flora</b></p> <p><i>This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life</i></p> <ul style="list-style-type: none"> <li>“Mtomoko” Custard Apple</li> <li>“Mbuyu” Baobab</li> <li>“Mukuyu Fig Tree</li> <li>“Mnazi” Coconut Palm</li> <li>“Mtimbao” Sydney Blue Gum</li> </ul> <p><b>Status:</b> <i>Least Concern ver 3.1</i></p> <p><b>Population trend:</b> <i>decreasing</i></p> <ul style="list-style-type: none"> <li>“Muarubaini” Neem</li> </ul> <p><b>Status:</b> <i>Data Deficient ver 2.3 (needs updating)</i></p> <ul style="list-style-type: none"> <li>“Mwembe” Mango</li> </ul> <p><i>This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.</i></p> <ul style="list-style-type: none"> <li>“Mwanga” Tree</li> <li>“Mkorosho” Cashew Nut</li> </ul> <p><b>Fauna</b></p> <p><b>Status:</b> <i>Least Concern ver 3.1</i></p> <p><b>Pop. trend:</b> <i>decreasing for rock dove while stable for pied crow</i></p>	<p>a) Edible fruit</p> <p>b) Firewood, construction, furniture, medicine, fodder, shade, ornamental</p> <p>c) Firewood, timber, poles, fruit, drink, edible oil, ornamental, thatching leaves and handicraft</p> <p>d) Medicine, firewood, fruit charcoal, furniture, poles, fruit, fodder, shade, soap making.</p> <p>e) Fruit, juice, fodder, shade, ornamental, vet medicine</p> <p>f) Firewood, timber, furniture, edible nut, medicine, shade, ornamental</p> <p>g) Edible fruit, fodder, medicine, ornamental</p> <p>h) Shade, Ornamental, Timber (Building and Furniture)</p> <p>i) Firewood, construction, furniture, poles, veneer, medicine, shade, windbreak</p>	 <p>“Mnazi” Coconut Tree</p>

No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
					livia) • Pied Crow (Corvus albus) • Willow warbler ( <i>Phylloscopus trochilus</i> )	<b>Status:</b> Least Concern ver 3.1 <b>Population trend:</b> decreasing For willow warbler <b>Willow warbler</b> Status: Least Concern ver 3.1 Pop. trend: decreasing		
8	DK8-DK9	Mbunguni	Mbunguni	<ul style="list-style-type: none"> <li>Area is slightly sloppy, comprises of dry river beds and running river in a valley</li> <li>Grassland area with a height of more than 1 m</li> <li>Small sized maize farms, most affected by fall army worm.</li> <li>Water tank and market centre</li> </ul>	<b>Flora</b> a) Mbuyu (Swahili) Baobab- <i>Adansonia digitata</i> b) Mwanga (Giriama) Madagascar <i>Terminalia, Terminalia Spinosa</i> c) Mtomoko (Swahili/Digo) Custard Apple - <i>Annona cherimola</i> d) Mukuyu (Swahili) Fig Tree - <i>Ficus sycomorus</i> e) Mnazi (Swahili) Coconut Palm - <i>Cocos Nucifera</i> f) Muarubaini (Swahili/Digo) Neem- <i>Azadirachta indica</i> g) Mwembe (Swahili) Mango- <i>Mangifera Indica</i> h) Mkunazi (Swahili/Digo) <i>Ziziphus mucronata</i> i) Mkwaju (Giriama) <i>Tamarind-Tamarindus</i>	<b>Flora</b> This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life • “Mtomoko” Custard Apple • “Mbuyu” Baobab • “Mukuyu Fig Tree • “Mnazi” Coconut Palm • “Mkunazi”  This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life. • “Mwanga” Tree  <b>Status:</b> Least Concern ver 3.1 <b>Population trend:</b> decreasing • “Muarubaini” Neem  <b>Status:</b> Data Deficient ver 2.3 (needs updating) • “Mwembe” Mango  <b>Status:</b> Least Concern ver 3.1 <b>Population trend:</b> stable • “Mkuaju” Tamarind	a) Edible fruit, fodder, medicine, ornamental b) Shade, Ornamental, Timber (Building and Furniture) c) Edible fruit d) Firewood, construction, furniture, medicine, fodder, shade, ornamental e) Firewood, timber, poles, fruit, drink, edible oil, ornamental, thatching leaves and handicraft f) Medicine, firewood, fruit charcoal, furniture, poles, fruit, fodder, shade, soap making. g) Fruit, juice, fodder, shade, ornamental, vet medicine h) Firewood, charcoal, timber, furniture), poles, edible fruit, medicine, fodder, bee forage, dye shade, tannin, i) Edible fruit, firewood, charcoal, timber,	 <p>“Muarubaini” Neem Tree</p>

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No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
					<p><i>Indica</i></p> <p><b>Fauna</b></p> <ul style="list-style-type: none"> <li>Rock Dove (<i>Columbia livia</i>)</li> <li>Pied Crow (<i>Corvus albus</i>)</li> <li>Yellow throated long claw</li> </ul>	<p><b>Fauna</b></p> <p><b>Status:</b> <i>Least Concern ver 3.1</i></p> <p><b>Pop. trend:</b> <i>decreasing for rock dove while stable for pied crow</i></p> <p><i>This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.</i></p> <p><b>Yellow Throated Long Claw</b></p>	furniture, poles	
9	DK9-DK10	Ng'ombeni	Kiteje		<p><b>Flora</b></p> <p>a) Mnazi (Swahili) <i>Coconut Palm - Cocos Nucifera</i></p> <p>b) Muarubaini (Swahili/Digo) <i>Neem- Azadirachta indica</i></p> <p>c) Mwembe (Swahili) <i>Mango- Mangifera Indica</i></p> <p>d) Mkunazi (Swahili/Digo) <i>Ziziphus mucronata</i></p> <p>e) Mkwaju (Giriama) <i>Tamarind-Tamarindus Indica</i></p> <p>f) Mbuyu (Swahili) <i>Baobab- Adansonia digitata</i></p> <p>g) Mwanga (Giriama) <i>Madagascar Terminalia, Terminalia Spinosa</i></p>	<p><b>Flora</b></p> <p><i>This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life</i></p> <ul style="list-style-type: none"> <li>“<b>Mtomoko</b>” <b>Custard Apple</b></li> <li>“<b>Mbuyu</b>” <b>Baobab</b></li> <li>“<b>Mukuyu</b>” <b>Fig Tree</b></li> <li>“<b>Mnazi</b>” <b>Coconut Palm</b></li> <li>“<b>Mkunazi</b>”</li> </ul> <p><b>Status:</b> <i>Least Concern ver 3.1</i></p> <p><b>Population trend:</b> <i>decreasing</i></p> <ul style="list-style-type: none"> <li>“<b>Muarubaini</b>” <b>Neem</b></li> </ul> <p><b>Status:</b> <i>Data Deficient ver 2.3 (needs updating)</i></p> <ul style="list-style-type: none"> <li>“<b>Mwembe</b>” <b>Mango</b></li> </ul> <p><b>Status:</b> <i>Least Concern ver 3.1</i></p> <p><b>Population trend:</b> <i>stable</i></p> <ul style="list-style-type: none"> <li>“<b>Mkuaju</b>” <b>Tamarind</b></li> </ul>	<p>a) Firewood, timber, poles, fruit, drink, edible oil, ornamental, thatching leaves and handicraft</p> <p>b) Medicine, firewood, fruit charcoal, furniture, poles, fruit, fodder, shade, soap making.</p> <p>c) Fruit, juice, fodder, shade, ornamental, vet medicine</p> <p>d) Firewood, charcoal, timber, furniture), poles, edible fruit, medicine, fodder, bee forage, dye shade, tannin,</p> <p>e) Edible fruit, firewood, charcoal, timber, furniture, poles</p> <p>f) Edible fruit, fodder, medicine, ornamental</p> <p>g) Shade, Ornamental,</p>	 <p>“Mwembe” Mango Tree</p>


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No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
					<p>h) Mtomoko (Swahili/Digo) Custard Apple - <i>Annona cherimola</i></p> <p>i) Mukuyu (Swahili) Fig Tree - <i>Ficus sycomorus</i></p> <p>j) Mkorosho (Swahili) Cashew Nut - <i>Anacardium occidentale</i></p> <p><b>Fauna</b></p> <ul style="list-style-type: none"> <li>• Rock Dove (<i>Columba livia</i>)</li> <li>• Pied Crow (<i>Corvus albus</i>)</li> <li>• African grey hornbill (<i>Lophoceros nasutus</i>)</li> </ul>	<p><i>This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.</i></p> <ul style="list-style-type: none"> <li>• “Mwanga” Tree</li> <li>• “Mkorosho” Cashew Nut</li> </ul> <p><b>Fauna</b> <b>Status:</b> Least Concern <u>ver 3.1</u> <b>Pop. trend:</b> decreasing for rock dove while stable for pied crow</p> <p><b>Status:</b> Least Concern <u>ver 3.1</u> <b>Population trend:</b> stable for African Grey Hornbill</p>	<p>Timber (Building and Furniture)</p> <p>h) Edible fruit</p> <p>i) Firewood, construction, furniture, medicine, fodder, shade, ornamental</p> <p>j) Firewood, timber, furniture, edible nut, medicine, shade, ornamental</p>	
10	DK10-K11	Ng’ombeni	Kiteje	<ul style="list-style-type: none"> <li>• Area with an undulating landscape, comprises of dry river beds and running river in a valley</li> <li>• Small sized maize farms, most affected by fall army worm.</li> </ul>	<p><b>Flora</b></p> <p>a) Mwanga (Giriama) Madagascar <i>Terminalia, Terminalia Spinosa</i></p> <p>b) Mtomoko (Swahili/Digo) Custard Apple - <i>Annona cherimola</i></p> <p>c) Mukuyu (Swahili) Fig Tree - <i>Ficus sycomorus</i></p> <p>d) Mkorosho (Swahili) Cashew Nut - <i>Anacardium</i></p>	<p><b>Flora</b></p> <p><i>This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.</i></p> <ul style="list-style-type: none"> <li>• “Mwanga” Tree</li> <li>• “Mkorosho” Cashew Nut</li> </ul> <p><i>This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life</i></p> <ul style="list-style-type: none"> <li>• “Mtomoko” Custard Apple</li> <li>• “Mbuyu” Baobab</li> <li>• “Mukuyu Fig Tree</li> </ul>	<p>a) Shade, Ornamental, Timber, Furniture</p> <p>b) Edible fruit</p> <p>c) Firewood, construction, furniture, medicine, fodder, shade, ornamental</p> <p>d) Firewood, timber, furniture, edible nut, medicine, shade, ornamental</p> <p>e) Firewood, timber, poles, fruit, drink, edible oil, ornamental, thatching leaves and handicraft</p>	 <p>“Mkorosho” Cashew Nut Tree</p>





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No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
					<p><i>occidentale</i></p> <p>e) Mnazi (Swahili) <i>Coconut Palm - Cocos Nucifera</i></p> <p>f) Muarubaini (Swahili/Digo) <i>Neem- Azadirachta indica</i></p> <p>g) Mwembe (Swahili) <i>Mango- Mangifera Indica</i></p> <p>h) Mkunazi (Swahili/Digo) <i>Ziziphus mucronata</i></p> <p>i) Mkwaju (Giriama) <i>Tamarind-Tamarindus Indica</i></p> <p>j) Mbuyu (Swahili) <i>Baobab- Adansonia digitata</i></p> <p><b>Fauna</b></p> <ul style="list-style-type: none"> <li>• Rock Dove (<i>Columbia livia</i>)</li> <li>• Pied Crow (<i>Corvus albus</i>)</li> <li>• Yellow throated long claw</li> <li>• African grey hornbill (<i>Lophoceros nasutus</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>“Mnazi” Coconut Palm</b></li> <li>• <b>“Mkunazi”</b></li> </ul> <p><b>Status:</b> <i>Least Concern ver 3.1</i> <b>Population trend:</b> <i>decreasing</i></p> <ul style="list-style-type: none"> <li>• <b>“Muarubaini” Neem</b></li> </ul> <p><b>Status:</b> <i>Data Deficient ver 2.3 (needs updating)</i></p> <ul style="list-style-type: none"> <li>• <b>“Mwembe” Mango</b></li> </ul> <p><b>Status:</b> <i>Least Concern ver 3.1</i> <b>Population trend:</b> <i>stable</i></p> <ul style="list-style-type: none"> <li>• <b>“Mkuaju” Tamarind</b></li> </ul> <p><b>Fauna</b></p> <p><b>Status:</b> <i>Least Concern ver 3.1</i> <b>Population trend:</b> <i>decreasing for rock dove while stable for pied crow and African Grey Hornbill.</i></p> <p><i>This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life</i></p> <ul style="list-style-type: none"> <li>• <b>Yellow Throated Long Claw Bird</b></li> </ul>	<p>f) Medicine, firewood, fruit charcoal, furniture, poles, fruit, fodder, shade, soap making.</p> <p>g) Fruit, juice, fodder, shade, ornamental, vet medicine</p> <p>h) Firewood, charcoal, timber, furniture), poles, edible fruit, medicine, fodder, bee forage, dye shade, tannin,</p> <p>i) Edible fruit, firewood, charcoal, timber, furniture, poles</p> <p>j) Edible fruit, fodder, medicine, ornamental</p>	
11	DK11-K12	Ng'ombeni	Kiteje	<ul style="list-style-type: none"> <li>• Area with an undulating landscape,</li> </ul>	<p><b>Flora</b></p> <p>a) Muarubaini (Swahili/Digo) <i>Neem-</i></p>	<p><b>Flora</b></p> <p><b>Status:</b> <i>Least Concern ver 3.1</i> <b>Population trend:</b> <i>decreasing</i></p>	<p>a) Medicine, firewood, fruit charcoal, furniture, poles, fruit, fodder,</p>	

No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
				<p>comprises of dry river beds and running river in a valley</p> <ul style="list-style-type: none"> <li>Small sized maize farms, most affected by fall army worm.</li> </ul>	<p><i>Azadirachta indica</i></p> <p>b) Mwembe (Swahili) <i>Mango- Mangifera Indica</i></p> <p>c) Mkunazi (Swahili/Digo) <i>Ziziphus mucronata</i></p> <p>d) Mkwaju (Giriama) <i>Tamarind-Tamarindus Indica</i></p> <p>e) Mbuyu (Swahili) <i>Baobab- Adansonia digitata</i></p> <p>f) Mwanga (Giriama) <i>Madagascar Terminalia, Terminalia Spinosa</i></p> <p>g) Mukuyu (Swahili) Fig Tree - <i>Ficus sycomorus</i></p> <p>h) Mkorosho (Swahili) Cashew Nut - <i>Anacardium occidentale</i></p> <p>i) Mnazi (Swahili) Coconut Palm - <i>Cocos Nucifera</i></p> <p>j) Mng'ongo (Swahili) <i>Marula - Sclerocarya birrea (S. caffra)</i></p> <p><b>Fauna</b></p> <ul style="list-style-type: none"> <li>Rock Dove (<i>Columbia livia</i>)</li> <li>Pied Crow (<i>Corvus</i>)</li> </ul>	<ul style="list-style-type: none"> <li>“Muarubaini” <b>Neem</b></li> </ul> <p><b>Status: Data Deficient ver 2.3 (needs updating)</b></p> <ul style="list-style-type: none"> <li>“Mwembe” <b>Mango</b></li> </ul> <p><i>This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life</i></p> <ul style="list-style-type: none"> <li>“Mbuyu” <b>Baobab</b></li> <li>“Mukuyu Fig Tree</li> <li>“Mnazi” <b>Coconut Palm</b></li> <li>“Mkunazi”</li> <li>“Mng’ongo” <b>Marula</b></li> </ul> <p><i>This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.</i></p> <ul style="list-style-type: none"> <li>“Mwanga” <b>Tree</b></li> <li>“Mkorosho” <b>Cashew Nut</b></li> </ul> <p><b>Status: Least Concern ver 3.1</b> <b>Population trend: stable</b></p> <ul style="list-style-type: none"> <li>“Mkuaju” <b>Tamarind</b></li> </ul> <p><b>Fauna</b> <b>Status: Least Concern ver 3.1</b> <b>Population trend: decreasing for rock dove while stable for pied crow and African Grey Hornbill.</b></p>	<p>shade, soap making.</p> <p>b) Fruit, juice, fodder, shade, ornamental, vet medicine</p> <p>c) Firewood, charcoal, timber, furniture), poles, edible fruit, medicine, fodder, bee forage, dye shade, tannin,</p> <p>d) Edible fruit, firewood, charcoal, timber, furniture, poles</p> <p>e) Edible fruit, fodder, medicine, ornamental</p> <p>f) Shade, Ornamental, Timber (Building and Furniture)</p> <p>g) Firewood, construction, furniture, medicine, fodder, shade, ornamental</p> <p>h) Firewood, timber, furniture, edible nut, medicine, shade, ornamental</p> <p>i) Firewood, timber, poles, fruit, drink, edible oil, ornamental, thatching leaves and handicraft</p> <p>j) Firewood, timber, furniture, poles, edible fruit, medicine, fodder, dye</p>	 <p>“Muarubaini” Neem Tree</p>


No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
					albus) • Yellow throated long claw	This taxon has not yet been assessed for the IUCN Red List, and also is not in the <u>Catalogue of Life</u> • <b>Yellow Throated Long Claw Bird</b>		
12	DK12-K13	Ng'ombeni	Kiteje	<ul style="list-style-type: none"> <li>Area with an undulating landscape, comprises of dry river beds and running river in a valley</li> <li>Small sized maize farms, most affected by fall army worm.                             <ul style="list-style-type: none"> <li></li> </ul> </li> </ul>	<b>Flora</b> a) Mkorosho (Swahili) Cashew Nut - <i>Anacardium occidentale</i> b) Mnazi (Swahili) Coconut Palm - <i>Cocos Nucifera</i> c) Mng'ongo (Swahili) Marula - <i>Sclerocarya birrea (S. caffra)</i> d) Muarubaini (Swahili/Digo) <i>Neem-Azadirachta indica</i> e) Mwembe (Swahili) Mango- <i>Mangifera Indica</i> f) Mkunazi (Swahili/Digo) <i>Ziziphus mucronata</i> g) Mkwaju (Giriama) Tamarind- <i>Tamarindus Indica</i> h) Mbuyu (Swahili) Baobab- <i>Adansonia digitata</i> i) Mwanga (Giriama) Madagascar <i>Terminalia, Terminalia</i>	This taxon has not yet been assessed for the IUCN Red List, and also is not in the <u>Catalogue of Life</u> . • <b>"Mwanga" Tree</b> • <b>"Mkorosho" Cashew Nut</b>  This taxon has not yet been assessed for the IUCN Red List, but is in the <u>Catalogue of Life</u> • <b>"Mbuyu" Baobab</b> • <b>"Mukuyu Fig Tree</b> • <b>"Mnazi" Coconut Palm</b> • <b>"Mkunazi"</b> • <b>"Mng'ongo" Marula</b>  <b>Status: Least Concern ver 3.1</b> <b>Population trend: decreasing</b> • <b>"Muarubaini" Neem</b>  <b>Status: Data Deficient ver 2.3 (needs updating)</b> • <b>"Mwembe" Mango</b>  <b>Status: Least Concern ver 3.1</b> <b>Population trend: stable</b> • <b>"Mkuaju" Tamarind</b>	a) Firewood, timber, furniture, edible nut, medicine, shade b) Firewood, timber, poles, fruit, drink, edible oil, ornamental, thatching leaves and handicraft c) Firewood, timber, furniture, poles, edible fruit, medicine, fodder, dye d) Medicine, firewood, fruit charcoal, furniture, poles, fruit, fodder, shade, soap making. e) Fruit, juice, fodder, shade, ornamental, vet medicine f) Firewood, charcoal, timber, furniture), poles, edible fruit, medicine, fodder, bee forage, dye shade, tannin, g) Edible fruit, firewood, timber, furniture, poles h) Edible fruit, fodder, medicine, i) Shade, Ornamental,	 <p>"Mng'ongo" Marula Tree</p>


No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
					<p><i>Spinosa</i></p> <p>j) Mukuyu (Swahili) Fig Tree - <i>Ficus sycomorus</i></p> <p><b>Fauna</b></p> <ul style="list-style-type: none"> <li>• Rock Dove (<i>Columbia livia</i>)</li> <li>• Pied Crow (<i>Corvus albus</i>)</li> <li>• Yellow throated long claw</li> <li>• African grey hornbill (<i>Lophoceros nasutus</i>)</li> </ul>	<p><b>Fauna</b></p> <p><b>Status:</b> <i>Least Concern ver 3.1</i></p> <p><b>Population trend:</b> <i>decreasing for rock dove while stable for pied crow and African Grey Hornbill.</i></p> <p><i>This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life</i></p> <ul style="list-style-type: none"> <li>• <b>Yellow Throated Long Claw Bird</b></li> </ul>	<p>Timber (Building and Furniture)</p> <p>j) Firewood, construction, furniture, medicine, fodder, shade, ornamental</p>	
13	DK13-K14	Mtongwe	Mtongwe	<ul style="list-style-type: none"> <li>• Area comprises of very sloppy landscape and valleys</li> <li>• Small farms found in the area</li> <li>• Vegetation from shrubs to various species of trees</li> </ul>	<p><b>Flora</b></p> <p>a) Kikwata (Swahili/Digo) <i>Gum Arabic Acacia - Acacia senegal</i></p> <p>b) Muarubaini (Swahili/Digo) <i>Neem-Azadirachta indica</i></p> <p>c) Mukuyu (Swahili) Fig Tree - <i>Ficus sycomorus</i></p> <p>d) Mchu (Swahii) Mangrove - <i>Avicennia marina</i></p> <p>e) Mkoma (Swahli/Digo) – <i>Doum Palm -</i></p>	<p><i>This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life</i></p> <ul style="list-style-type: none"> <li>• <b>“Kikwata” Gum Arabic Acacia</b></li> <li>• <b>“Mukuyu Fig Tree</b></li> </ul> <p><b>Status:</b> <i>Least Concern ver 3.1</i></p> <p><b>Population trend:</b> <i>decreasing</i></p> <ul style="list-style-type: none"> <li>• <b>“Muarubaini” Neem</b></li> <li>• <b>“Mchu” Mangroove</b></li> </ul> <p><b>Status:</b> <i>Least Concern ver 3.1</i></p> <p><b>Population trend:</b> <i>unknown</i></p>	<p>a) Firewood, poles, medicine, fodder</p> <p>b) Medicine, firewood, fruit charcoal, furniture, poles, fruit, fodder, shade, soap making.</p> <p>c) Firewood, construction, furniture, medicine, fodder, shade, ornamental</p> <p>d) Firewood, poles, medicine, fodder, fish feed and breeding, erosion control</p> <p>e) Firewood, furniture,</p>	 <p>“Muarubaini” Neem Tree</p>

No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
					<p><i>Hyphaene compressa</i></p> <p><b>Fauna</b></p> <ul style="list-style-type: none"> <li>• Rock Dove (<i>Columba livia</i>)</li> <li>• Pied Crow (<i>Corvus albus</i>)</li> <li>• Yellow throated long claw</li> <li>• African grey hornbill (<i>Lophoceros nasutus</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>“Mkoma” Doum Palm</b></li> </ul> <p><b>Fauna</b>  <b>Status:</b> <i>Least Concern ver 3.1</i>  <b>Population trend:</b> <i>decreasing for rock dove while stable for pied crow and African Grey Hornbill.</i></p> <p><i>This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life</i></p> <p><b>Yellow Throated Long Claw Bird</b></p>	<p>edible fruit, drink (pal wine), roofing, handicrafts</p>	
14	DK14-K15	Mtongwe	Mtongwe	<ul style="list-style-type: none"> <li>• Area comprises of very sloppy landscape and valleys</li> <li>• Small farms found in the area</li> <li>• Vegetation from shrubs to various species of trees</li> </ul>	<p><b>Flora</b></p> <p>a) Mng’ongo (Swahili) Marula - <i>Sclerocarya birrea</i> (S. caffra)</p> <p>b) Mkorosho (Swahili) Cashew Nut - <i>Anacardium occidentale</i></p> <p>c) Mnazi (Swahili) <i>Coconut Palm</i> - <i>Cocos Nucifera</i>)</p> <p>d) Muarubaini (Swahili/Digo) <i>Neem-Azadirachta indica</i></p> <p>e) Mwembe (Swahili) <i>Mango- Mangifera Indica</i></p> <p>f) Mkunazi (Swahili/Digo) <i>Ziziphus mucronata</i></p>	<p><b>Flora</b>  <i>This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life</i></p> <ul style="list-style-type: none"> <li>• <b>“Mbuyu” Baobab</b></li> <li>• <b>“Mukuyu Fig Tree</b></li> <li>• <b>“Mnazi” Coconut Palm</b></li> <li>• <b>“Mkunazi”</b></li> <li>• <b>“Mng’ongo” Marula</b></li> </ul> <p><i>This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.</i></p> <ul style="list-style-type: none"> <li>• <b>“Mwanga” Tree</b></li> <li>• <b>“Mkorosho” Cashew Nut</b></li> </ul> <p><b>Status:</b> <i>Least Concern ver 3.1</i></p>	<p>a) Firewood, timber, furniture, poles, edible fruit, medicine, fodder, dye</p> <p>b) Firewood, timber, furniture, edible nut, medicine, shade, ornamental</p> <p>c) Firewood, timber, poles, fruit, drink, edible oil, ornamental, thatching leaves and handicraft</p> <p>d) Medicine, firewood, fruit charcoal, furniture, poles, fruit, fodder, shade, soap making.</p> <p>e) Fruit, juice, fodder, shade, ornamental, vet medicine</p>	 <p>“Mukuyu” Fig Tree</p>


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No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
					<p>g) Mkwaju (Giriama) <i>Tamarind-Tamarindus Indica</i></p> <p>h) Mbuyu (Swahili) <i>Baobab- Adansonia digitata</i></p> <p>i) Mwanga (Giriama) <i>Madagascar Terminalia, Terminalia Spinosa</i></p> <p>j) Mukuyu (Swahili) Fig Tree - <i>Ficus sycomorus</i></p> <p><b>Fauna</b></p> <ul style="list-style-type: none"> <li>• Rock Dove (<i>Columbia livia</i>)</li> <li>• Pied Crow (<i>Corvus albus</i>)</li> <li>• Yellow throated long claw</li> <li>• African grey hornbill (<i>Lophoceros nasutus</i>)</li> </ul>	<p><b>Population trend: decreasing</b></p> <ul style="list-style-type: none"> <li>• <b>“Muarubaini” Neem</b></li> </ul> <p><b>Status: Data Deficient ver 2.3 (needs updating)</b></p> <ul style="list-style-type: none"> <li>• <b>“Mwembe” Mango</b></li> </ul> <p><b>Status: Least Concern ver 3.1</b></p> <p><b>Population trend: stable</b></p> <ul style="list-style-type: none"> <li>• <b>“Mkuaju” Tamarind</b></li> </ul> <p><b>Fauna</b></p> <p><b>Status: Least Concern ver 3.1</b></p> <p><b>Population trend: decreasing for rock dove while stable for pied crow and African Grey Hornbill.</b></p> <p><i>This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life</i></p> <p><b>Yellow Throated Long Claw Bird</b></p>	<p>f) Firewood, charcoal, timber, furniture), poles, edible fruit, medicine, fodder, bee forage, dye shade, tannin,</p> <p>g) Edible fruit, firewood, charcoal, timber, furniture, poles</p> <p>h) Edible fruit, fodder, medicine, ornamental</p> <p>i) Shade, Ornamental, Timber (Building and Furniture)</p> <p>j) Firewood, construction, furniture, medicine, fodder, shade, ornamental</p>	
15	DK15-K16	Mtongwe	Mtongwe	<ul style="list-style-type: none"> <li>• Area comprises of very sloppy landscape and valleys</li> <li>• Small farms</li> </ul>	<p><b>Flora</b></p> <p>a) Mbuyu (Swahili) <i>Baobab- Adansonia digitata</i></p> <p>b) Mng'ongo (Swahili)</p>	<p><b>Flora</b></p> <p><i>This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life</i></p>	<p>a) Edible fruit, fodder, medicine, ornamental</p> <p>b) Firewood, timber, furniture, poles, edible fruit, medicine, fodder,</p>	


No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
				<p>found in the area</p> <ul style="list-style-type: none"> <li>Vegetation from shrubs to various species of trees</li> </ul>	<p><i>Marula</i> - <i>Sclerocarya birrea</i> (<i>S. caffra</i>)</p> <p>c) Muarubaini (Swahili/Digo) <i>Neem-Azadirachta indica</i></p> <p>d) Mwembe (Swahili) <i>Mango- Mangifera Indica</i></p> <p>e) Mkorosho (Swahili) <i>Cashew Nut - Anacardium occidentale</i></p> <p>f) Mkone (Giriama/Swahili) <i>Grewia plagiophylla</i></p> <p>g) Mkunazi (Swahili/Digo) <i>Ziziphus mucronata</i></p> <p>h) Mfudu (Swahili/Digo) <i>Black Plum - Vitex payos</i></p> <p><b>Fauna</b></p> <ul style="list-style-type: none"> <li>Rock Dove (<i>Columbia livia</i>)</li> <li>Pied Crow (<i>Corvus albus</i>)</li> <li>Yellow throated long claw</li> <li>African grey hornbill (<i>Lophoceros nasutus</i>)</li> </ul>	<ul style="list-style-type: none"> <li>“Mbuyu” Baobab</li> <li>“Mukuyu Fig Tree</li> <li>“Mnazi” Coconut Palm</li> <li>“Mkunazi”</li> <li>“Mng’ongo” Marula</li> <li>“Mkone”</li> </ul> <p><b>Status:</b> <i>Least Concern ver 3.1</i> <b>Population trend:</b> <i>decreasing</i></p> <ul style="list-style-type: none"> <li>“Muarubaini” Neem</li> </ul> <p><b>Status:</b> <i>Data Deficient ver 2.3 (needs updating)</i> <b>“Mwembe” Mango</b></p> <p><i>This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.</i></p> <ul style="list-style-type: none"> <li>“Mwanga” Tree</li> <li>“Mkorosho” Cashew Nut</li> </ul> <p><b>Status:</b> <i>Least Concern ver 3.1</i> <b>Population trend:</b> <i>unknown</i></p> <ul style="list-style-type: none"> <li>“Mfudu” Black Plum</li> </ul> <p><b>Fauna</b> <b>Status:</b> <i>Least Concern ver 3.1</i> <b>Population trend:</b> <i>decreasing for rock dove while stable for pied crow and African Grey Hornbill.</i></p> <p><i>This taxon has not yet been</i></p>	<p>dye</p> <p>c) Medicine, firewood, fruit charcoal, furniture, poles, fruit, fodder, shade, soap making.</p> <p>d) Fruit, juice, fodder, shade, ornamental, vet medicine</p> <p>e) Firewood, timber, furniture, edible nut, medicine, shade, ornamental</p> <p>f) Construction, edible fruit, medicine</p> <p>g) Firewood, charcoal, timber, furniture), poles, edible fruit, medicine, fodder, bee forage, dye shade, tannin,</p> <p>h) Firewood, poles, , edible fruit, shade, ornamental</p>	 <p>“Mn’ongo” Marula</p>


No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
						<i>assessed for the IUCN Red List, and also is not in the Catalogue of Life</i> <b>Yellow Throated Long Claw Bird</b>		
16	DK16-K17	Mtongwe	Mtongwe	<ul style="list-style-type: none"> <li>Area comprises of very sloppy landscape and valleys</li> <li>Small farms found in the area</li> <li>Vegetation from shrubs to various species of trees</li> </ul>	<b>Flora</b> a) Mkunazi (Swahili/Digo) <i>Ziziphus mucronata</i> b) Kikwata (Swahili/Digo) <i>Gum Arabic Acacia - Acacia senegal</i> c) Mwembe (Swahili) <i>Mango- Mangifera Indica</i> d) Mkoma (Swahili/Digo) – <i>Doum Palm - Hyphaene compressa</i> e) Mbuyu (Swahili) <i>Baobab- Adansonia digitata</i> f) Muarubaini (Swahili/Digo) <i>Neem- Azadirachta indica</i> g) Mkorosho (Swahili) <i>Cashew Nut - Anacardium occidentale</i> h) Mkwaju (Giriama) <i>Tamarind-Tamarindus Indica</i> i) Mng'ongo (Swahili) <i>Marula - Sclerocarya birrea (S. caffra)</i>	<i>This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life</i> <ul style="list-style-type: none"> <li>“Kikwata” <i>Gum Arabic Acacia</i></li> <li>“Mbuyu” <i>Baobab</i></li> <li>“Mkunazi”</li> <li>“Mng’ongo” <i>Marula</i></li> </ul> <b>Status: Data Deficient ver 2.3 (needs updating)</b> <b>“Mwembe” Mango</b> <b>Status: Least Concern ver 3.1</b> <b>Population trend: unknown</b> <ul style="list-style-type: none"> <li>“Mkoma” <i>Doum Palm</i></li> </ul> <b>Status: Least Concern ver 3.1</b> <b>Population trend: decreasing</b> <ul style="list-style-type: none"> <li>“Muarubaini” <i>Neem</i></li> </ul> <i>This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.</i> <ul style="list-style-type: none"> <li>“Mkorosho” <i>Cashew Nut</i></li> </ul>	a) Firewood, charcoal, timber, furniture), poles, edible fruit, medicine, fodder, bee forage, dye shade, tannin, b) Firewood, poles, medicine, fodder c) Fruit, juice, fodder, shade, ornamental, vet medicine d) Firewood, furniture, edible fruit, drink (pal wine), roofing, handicrafts e) Edible fruit, fodder, medicine, ornamental f) Medicine, firewood, fruit charcoal, furniture, poles, fruit, fodder, shade, soap making g) Firewood, timber, furniture, edible nut, medicine, shade, ornamental h) Edible fruit, firewood, poles charcoal, timber, furniture, pole i) Firewood, timber,	 <p>“Mkoma” Doum Palm</p>



No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
					<p><b>Fauna</b></p> <ul style="list-style-type: none"> <li>• Rock Dove (<i>Columba livia</i>)</li> <li>• Pied Crow (<i>Corvus albus</i>)</li> <li>• Yellow throated long claw</li> </ul>	<p><b>Status: Least Concern ver 3.1</b>  <b>Population trend: stable</b>                      • “Mkuaju” Tamarind</p> <p><b>Fauna</b>  <b>Status: Least Concern ver 3.1</b>  <b>Population trend: decreasing for rock dove while stable for pied crow.</b></p> <p><i>This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life</i>  <b>Yellow Throated Long Claw Bird</b></p>	furniture, poles, edible fruit, medicine, fodder, dye	
17	DK17-K18	Mtongwe	Mtongwe	<ul style="list-style-type: none"> <li>• Area comprises of very sloppy landscape and valleys</li> <li>• Small farms found in the area</li> <li>• Vegetation from shrubs to various species of trees</li> </ul>	<p><b>Flora</b></p> <p>a) Mnyumbu (Swahili/Digo) - <i>Lannea schweinfurthii</i></p> <p>b) Mbambakofi (Swahili/Digo) <i>Mahogany Bean - A'fzelia quanzensis</i></p> <p>c) Muarubaini (Swahili/Digo) <i>Neem- Azadirachta indica</i></p> <p>d) Mwembe (Swahili) <i>Mango- Mangifera Indica</i></p> <p>e) Mkwaju (Giriama) <i>Tamarind-Tamarindus Indica</i></p> <p>f) Mkorosho (Swahili)</p>	<p><b>Flora</b>  <i>This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life</i></p> <ul style="list-style-type: none"> <li>• “Mkunazi”</li> <li>• “Mnyumbu”</li> <li>• “Mbambakofi”</li> <li>• “Mtomoko” Custard Apple</li> <li>• “Mukuyu” Fig Tree</li> <li>• “Mbambara”</li> </ul> <p><b>Status: Least Concern ver 3.1</b>  <b>Population trend: decreasing</b>                      • “Muarubaini” Neem</p> <p><b>Status: Data Deficient ver 2.3 (needs updating)</b></p>	<p>a) Furniture, medicine, fodder, live fence</p> <p>b) Timber, poles, furniture, medicine necklaces</p> <p>c) Medicine, firewood, fruit charcoal, furniture, poles, fruit, fodder, shade, soap making</p> <p>d) Fruit, juice, fodder, shade, ornamental, vet medicine</p> <p>e) Edible fruit, firewood, pole charcoal, timber, furniture</p> <p>f) Firewood, timber, furniture, edible nut, medicine, shade,</p> <p>g) Edible fruit</p>	 <p>“Mbambakofi” Mahogany Bean Tree</p>

No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
					<p>Cashew Nut - <i>Anacardium occidentale</i></p> <p>g) Mtomoko (Swahili/Digo) Custard Apple - <i>Annona cherimola</i></p> <p>h) Mkunazi (Swahili/Digo) <i>Ziziphus mucronata</i></p> <p>i) Mukuyu (Swahili) Fig Tree - <i>Ficus sycomorus</i></p> <p>j) Mwanga (Giriama) <i>Madagascar Terminalia</i></p> <p>k) Mbambara (Swahili) <i>Commiphora Africana</i></p> <p><b>Fauna</b></p> <ul style="list-style-type: none"> <li>• Rock Dove (<i>Columbia livia</i>)</li> <li>• Pied Crow (<i>Corvus albus</i>)</li> <li>• Yellow throated long claw</li> <li>• African grey hornbill (<i>Lophoceros nasutus</i>)</li> </ul>	<p><b>“Mwembe” Mango</b></p> <p><b>Status:</b> <i>Least Concern ver 3.1</i></p> <p><b>Population trend:</b> <i>stable</i></p> <ul style="list-style-type: none"> <li>• <b>“Mkuaju” Tamarind</b></li> </ul> <p><i>This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life.</i></p> <ul style="list-style-type: none"> <li>• <b>“Mkorosho” Cashew Nut</b></li> <li>• <b>“Mwanga” Tree</b></li> </ul> <p><b>Fauna</b></p> <p><b>Status:</b> <i>Least Concern ver 3.1</i></p> <p><b>Population trend:</b> <i>decreasing for rock dove while stable for pied crow and African Grey Hornbill.</i></p> <p><i>This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life</i></p> <p><b>Yellow Throated Long Claw Bird</b></p>	<p>h) Firewood, charcoal, timber, furniture), poles, edible fruit, medicine, fodder, bee forage, dye shade, tannin</p> <p>i) Firewood, construction, furniture, medicine, fodder, shade, ornamental</p> <p>j) Shade, Ornamental, Timber (Building and Furniture</p> <p>k) Firewood, carvings, furniture, edible fruit, , fodder, medicine, insecticide</p>	
18	DK18-K19	Mtongwe	Mtongwe	<ul style="list-style-type: none"> <li>• Area comprises of very sloppy landscape and valleys</li> <li>• Small farms found in the area</li> </ul>	<p><b>Flora</b></p> <p>a) Mng’ongo (Swahili) <i>Marula - Sclerocarya birrea (S. caffra)</i></p> <p>b) Mbuyu (Swahili) <i>Baobab- Adansonia digitata</i></p>	<p><b>Flora</b></p> <p><i>This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life</i></p> <ul style="list-style-type: none"> <li>• <b>“Kikwata” Gum Arabic Acacia</b></li> </ul>	<p>a) Firewood, timber, furniture, poles, edible fruit, medicine, fodder, dye</p> <p>b) Edible fruit, fodder, medicine, ornamental</p> <p>c) Firewood, charcoal,</p>	

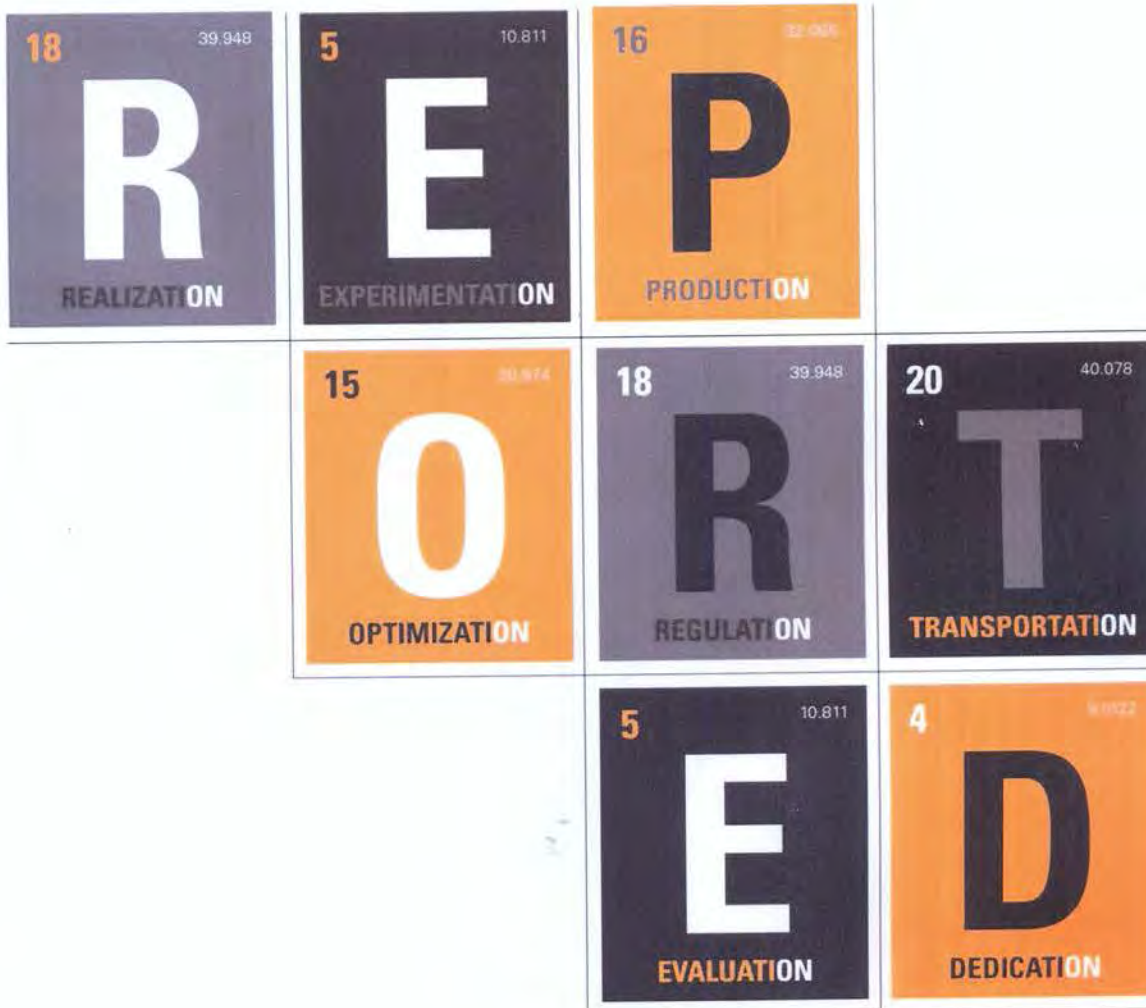
No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
				<ul style="list-style-type: none"> <li>Vegetation from shrubs to various species of trees</li> </ul>	<p>c) Mkunazi (Swahili/Digo) <i>Ziziphus mucronata</i></p> <p>d) Mkwaju (Giriama) <i>Tamarind-Tamarindus Indica</i></p> <p>e) Mchani Ndovu (Swahili/Digo) <i>Albizia glaberrima</i></p> <p>f) Muarubaini (Swahili/Digo) <i>Neem-Azadirachta indica</i></p> <p>g) Kikwata (Swahili/Digo) <i>Gum Acacia - Acacia senegal</i></p> <p><b>Fauna</b></p> <ul style="list-style-type: none"> <li>African grey hornbill (<i>Lophoceros nasutus</i>)</li> <li>Pied Crow (<i>Corvus albus</i>)</li> <li>Speckled Mousebird (<i>Colius Striatus</i>)</li> <li>Red-billed hornbill (<i>Tockus erythrorhynchus</i>)</li> <li>Black-eyed (common) bulbul (<i>Pycnonotus barbatus</i>)</li> <li>Black headed weaver (<i>Ploceus Cucullatus</i>)</li> </ul>	<ul style="list-style-type: none"> <li>“Mbuyu” Baobab</li> <li>“Mkunazi”</li> <li>“Mng’ongo” Marula</li> <li>“Mchani Ndovu”</li> </ul> <p><b>Status: Least Concern ver 3.1</b> <b>Population trend: stable</b></p> <ul style="list-style-type: none"> <li>“Mkuaju” Tamarind</li> </ul> <p><b>Status: Least Concern ver 3.1</b> <b>Population trend: decreasing</b></p> <ul style="list-style-type: none"> <li>“Muarubaini” Neem</li> </ul> <p><b>Fauna</b></p> <p><b>Status: Least Concern ver 3.1</b> <i>stable for pied crow, African Grey Hornbill, Red billed hornbill and Black headed weaver</i></p> <p><b>Status: Least Concern ver 3.1</b> <i>Pop. trend: increasing for Speckled mousebird and Black-eyed (common) bulbul</i></p>	<p>timber, furniture), poles, edible fruit, medicine, fodder, bee forage, dye shade, tannin</p> <p>d) Edible fruit, firewood, pole charcoal, timber, furniture,</p> <p>e) Firewood, charcoal, timber, fodder (leaves), shade, nitrogen-fixing.</p> <p>f) Medicine, firewood, fruit charcoal, furniture, poles, fruit, fodder, shade, soap making</p> <p>g) Firewood, poles, medicine, fodder</p>	 <p>“Mkuaju” Tamarind</p>

No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
19	DK19-Sub station	Mtongwe	Mtongwe	<ul style="list-style-type: none"> <li>Area comprises of very sloppy landscape and valleys</li> <li>Small farms found in the area</li> <li>Vegetation from shrubs to various species of trees</li> </ul>	<b>Flora</b> a) Mukuyu (Swahili) Fig Tree - <i>Ficus sycomorus</i> b) <i>Mng'ongo</i> (Swahili) <i>Marula - Sclerocarya birrea (S. caffra)</i> c) Muarubaini (Swahili/Digo) <i>Neem- Azadirachta indica</i> d) Mbambakofi (Swahili/Digo) <i>Mahogany Bean - A'zelia quanzensis</i> e) Mbuyu (Swahili) <i>Baobab- Adansonia digitata</i> f) Mkwaju (Giriama) <i>Tamarind-Tamarindus Indica</i> g) Mwembe (Swahili) <i>Mango- Mangifera Indica</i> h) Mkunazi (Swahili/Digo) <i>Ziziphus mucronata</i> i) Mtomoko (Swahili/Digo) <i>Custard Apple - Annona cherimola</i> j) Mkoma (Swahili/Digo) – <i>Doum Palm - Hyphaene compressa</i>	<b>Flora</b> <i>This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life</i> <ul style="list-style-type: none"> <li>• <b>“Mukuyu” Fig Tree</b></li> <li>• <b>“Mng’ongo” Marula</b></li> <li>• <b>“Mbambakofi”</b></li> <li>• <b>“Mbuyu” Baobab</b></li> <li>• <b>“Mkunazi”</b></li> <li>• <b>“Mtomoko” Custard Apple</b></li> </ul> <b>Status: Least Concern ver 3.1</b> <b>Population trend: decreasing</b> <ul style="list-style-type: none"> <li>• <b>“Muarubaini” Neem</b></li> </ul> <b>Status: Least Concern ver 3.1</b> <b>Population trend: stable</b> <ul style="list-style-type: none"> <li>• <b>“Mkuaju” Tamarind</b></li> </ul> <b>Status: Data Deficient ver 2.3 (needs updating)</b> <b>“Mwembe” Mango</b> <b>Status: Least Concern ver 3.1</b> <b>Population trend: unknown</b> <ul style="list-style-type: none"> <li>• <b>“Mkoma” Doum Palm</b></li> </ul>	a) Firewood, construction, shade furniture, medicine, fodder, b) Firewood, timber, furniture, poles, edible fruit, medicine, fodder, dye c) Medicine, firewood, fruit charcoal, furniture, poles, fruit, fodder, shade, soap making d) Timber, poles, furniture, medicine necklaces e) Edible fruit, firewood, charcoal, timber, furniture, pole f) Edible fruit, fodder, medicine g) Fruit, juice, fodder, shade, ornamental, vet medicine h) Firewood, charcoal, timber, furniture), poles, edible fruit, medicine, fodder, bee forage, dye shade, tannin i) Edible fruit j) Firewood, furniture, edible fruit, drink (pal wine), roofing, handicrafts	 <p>Muarubaini) “Nee Tree</p>

No.	The TL Areas	Location	Sub-Location	Field Ecological Observations	Local and Scientific Name of Tree	IUCN and Kenya Listing	Uses	Photo
					<b>Fauna</b> <ul style="list-style-type: none"> <li>African grey hornbill (<i>Lophoceros nasutus</i>)</li> <li>Pied Crow (<i>Corvus albus</i>)</li> <li>Malachite sunbird (<i>Nectarina famosa</i>)</li> </ul>	<b>Fauna</b> <b>Status: Least Concern ver 3.1</b> <i>stable for pied crow and African Grey Hornbill.</i>  This taxon has not yet been assessed for the IUCN Red List, and also is not in the Catalogue of Life <b>Malachite sunbird</b>		

### **Annex 9: Baseline Measurements and Lab Analysis Results**

- Measurements and Lab Analysis done SGS
- Baseline Analysis Results for:
  - Noise Levels
  - Air Quality
  - Surface and Groundwater Quality
  - Soil Status



# ENVIRONMENTAL BASELINE SURVEY REPORT FOR MARIAKANI-DONGO KUNDU 220KV TRANSMISSION LINE

*Air quality, soil and noise measurements Report*

*Reference: 524219*

PREPARED FOR:

**PANAFCON LIMITED**

**APRIL 2018**



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	Date : 31 May 2018

**PROJECT QA/QC**

Rev.	Date	Prepared	Reviewed	Approved
00	09/05/2018	WO	CO	PA
01	31/05/2018	WO	CO	PA
02				
03				

Company Stamp	Signatures
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**REPORT DETAILS**

REFERENCE	524219
REPORT TITLE	Environmental Baseline Survey Report
DATE SUBMITTED:	31 May 2018
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STATUS	Final Report

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## EXECUTIVE SUMMARY

KETRACO intends to construct a new 220kv transmission line from Mariakani to Dongo Kundu. As part of environmental management, they contracted Panafcon Limited to carry out environmental social impact assessment of the project. Subsequently, Panafcon Limited contracted SGS Kenya Limited to carry out environmental baseline survey at identified sites along the proposed sites of the project.

The scope of the environmental baseline survey was limited to:

- Air quality measurements for Particulate Matter (PM<sub>10</sub>), Sulphur dioxide (SO<sub>2</sub>) and Nitrogen dioxide (NO<sub>2</sub>)
- Environmental noise measurements – Diurnal and nocturnal
- Sampling and analysis of soil and water
- Assessing results against the following relevant local and international legislations:
  - World Health Organization (WHO) Air Quality Guidelines, 2005
  - Environmental Management and Co-Ordination (Air Quality Regulations), 2014
  - Dutch Soil Remediation Circular, 2013
  - The Environmental Management and Coordination (Noise and Excessive Vibration Pollution Control) Regulations, 2009
- Present the findings in a comprehensive survey report

This report presents the findings of sampling and measurements held between 12<sup>th</sup> and 20<sup>th</sup> April 2018.



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## Results

### Air Quality

Table 1 : Summary of air quality results

Location		PM 10 ( $\mu\text{g}/\text{m}^3$ )	SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )	NO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )
NA 01	At Sub-Station Site – At the home of Pastor Benson Asenamangala Savai, Near Mwangala Primary School	15	BDL	BDL
NA 02	Near Kiteje Secondary School	15	BDL	BDL
NA 03	Near Mwanda Dispensary	31	BDL	BDL
NA 04	At Katundani Shopping Centre	19	BDL	BDL
NA 05	Near Shangia Primary School at Homestead of Nadzuwa Tsuma Kenga	11	BDL	BDL
<b>WHO Limits(<math>\mu\text{g}/\text{m}^3</math>)</b>		<b>50</b>	<b>20</b>	<b>40</b>
<b>EMC Limits(<math>\mu\text{g}/\text{m}^3</math>)</b>		<b>100</b>	<b>80</b>	<b>80</b>

- The measurements results show that concentrations of Particulate matter (PM10) for all the measured points were below the limits stipulated in EMC Air Quality Regulations, 2014 and WHO Global Updates, 2005.
- The measurements results show that concentrations of SO<sub>2</sub>& NO<sub>2</sub> for the all the measured points were below their respective analytical methods' detection limits.

### Soil

Table 2 : Summary of soil quality results

Location		PAHs (total) (mg/kg)	TPH C6- C44 (mg/kg)
S1	At Sub- Station Site 1	0.34	0.65
S2	At Sub-station site 2	0.29	0.72
S3	Near Lutsangani	0.63	0.61
S4	At the start of transmission line in mariakani	0.44	0.83
S5	In mbuguni at homestead of Ali Suwari Kiguru	0.7	0.74
<b>D.I.V (mg/kg)</b>		<b>40</b>	<b>5000</b>

Traces of TPH and PAH have been detected in the soil samples. However, the traces are insignificant when compared against the Dutch Intervention Values of 5000mg/kg and 40 mg/kg respectively.

### Water

**Table 3 : Summary of water quality results**

Location		PAHs (total) (µg/l)	TPH C6- C44 (µg/l)
W1	Well at Boundary of Kaya Mtongwe and Mwangala Sub-Locations	<50	290
W2	Developed Community Well with pump	<50	410
W3	Stream water al railway bridge	<50	230
W4	Mwache River near Bofu Centre	<50	200
W5	Water pan in Mariakani/ Mitangoni	<50	280
<b>Dutch Target Values (µg/l)</b>		-	<b>50</b>
<b>Dutch Intervention Values (µg/l)</b>		-	<b>600</b>

- TPH concentrations for the five sampled points were above the Dutch target limit of 50µg/l but below the Dutch Intervention values of 600µg/l.
- PAH levels were below their respective analytical detection limits.

### Noise

**Table 4 : Summary of diurnal and nocturnal noise measurements results**

Monitoring Duration	Measurement Results dB(A)					Noise and Excessive Vibrations Pollution Regulations 2009 dB (A)
	NA 1	NA 2	NA 3	NA 4	NA 5	
Diurnal	79	66	76	69	66	<b>50</b>
Nocturnal	71	52	48	45	42	<b>35</b>

Diurnal and nocturnal noise levels at all the monitoring point surpassed the Noise and Excessive Vibrations Pollution Regulations 2009 of 50 dB and 35 dB respectively. Elevated noise levels were as a result of activities within the nearby households.



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## 1 INTRODUCTION

Panafcon Limited contracted SGS Kenya Limited to carry out a baseline environmental survey for a proposed 220kv transmission line from Mariakani and Dongo Kundu by KETRACO. The survey was carried out at designated sites identified by the client along the project area. The objective of the survey was to provide sufficient baseline environmental data to identify the current baseline conditions.

The measurements were carried out at 5 identified points as proposed by Panafcon to determine and evaluate:

- Air quality (Particulate Matter (PM<sub>10</sub>), Sulphur dioxide (SO<sub>2</sub>) & Nitrogen dioxide (NO<sub>x</sub>)) in relation to applicable legislation
- TPH and PAH in soil and water
- Noise levels in relation to applicable legislation

### 1.1 Scope of Work

The objective of the survey was to collect baseline data at the nearest receptor points as part of assessment for the project.

The scope of work involved:

- Conducting environmental noise level measurements
- Conducting air quality measurements for Particulate Matter (PM<sub>10</sub>), Sulphur dioxide (SO<sub>2</sub>) & Nitrogen dioxide (NO<sub>x</sub>).
- Sampling and analysis of soil and water
- Assessing achieved results for compliance with local legislations and other relevant guidelines



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## 1.2 Project Location and Description

The map below shows the respective sampling and measurement points as identified by the client:



Figure 1 : Sampling Points along Mariakani - Dogo Kundu



### 1.2.1 Identification of measurement points

**Table 5 : Measurement Points**

Parameter	Identification	Location	GPS Point	Analysis/Measurement	No. of samples
Water	W1	Well at Boundary of Kaya Mtongwe and Mwangala Sub-Locations	0565614 9548578	TPH & PAH	5
	W2	Developed Community Well with pump	0562179 9544810		
	W3	Stream water at railway bridge	054893 9577726		
	W4	Mwache River near Bofu Centre	0550870 9562395		
	W5	Water pan in Mariakani/ Mitangoni	0545096 9580880		
Soil	S1	At Sub- Station Site 1	0565650 9549577	TPH & PAH	5
	S2	At Sub-station site 2	0566451 9549356		
	S3	Near Lutsangani	0555700 9550650		
	S4	At the start of transmission line in mariakani	0545200 9580800		
	S5	In mbuguni at homestead of Ali Suwari Kiguru	0563450 9544549		
Noise and air	NA 1	At Sub-Station Site – At the home of Pastor Benson Asenamangala Savai, Near Mwangala Primary School	0565996 9549494	Baseline Noise Level Measurements Particulate Matter (PM10), Oxides of Sulphur (SOx) Oxides of Nitrogen (Nox)	5
	NA 2	Near Kiteje Secondary School	0565855 9545251		
	NA 3	Near Mwanda Dispensary	0548000 9570150		
	NA 4	At Katundani Shopping Centre	0552400 9556600		
	NA 5	Near Shangia Primary School at Homestead of Nadzuwa Tsuma Kenga	0545149 9579529		

Where:

NA – Noise and Air

S – Soil

W - Water

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## 2 LEGISLATION AND GUIDELINES

### 2.1 The World Health Organization, Air Quality Guidelines

The World Health Organization (WHO) Air Quality Guidelines (AQG) are intended to achieve air quality that protects public health in different contexts. The International Finance Corporation (IFC), Environmental, Health and Safety Guidelines also refer to WHO standards for ambient air quality. The guidelines are in table below.

**Table 6 : WHO Air Quality Guidelines**

Pollutant	Time Weighted Average	Air Quality Guideline
Sulphur Oxides, SO <sub>x</sub>	24-Hr Mean	20µg/m <sup>3</sup>
Nitrogen Dioxide, NO <sub>x</sub>	Annual Mean	40µg/m <sup>3</sup>
Respirable Particulate Matter (<10µm)	24-Hr Mean	50 µg/m <sup>3</sup>

### 2.2 Environmental Management and Co-Ordination (Air Quality Regulations), 2014

The objective of this regulation is to provide for prevention, control and abatement of air pollution ensure clean and healthy ambient air. Under the first schedule, it lists various limits for air pollutants that must not be exceeded for various industries. The table below shows the ambient air quality tolerance limits for industrial, residential, rural and other areas.

**Table 7 : EMC (Air Quality Regulations) 2014 ambient air quality tolerance limits**

POLLUTANT	TME WEIGHTED AVERAGE	INDUSTRIAL AREA	RESIDENTIAL, RURAL & OTHER AREAS
Sulphur oxides (SO <sub>x</sub> )	Annual Average	80 µg/m <sup>3</sup>	60 µg/m <sup>3</sup>
	24 hours	125 µg/m <sup>3</sup>	80 µg/m <sup>3</sup>
Oxides of Nitrogen (NO <sub>x</sub> )	Annual Average	80 µg/m <sup>3</sup>	60 µg/m <sup>3</sup>
	24 hours	150 µg/m <sup>3</sup>	80 µg/m <sup>3</sup>
PM <sub>10</sub>	Annual Average	70 µg/m <sup>3</sup>	50 µg/m <sup>3</sup>
	24 hours	150 µg/m <sup>3</sup>	100 µg/m <sup>3</sup>
	24 hours	75 µg/m <sup>3</sup>	-

### 2.3 SOIL REMEDIATION CIRCULAR 2013

The Dutch Intervention Values (D.I.V.) is a benchmark over which the functional properties of the soils for all flora and fauna (including humans) is expected to be seriously impaired or threatened, when the contaminant values exceed the DIV's. Intervention values are designed to identify seriously contaminated sites, i.e. sites where there is a risk of losing 50 per cent of species in the ecosystem.

The DIVs were developed based on the assumption that all exposure routes of the chemicals of concern to the receptors are operational, regardless of site condition. The DIVs is the maximum tolerable concentration above which remediation is required. The limits set by these international guidelines are presented in Table 4 below.

**Table 8 : Target values and intervention values for soil remediation soil/sediment and groundwater for aromatic compounds & PAH.**

Parameter	Soil/Sediment(mg/kg dry matter)	Ground water (ug/l)	
	Intervention Value	Target Value	Intervention Value
Mineral oil (TPH)	5000	50	600
PAH (sum 10)	40	-	-
Naphthalene	-	0.01	70
Phenanthrene	-	0.003	5
Anthracene	-	0.0007	5
Flouranthene	-	0.003	1
Chrysene	-	0.003	0.2
Benzo(a)anthracene	-	0.0001	0.5
Benzo(a)pyrene	-	0.0005	0.05
Benzo(b)flouranthene	-	0.0004	0.05

### 2.4 The Environmental Management and Co-ordination (Noise & Excessive Vibration Pollution) (Control) Regulations, 2009

The Environmental Management and Coordination (Noise and Excessive Vibration Pollution Control) Regulations, 2009 sets out maximum permissible noise levels in the First Schedule of the Regulation for various zones. Part IV of the regulations states that where a sound source emits noises which is above the provisions of the Regulations, such person shall apply for a license to the Authority. Table 9 below shows the different guideline values for different zones stipulated in the Regulations.

**Table 9 : Noise and Excessive Vibrations Pollution Regulations Values for Different Zones in Kenya**

ZONE		Sound Level Limit dB(A) (Leq, 14h)		Noise Rating levels (Leq, 14h)	
		Day	Night	Day	Night
	<b>Time Frame</b> Day: 6:01am- 8:00 pm (Leq. 14h) Night: 8:01pm-6:00 am (Leq. 10h)				
A	Silent Zone	40	35	30	25
B	Places of Worship	40	35	30	25
C	Residential:Indoor	45	35	35	25
	Outdoor	50	35	40	25
D	Mixed Residential (with some commercial and places of entertainment)	55	35	50	25
E	Commercial	60	35	55	25

For the purpose of this project, residential (outdoor) guideline limits shall be applied for the current data.

### 3 METHODOLOGY

#### 3.1 Particulate matter (PM<sub>10</sub>)

Exposure to dust contaminants was determined by use of static sampling where a battery powered sampling pump (Minivol) connected by tubing to a substance specific sample holder, was clamped and positioned in selected areas of concern.

Air is drawn through the particle size separator and then through a filter medium. Particle size separation is achieved by impaction at a flow rate of 5 l/min. The sampled filter papers were taken to our accredited laboratories for gravimetric weighing after around 24 hours of exposure time.

#### 3.2 Sulphur dioxide (SO<sub>2</sub>)& Nitrogen dioxide (NO<sub>2</sub>)

Sampling of SO<sub>2</sub> and NO<sub>2</sub> was done as per ISO 16200-2:2000 for the sampling and analysis of volatile compounds where the pollutants are passively sampled into diffusion tubes packed with adsorbents. The adsorption cartridges for the gases were mounted at about 1.5 - 2 meters above the ground Surface. The tubes were consequently dispatched to affiliate laboratories in Spain for analysis.



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### 3.3 Soil sampling

Soil monitoring at the aforementioned areas was done in accordance to the USEPA SOP on Field Sediment Sampling; document #1215. The SGS K COP-ENV005 method on soil sampling and preservation was incorporated.

The samples were collected from beneath the ground at a depth of 0.0-1.5 meters directly using a manual soil sampling augur. The samples were placed in containers (bottles) constructed of inert material and cooled by ice packs at a temperature of <math>4^{\circ}\text{C}</math> and transported to the laboratory for analysis.

### 3.4 Water sampling

ISO 5667 Part 1, 2 & 3 and EPA Publication 669 provides guidelines on the principles to be applied to the design of sampling programmes, sampling techniques and the handling and preservation of samples from pits/ and boreholes.

SGS Kenya applied these guidelines during the sampling process to obtain a representative and sterile samples for analysis. The samples were stored at controlled temperatures (approximately  $4^{\circ}\text{C}$ ) in a cooler box with ice packs. Samples were submitted to SGS laboratory for analysis. The COC's of concern analyzed in the soil samples were TPH & PAH.

### 3.5 Noise measurements

#### 3.5.1 Survey methodology

The Noise measurements were carried as per the ISO 1996 Parts 1, 2 and 3 standards, entailing the following:

- Inspection of the vicinity and the implicated activities
- Verification/Calibration of the sound level meter before and after the measurements.
- Meteorological conditions during the measurement- Measurements of temperature, wind speed and relative humidity were taken before the noise level measurements.
- The ISO 1996 does not define the length of measuring period and only advises on the measuring time that covers the changes in operation of the noise source. Measurements were taken at an interval of 10minutes.
- Noise levels are expressed in decibels, A-weighted sound pressure level (dBA).
- The measurement results are expressed as follows:



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- Leq, Value of A-weighted sound pressure level of a continuous steady sound that, within a specified interval, has the same mean square sound pressure as a sound under consideration whose level varies with time.

### 3.5.2 Instrumentation

The following instruments were used during the measurement:

- Larson and Davis Noise Meter: A Type 1, Data logging, precision impulse, Integrating sound level meter, with a microphone (and windshield) mounted on a tripod at 1.5m above the ground level and >3m from any façade.
- GPS, Germin eTrex 12-Channel

Calibration certificates for the noise meter are included in appendix III of this report.

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## 4 RESULTS

### 4.1 Particulate matter

Table 10 : PM<sub>10</sub>Results

Date	Location	Duration (Minutes)	Concentration (µg/m <sup>3</sup> )	WHO Limits (µg/m <sup>3</sup> )	EMC Limits (µg/m <sup>3</sup> )
16/4/2018 – 17/4/2018	NA 01	1350	15	50	100
17/4/2018 – 18/4/2018	NA 02	1302	15		
18/4/2018 – 19/4/2018	NA 03	1284	31		
18/4/2018 – 19/4/2018	NA 04	1362	19		
19/4/2018 – 20/4/2018	NA 05	1266	11		

### 4.2 Gases (SO<sub>2</sub>&NO<sub>2</sub>)

Table 11 : SO<sub>2</sub>Results

Location	Start date	End date	Sampling duration	SO <sub>2</sub> µg/tube	SO <sub>2</sub> concentration	WHO Limits (µg/m <sup>3</sup> )	EMC Limits (µg/m <sup>3</sup> )
NA 01	16/4/2018	17/4/2018	1350	<5	BDL	20	80
NA 02	17/4/2018	18/4/2018	1302	<5	BDL		
NA 03	18/4/2018	19/4/2018	1284	<5	BDL		
NA 04	18/4/2018	19/4/2018	1362	<5	BDL		
NA 05	19/4/2018	20/4/2018	1266	<5	BDL		

Table 12 : NO<sub>2</sub> Results

Location	Start date	End date	Sampling duration	NO <sub>2</sub> µg/tube	NO <sub>2</sub> concentration	WHO Limits (µg/m <sup>3</sup> )	EMC Limits (µg/m <sup>3</sup> )
NA 01	16/4/2018	17/4/2018	1350	<0.5	BDL	40	80
NA 02	17/4/2018	18/4/2018	1302	<0.5	BDL		
NA 03	18/4/2018	19/4/2018	1284	<0.5	BDL		
NA 04	18/4/2018	19/4/2018	1362	<0.5	BDL		
NA 05	19/4/2018	20/4/2018	1266	<0.5	BDL		

### 4.3 Soil results

Table 13 : Soil analysis results as per report number MA18-01813.001-004 & MA18-01815.001

PARAMETER	UNITS	D.I.V (mg/kg)	Analysis Results (mg/kg)				
			S1	S2	S3	S4	S5
Acenaphthene	mg/kg	-	0.07	0.07	0.09	0.08	0.11
Acenaphthylene	mg/kg	-	<0.05	<0.05	0.06	<0.05	0.07
Anthracene	mg/kg	-	0.05	0.06	0.07	0.06	0.09
Benzo(a)anthracene	mg/kg	-	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	mg/kg	-	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	mg/kg	-	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	mg/kg	-	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	mg/kg	-	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	mg/kg	-	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	mg/kg	-	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	mg/kg	-	0.07	0.07	0.09	0.07	0.1
Fluorene	mg/kg	-	0.08	0.09	0.1	0.09	0.11
Indeno(1,2,3-cd)pyrene	mg/kg	-	<0.05	<0.05	<0.05	<0.05	<0.05
Naphthalene	mg/kg	-	<0.05	<0.05	0.06	0.06	0.07
Phenanthrene	mg/kg	-	<0.05	<0.05	0.06	<0.05	0.06
Pyrene	mg/kg	-	0.07	<0.05	0.1	0.08	0.09
PAHs (total)	mg/kg	<b>40</b>	0.34	0.29	0.63	0.44	0.7
TPH C6-C44	mg/kg	<b>5000</b>	0.65	0.72	0.61	0.83	0.74





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#### 4.4 Water Results

Table 14 : Soil analysis results as per report number MA18-01814.001-003 & MA18-01815 .001-002

TESTS	Assessment Results (µg/l)					DUTCH GUIDELINE LIMITS (µg/l)	
	W 1	W2	W3	W4	W5	Target value	Intervention value
<b>PAH</b>							
Acenaphthene	<50	<50	<50	<50	<50	-	-
Acenaphthylene	<50	<50	<50	<50	<50	-	-
Anthracene	<50	<50	<50	<50	<50	0.0007	5
Benzo(a)anthracene	<50	<50	<50	<50	<50	0.0001	0.5
Benzo(a)pyrene	<50	<50	<50	<50	<50	0.0005	0.05
Benzo(b) flouranthene	<50	<50	<50	<50	<50	-	-
Benzo(g,h,i)perylene	<50	<50	<50	<50	<50	-	-
Benzo(k) flouranthene	<50	<50	<50	<50	<50	0.0004	0.05
Chrysene	<50	<50	<50	<50	<50	0.003	0.2
Dibenz(a,h)anthracene	<50	<50	<50	<50	<50	-	-
Flouranthene	<50	<50	<50	<50	<50	0.003	1
Flourene	<50	<50	<50	<50	<50	-	-
Indeno(1,2,3-cd)pyrene	<50	<50	<50	<50	<50	-	-
Naphthalene	<50	<50	<50	<50	<50	0.01	70
Phenanthrene	<50	<50	<50	<50	<50	0.003	5
Pyrene	<50	<50	<50	<50	<50	-	-
<b>TPH</b>							
TPH C6-C44	290	410	230	200	280	50	600

#### 4.5 Noise measurement Results

Table below presents the average noise level measurement for diurnal (0800hrs-1800hrs) and nocturnal (2000hrs-2100hrs) measurements taken at an interval of 10minutes.

Table 15 : Noise measurement results

Monitoring Duration	Measurement Results dB(A)					Noise and Excessive Vibrations Pollution Regulations 2009 dB (A)
	NA 1	NA 2	NA 3	NA 4	NA 5	
Diurnal	79	66	76	69	66	50
Nocturnal	71	52	48	45	42	35

## 5 DISCUSSION

### 5.1 Particulate matter

The measurements results show that concentrations of Particulate matter (PM10) for the all the measured points were below the limits stipulated in EMC Air Quality Regulations, 2014 and WHO Global Updates, 2005.

### 5.2 Gases

The measurements results show that concentrations of SO<sub>2</sub>& NO<sub>2</sub> for the all the measured points were below theirrespective analytical methods' detection limits.

### 5.3 Soil

Traces of TPH and PAH have been detected in the soil samples. However, the traces are insignificant when compared against the Dutch Intervention Values of 5000mg/kg and 40 mg/kg respectively.



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#### 5.4 Water

TPH concentrations for the five sampled points were above the Dutch target limit of 50µg/l but below the Dutch Intervention values of 600µg/l at:

- W1 – 290µg/l
- W2 – 410µg/l
- W3 – 230µg/l
- W4 – 200µg/l
- W5 – 280µg/l

PAH levels were below their respective analytical methods detection limits.

#### 5.5 Noise measurement results

Diurnal and nocturnal noise levels at all the monitoring point surpassed the Noise and Excessive Vibrations Pollution Regulations 2009 of 50 dB and 35 dB respectively. Elevated noise levels were as a result of activities within the nearby households.

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## 6 APPENDICES

### 6.1 Appendix I: Photographic Report

#### Noise measurements



Figure 1 : Field Inspector taking noise measurements using a type II noise meter at substation site

#### Air quality measurements 1



Figure 2 : Particulate matter measurements (Minivol) and SOX/NOX sampling (blue adsorption cartridges) at Pastor Benson's homestead

#### Air quality measurements 2



Figure 3:Particulate matter measurements (Minivol) and SOX/NOX sampling (blue adsorption cartridges) at Tsuma Kenga's homestead



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## 6.2 Appendix II: Laboratory Analysis Results

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Date: 18/04/2018

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PANAFCON LIMITED  
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**Analysis Report MA18-01813.001**

PRODUCT DESCRIPTION: SOIL  
 SAMPLED BY: SGS  
 DATE SAMPLED: 13/04/2018  
 SAMPLING LOCATION: MTONGWE  
 SAMPLE RECEIVED: 16/04/2018  
 ANALYSIS STARTED: 16/04/2018  
 SGS ORDERNO: 524219  
 MARKS: CONDITION OF THE SAMPLE : DELIVERED IN AN AMBER BOTTLE  
 SUB STATION SITE 1  
 056 5650, 9549 577

TESTS	METHOD	RESULT	UNITS
TPH C6 - C44	EPA 8015C	0.65	mg/kg
Acenaphthene	EPA 8270D	0.07	mg/kg
Acenaphthylene	EPA 8270D	<0.05	mg/kg
Anthracene	EPA 8270D	0.05	mg/kg
Benzo(a)anthracene	EPA 8270D	<0.05	mg/kg
Benzo(a)pyrene	EPA 8270D	<0.05	mg/kg
Benzo(b)fluoranthene	EPA 8270D	<0.05	mg/kg
Benzo(g,h,i)perylene	EPA 8270D	<0.05	mg/kg
Benzo(k)fluoranthene	EPA 8270D	<0.05	mg/kg
Chrysene	EPA 8270D	<0.05	mg/kg
Dibenz(a,h)anthracene	EPA 8270D	<0.05	mg/kg
Fluoranthene	EPA 8270D	0.07	mg/kg
Fluorene	EPA 8270D	0.08	mg/kg
Indeno(1,2,3-cd)pyrene	EPA 8270D	<0.05	mg/kg
Naphthalene	EPA 8270D	<0.05	mg/kg
Phenanthrene	EPA 8270D	<0.05	mg/kg
Pyrene	EPA 8270D	0.07	mg/kg

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Technical Signatory



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Date: 18/04/2018

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PANAFCON LIMITED  
 P. O. BOX 53147, NAIROBI.

**Analysis Report MA18-01813.002**

PRODUCT DESCRIPTION: SOIL  
 SAMPLED BY: SGS  
 DATE SAMPLED: 13/04/2018  
 SAMPLING LOCATION: MTONGWE  
 SAMPLE RECEIVED: 16/04/2018  
 ANALYSIS STARTED: 16/04/2018  
 SGS ORDERNO: 524219  
 MARKS: CONDITION OF THE SAMPLE : DELIVERED IN AN AMBER BOTTLE  
 SUB STATION SITE 2  
 056 6451, 9549356

TESTS	METHOD	RESULT	UNITS
TPH C6 - C44	EPA 8015C	0.72	mg/kg
Acenaphthene	EPA 8270D	0.07	mg/kg
Acenaphthylene	EPA 8270D	<0.05	mg/kg
Anthracene	EPA 8270D	0.06	mg/kg
Benzo(a)anthracene	EPA 8270D	<0.05	mg/kg
Benzo(a)pyrene	EPA 8270D	<0.05	mg/kg
Benzo(b)fluoranthene	EPA 8270D	<0.05	mg/kg
Benzo(g,h,i)perylene	EPA 8270D	<0.05	mg/kg
Benzo(k)fluoranthene	EPA 8270D	<0.05	mg/kg
Chrysene	EPA 8270D	<0.05	mg/kg
Dibenz(a,h)anthracene	EPA 8270D	<0.05	mg/kg
Fluoranthene	EPA 8270D	0.07	mg/kg
Fluorene	EPA 8270D	0.09	mg/kg
Indeno(1,2,3-cd)pyrene	EPA 8270D	<0.05	mg/kg
Naphthalene	EPA 8270D	<0.05	mg/kg
Phenanthrene	EPA 8270D	<0.05	mg/kg
Pyrene	EPA 8270D	0.07	mg/kg

Authorised Signatory

Technical Signatory

Walter Ogara - Multi-Lab Manager

Caroline Chege-Chemist

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Date: 18/04/2018

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**Analysis Report MA18-01813.003**

PRODUCT DESCRIPTION: SOIL  
 SAMPLED BY: SGS  
 DATE SAMPLED: 13/04/2018  
 SAMPLING LOCATION: LUTSANGANI  
 SAMPLE RECEIVED: 16/04/2018  
 ANALYSIS STARTED: 16/04/2018  
 SGS ORDERNO: 524219  
 MARKS: CONDITION OF THE SAMPLE : DELIVERED IN AN AMBER BOTTLE  
 NEAR LUTSANGANI  
 055 5700, 9550650

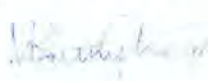
TESTS	METHOD	RESULT	UNITS
TPH C6 - C44	EPA 8015C	0.61	mg/kg
Acenaphthene	EPA 8270D	0.09	mg/kg
Acenaphthylene	EPA 8270D	0.06	mg/kg
Anthracene	EPA 8270D	0.07	mg/kg
Benzo(a)anthracene	EPA 8270D	<0.05	mg/kg
Benzo(a)pyrene	EPA 8270D	<0.05	mg/kg
Benzo(b)fluoranthene	EPA 8270D	<0.05	mg/kg
Benzo(g,h,i)perylene	EPA 8270D	<0.05	mg/kg
Benzo(k)fluoranthene	EPA 8270D	<0.05	mg/kg
Chrysene	EPA 8270D	<0.05	mg/kg
Dibenz(a,h)anthracene	EPA 8270D	<0.05	mg/kg
Fluoranthene	EPA 8270D	0.09	mg/kg
Fluorene	EPA 8270D	0.10	mg/kg
Indeno(1,2,3-cd)pyrene	EPA 8270D	<0.05	mg/kg
Naphthalene	EPA 8270D	0.06	mg/kg
Phenanthrene	EPA 8270D	0.06	mg/kg
Pyrene	EPA 8270D	0.10	mg/kg

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**Analysis Report MA18-01813.004**

PRODUCT DESCRIPTION: SOIL  
 SAMPLED BY: SGS  
 DATE SAMPLED: 13/04/2018  
 SAMPLING LOCATION: MBUGUNI  
 SAMPLE RECEIVED: 16/04/2018  
 ANALYSIS STARTED: 16/04/2018  
 SGS ORDERNO: 524219  
 MARKS: CONDITION OF THE SAMPLE : DELIVERED IN AN AMBER BOTTLE  
 IN MBUGUNI HOMESTEAD OF ALI SUWARI KIGURU  
 056 3450,9544549

TESTS	METHOD	RESULT	UNITS
TPH C6 - C44	EPA 8015C	0.74	mg/kg
Acenaphthene	EPA 8270D	0.11	mg/kg
Acenaphthylene	EPA 8270D	0.07	mg/kg
Anthracene	EPA 8270D	0.09	mg/kg
Benzo(a)anthracene	EPA 8270D	<0.05	mg/kg
Benzo(a)pyrene	EPA 8270D	<0.05	mg/kg
Benzo(b)fluoranthene	EPA 8270D	<0.05	mg/kg
Benzo(g,h,i)perylene	EPA 8270D	<0.05	mg/kg
Benzo(k)fluoranthene	EPA 8270D	<0.05	mg/kg
Chrysene	EPA 8270D	<0.05	mg/kg
Dibenz(a,h)anthracene	EPA 8270D	<0.05	mg/kg
Fluoranthene	EPA 8270D	0.10	mg/kg
Fluorene	EPA 8270D	0.11	mg/kg
Indeno(1,2,3-cd)pyrene	EPA 8270D	<0.05	mg/kg
Naphthalene	EPA 8270D	0.07	mg/kg
Phenanthrene	EPA 8270D	0.06	mg/kg
Pyrene	EPA 8270D	0.09	mg/kg

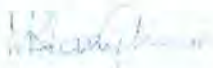
**\*\*End of Analytical Results\*\***

Authorised Signatory

Technical Signatory



Walter Ogara - Multi-Lab Manager



Caroline Chege-Chemist



SGS Kenya Limited  
P.O. Box 90264, MOMBASA, 80100  
Tel: 2226677, 1819  
Fax: 222803

18042018 1240 000090017

Page 4 of 4

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Member of the SGS Group ( Société Générale de Surveillance )

Date: 18/04/2018

**SGS Kenya Limited Laboratory Services**

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80100 Mombasa  
Kenya

PANAFCON LIMITED  
P.O. Box 53147  
Nairobi

**Analysis Report MA18-01814.001**

PRODUCT DESCRIPTION: WATER  
 SAMPLED BY: SGS  
 DATE SAMPLED: 12/04/2018  
 SAMPLING LOCATION: MARIAKANI  
 SAMPLE RECEIVED: 16/04/2018  
 ANALYSIS STARTED: 16/04/2018  
 SGS ORDERNO: 524219  
 MARKS: DELIVERED IN AN AMBER BOTTLE  
 STREAM WATER AT RAILWAY BRIDGE  
 054 5893, 9577726

TESTS	METHOD	RESULT	UNITS
TPH C6 - C44	EPA 8015C	0.23	mg/l
Acenaphthene	EPA 8270D	<0.05	mg/l
Acenaphthylene	EPA 8270D	<0.05	mg/l
Anthracene	EPA 8270D	<0.05	mg/l
Benzo(a)anthracene	EPA 8270D	<0.05	mg/l
Benzo(a)pyrene	EPA 8270D	<0.05	mg/l
Benzo(b)fluoranthene	EPA 8270D	<0.05	mg/l
Benzo(g,h,i)perylene	EPA 8270D	<0.05	mg/l
Benzo(k)fluoranthene	EPA 8270D	<0.05	mg/l
Chrysene	EPA 8270D	<0.05	mg/l
Dibenz(a,h)anthracene	EPA 8270D	<0.05	mg/l
Fluoranthene	EPA 8270D	<0.05	mg/l
Fluorene	EPA 8270D	<0.05	mg/l
Indeno(1,2,3-cd)pyrene	EPA 8270D	<0.05	mg/l
Naphthalene	EPA 8270D	<0.05	mg/l
Phenanthrene	EPA 8270D	<0.05	mg/l
Pyrene	EPA 8270D	<0.05	mg/l

Authorised Signatory

Technical Signatory

Walter Ogara - Multi-Lab Manager

Caroline Chege-Chemist

18042018 1242 0000090018

Page 1 of 3

**SGS**  
 SGS Kenya Limited  
 P.O. Box 90264, MOMBASA, 80100  
 Tel: 2226677, 1819  
 Fax: 222803

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Date: 18/04/2018

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 80100 Mombasa  
 Kenya

PANAFCON LIMITED  
 P.O. Box 53147  
 Nairobi

**Analysis Report MA18-01814.002**

PRODUCT DESCRIPTION: WATER  
 SAMPLED BY: SGS  
 DATE SAMPLED: 12/04/2018  
 SAMPLING LOCATION: MWACHE RIVER NEAR BOFU CENTRE  
 SAMPLE RECEIVED: 16/04/2018  
 ANALYSIS STARTED: 16/04/2018  
 SGS ORDERNO: 524219  
 MARKS: DELIVERED IN AN AMBER BOTTLE  
 RIVER WATER  
 055 087, 9562395

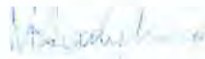
TESTS	METHOD	RESULT	UNITS
TPH C6 - C44	EPA 8015C	0.20	mg/l
Acenaphthene	EPA 8270D	<0.05	mg/l
Acenaphthylene	EPA 8270D	<0.05	mg/l
Anthracene	EPA 8270D	<0.05	mg/l
Benzo(a)anthracene	EPA 8270D	<0.05	mg/l
Benzo(a)pyrene	EPA 8270D	<0.05	mg/l
Benzo(b)fluoranthene	EPA 8270D	<0.05	mg/l
Benzo(g,h,i)perylene	EPA 8270D	<0.05	mg/l
Benzo(k)fluoranthene	EPA 8270D	<0.05	mg/l
Chrysene	EPA 8270D	<0.05	mg/l
Dibenz(a,h)anthracene	EPA 8270D	<0.05	mg/l
Fluoranthene	EPA 8270D	<0.05	mg/l
Fluorene	EPA 8270D	<0.05	mg/l
Indeno(1,2,3-cd)pyrene	EPA 8270D	<0.05	mg/l
Naphthalene	EPA 8270D	<0.05	mg/l
Phenanthrene	EPA 8270D	<0.05	mg/l
Pyrene	EPA 8270D	<0.05	mg/l

Authorised Signatory

Technical Signatory



Walter Ogara - Multi-Lab Manager



Caroline Chege-Chemist

**SGSL**

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18042018 1242 0000090018

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Date: 18/04/2018

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PANAFCON LIMITED  
P.O. Box 53147  
Nairobi

## Analysis Report MA18-01814.003

PRODUCT DESCRIPTION: WATER  
SAMPLED BY: SGS  
DATE SAMPLED: 12/04/2018  
SAMPLING LOCATION: MARIAKANI / MITANGONI  
SAMPLE RECEIVED: 16/04/2018  
ANALYSIS STARTED: 16/04/2018  
SGS ORDERNO: 524219  
MARKS: DELIVERED IN AN AMBER BOTTLE  
WATER PAN  
054 5096, 9580880

TESTS	METHOD	RESULT	UNITS
TPH C6 - C44	EPA 8015C	0.28	mg/l
Acenaphthene	EPA 8270D	<0.05	mg/l
Acenaphthylene	EPA 8270D	<0.05	mg/l
Anthracene	EPA 8270D	<0.05	mg/l
Benzo(a)anthracene	EPA 8270D	<0.05	mg/l
Benzo(a)pyrene	EPA 8270D	<0.05	mg/l
Benzo(b)fluoranthene	EPA 8270D	<0.05	mg/l
Benzo(g,h,i)perylene	EPA 8270D	<0.05	mg/l
Benzo(k)fluoranthene	EPA 8270D	<0.05	mg/l
Chrysene	EPA 8270D	<0.05	mg/l
Dibenz(a,h)anthracene	EPA 8270D	<0.05	mg/l
Fluoranthene	EPA 8270D	<0.05	mg/l
Fluorene	EPA 8270D	<0.05	mg/l
Indeno(1,2,3-cd)pyrene	EPA 8270D	<0.05	mg/l
Naphthalene	EPA 8270D	<0.05	mg/l
Phenanthrene	EPA 8270D	<0.05	mg/l
Pyrene	EPA 8270D	<0.05	mg/l

\*\*End of Analytical Results\*\*

Authorised Signatory

Technical Signatory

Walter Ogara - Multi-Lab Manager

Caroline Chege-Chemist

18042018 1242 0000090018

Page 3 of 3

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PANAFCON LIMITED  
 P. O. BOX 53147, NAIROBI.

**Analysis Report MA18-01815.001**

PRODUCT DESCRIPTION: SOIL  
 SAMPLED BY: SGS  
 DATE SAMPLED: 12/04/2018  
 SAMPLING LOCATION: MARIAKANI  
 SAMPLE RECEIVED: 16/04/2018  
 ANALYSIS STARTED: 16/04/2018  
 SGS ORDERNO: 524219  
 MARKS: CONDITION OF THE SAMPLE : DELIVERED IN AN AMBER BOTTLE  
 AT START OF TRANSMISSION LINE IN MARIAKANI  
 054 5200, 9580800

TESTS	METHOD	RESULT	UNITS
TPH C6 - C44	EPA 8015C	0.83	mg/kg
Acenaphthene	EPA 8270D	0.08	mg/kg
Acenaphthylene	EPA 8270D	<0.05	mg/kg
Anthracene	EPA 8270D	0.06	mg/kg
Benzo(a)anthracene	EPA 8270D	<0.05	mg/kg
Benzo(a)pyrene	EPA 8270D	<0.05	mg/kg
Benzo(b)fluoranthene	EPA 8270D	<0.05	mg/kg
Benzo(g,h,i)perylene	EPA 8270D	<0.05	mg/kg
Benzo(k)fluoranthene	EPA 8270D	<0.05	mg/kg
Chrysene	EPA 8270D	<0.05	mg/kg
Dibenz(a,h)anthracene	EPA 8270D	<0.05	mg/kg
Fluoranthene	EPA 8270D	0.07	mg/kg
Fluorene	EPA 8270D	0.09	mg/kg
Indeno(1,2,3-cd)pyrene	EPA 8270D	<0.05	mg/kg
Naphthalene	EPA 8270D	0.06	mg/kg
Phenanthrene	EPA 8270D	<0.05	mg/kg
Pyrene	EPA 8270D	0.08	mg/kg

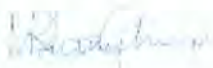
**\*\*End of Analytical Results\*\***

Authorised Signatory

Technical Signatory



Walter Ogara - Multi-Lab Manager



Caroline Chege-Chemist

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18042018 1243 000090019

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 Kenya

PANAFCON LIMITED  
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 Nairobi

**Analysis Report MA18-01816.001**

PRODUCT DESCRIPTION: WELL WATER  
 SAMPLED BY: SGS  
 DATE SAMPLED: 13/04/2018  
 SAMPLING LOCATION: MBUNGUNI  
 SAMPLE RECEIVED: 16/04/2018  
 ANALYSIS STARTED: 16/04/2018  
 SGS ORDERNO: 524219  
 MARKS: DELIVERED IN AN AMBER BOTTLE  
 DEVELOPED COMMUNITY WELL WITH PUMP  
 056 2179, 9544810

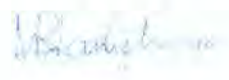
TESTS	METHOD	RESULT	UNITS
TPH C6 - C44	EPA 8015C	0.41	mg/l
Acenaphthene	EPA 8270D	<0.05	mg/l
Acenaphthylene	EPA 8270D	<0.05	mg/l
Anthracene	EPA 8270D	<0.05	mg/l
Benzo(a)anthracene	EPA 8270D	<0.05	mg/l
Benzo(a)pyrene	EPA 8270D	<0.05	mg/l
Benzo(b)fluoranthene	EPA 8270D	<0.05	mg/l
Benzo(g,h,i)perylene	EPA 8270D	<0.05	mg/l
Benzo(k)fluoranthene	EPA 8270D	<0.05	mg/l
Chrysene	EPA 8270D	<0.05	mg/l
Dibenz(a,h)anthracene	EPA 8270D	<0.05	mg/l
Fluoranthene	EPA 8270D	<0.05	mg/l
Fluorene	EPA 8270D	<0.05	mg/l
Indeno(1,2,3-cd)pyrene	EPA 8270D	<0.05	mg/l
Naphthalene	EPA 8270D	<0.05	mg/l
Phenanthrene	EPA 8270D	<0.05	mg/l
Pyrene	EPA 8270D	<0.05	mg/l

Authorised Signatory

Technical Signatory



Walter Ogara - Multi-Lab Manager



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Date: 18/04/2018

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Kenya

PANAFCON LIMITED  
P.O. Box 53147  
Nairobi

**Analysis Report MA18-01816.002**

PRODUCT DESCRIPTION: WELL WATER  
 SAMPLED BY: SGS  
 DATE SAMPLED: 13/04/2018  
 SAMPLING LOCATION: MTONGWE  
 SAMPLE RECEIVED: 16/04/2018  
 ANALYSIS STARTED: 16/04/2018  
 SGS ORDERNO: 524219  
 MARKS: DELIVERED IN AN AMBER BOTTLE  
 WELL BOUNDARY OF KAYA MTONGWE AND MWANGALA SUB-LOCATIONS  
 056 5614, 9548578

TESTS	METHOD	RESULT	UNITS
TPH C6 - C44	EPA 8015C	0.29	mg/l
Acenaphthene	EPA 8270D	<0.05	mg/l
Acenaphthylene	EPA 8270D	<0.05	mg/l
Anthracene	EPA 8270D	<0.05	mg/l
Benzo(a)anthracene	EPA 8270D	<0.05	mg/l
Benzo(a)pyrene	EPA 8270D	<0.05	mg/l
Benzo(b)fluoranthene	EPA 8270D	<0.05	mg/l
Benzo(g,h,i)perylene	EPA 8270D	<0.05	mg/l
Benzo(k)fluoranthene	EPA 8270D	<0.05	mg/l
Chrysene	EPA 8270D	<0.05	mg/l
Dibenz(a,h)anthracene	EPA 8270D	<0.05	mg/l
Fluoranthene	EPA 8270D	<0.05	mg/l
Fluorene	EPA 8270D	<0.05	mg/l
Indeno(1,2,3-cd)pyrene	EPA 8270D	<0.05	mg/l
Naphthalene	EPA 8270D	<0.05	mg/l
Phenanthrene	EPA 8270D	<0.05	mg/l
Pyrene	EPA 8270D	<0.05	mg/l

\*\*End of Analytical Results\*\*

Authorised Signatory

Technical Signatory

Walter Ogara - Multi-Lab Manager

Caroline Chege-Chemist

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## FINAL REPORT: MA18-05950

SAMPLE DATA		CLIENT DATA
Order N°:	524219-PANAFCON LIMITED	SGS Kenya,Ltd
Client ID:	SP1-Home of Pastor Benson Savai	PO Box 90264
Laboratory ID:	MA18-05950.001	80100 Mombasa (Kenya)
Product:	Radiello Monitor	KENYA
Description:	Environmental support	
Container:	Sampling media for occupational health	
Received:	26/04/2018	Atn: Wilfridsa OJWANG

RESULTS			
ANALYSIS	RESULT.	UNIT	TEST METHOD
NO2 in Radiello	<0,5	µg/Sample	Manual Radiello
SO2 in Radiello	<5	µg/Sample	Manual Radiello

Analysed: 07/05/2018

**SGS**  
SGS Kenya Limited  
P.O. Box 90264, MOMBASA, 80100  
Tel: 2226677, 1819  
Fax: 222803

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The Laboratory has the uncertainties estimated for each of the accredited tests, which are at the disposal of the client.

( 0000250452 )

All data from the sample and their identity were facilitated by the applicant.

Interpretations and data expressed in the comments are not included in the range of accreditation.

All those methods that the laboratory realized following a particular standard, are referred to the latest revision thereof.

Page 1 of 5

SGS Tecnos S.A.

Laboratorio Medio Ambiente c/ Trespaderno, 29 Edificio Barajas I (Barrio Aeropuerto) 28042 Madrid www.sgs.es

t (34) 913 13 80 00 f (34) 913 13 80 99

Miembro del Grupo SGS (SGS SA)



## FINAL REPORT: MA18-05950

SAMPLE DATA		CLIENT DATA
Order N°:	524219-PANAFCON LIMITED	SGS Kenya,Ltd
Client ID:	SP2-Near Kiteje Secondary School	PO Box 90264
Laboratory ID:	MA18-05950.002	80100 Mombasa (Kenya)
Product:	Radiello Monitor	KENYA
Description:	Environmental support	
Container:	Sampling media for occupational health	
Received:	26/04/2018	Atn: Wilfridsa OJWANG

RESULTS			
ANALYSIS	RESULT.	UNIT	TEST METHOD
NO2 in Radiello	<0,5	µg/Sample	Manual Radiello
SO2 in Radiello	<5	µg/Sample	Manual Radiello

Analysed: 07/05/2018

**SGS**  
 SGS Kenya Limited  
 P.O. Box 90264, MOMBASA, 80100  
 Tel: 2226677 / 8 / 9  
 Fax: 222803

These results refer exclusively to the samples analysed.

The results shown in this report refer only to the sample(s) unless otherwise stated.

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The Laboratory has the uncertainties estimated for each of the accredited tests, which are at the disposal of the client.

( 0000250452 )

All data from the sample and their identity were facilitated by the applicant.

Interpretations and data expressed in the comments are not included in the range of accreditation.

All those methods that the laboratory realized following a particular standard, are referred to the latest revision thereof.



## FINAL REPORT: MA18-05950

SAMPLE DATA		CLIENT DATA
Order Nº:	524219-PANAFCON LIMITED	SGS Kenya,Ltd
Client ID:	SP3-Homestead of Tsuma Kenga	PO Box 90264
Laboratory ID:	MA18-05950.003	80100 Mombasa (Kenya)
Product:	Radiello Monitor	KENYA
Description:	Environmental support.	
Container:	Sampling media for occupational health	Atn: Wilfridsa OJWANG
Received:	26/04/2018	

### RESULTS

ANALYSIS	RESULT.	UNIT	TEST METHOD
NO2 in Radiello	<0,5	µg/Sample	Manual Radiello
SO2 in Radiello	<5	µg/Sample	Manual Radiello

Analysed: 07/05/2018

**sgs!**  
SGS Kenya Limited  
P.O. Box 90264, MOMBASA, 80100  
Tel: 2226677, / 8 / 9  
Fax: 222803

These results refer exclusively to the samples analysed.

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( 0000250452 )

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All those methods that the laboratory realized following a particular standard, are referred to the latest revision thereof.

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SGS Tecnos S.A.

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t (34) 913 13 80 00 f (34) 913 13 80 99

Miembro del Grupo SGS (SGS SA)



## FINAL REPORT: MA18-05950

SAMPLE DATA		CLIENT DATA
Order Nº:	524219-PANAFCON LIMITED	SGS Kenya,Ltd
Client ID:	SP4-Near Mwanda Dispensary	PO Box 90264
Laboratory ID:	MA18-05950.004	80100 Mombasa (Kenya)
Product:	Radiello Monitor	KENYA
Description:	Environmental support	
Container:	Sampling media for occupational health	
Received:	26/04/2018	Atn: Wilfridsa OJWANG

RESULTS			
ANALYSIS	RESULT.	UNIT	TEST METHOD
NO2 in Radiello	<0,5	µg/Sample	Manual Radiello
SO2 in Radiello	<5	µg/Sample	Manual Radiello

Analysed: 07/05/2018

**sgsl**  
SGS Kenya Limited  
P.O. Box 90264, MOMBASA, 80100  
Tel: 2228677, / 8 / 9  
Fax: 222803

These results refer exclusively to the samples analysed.  
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The Laboratory has the uncertainties estimated for each of the accredited tests, which are at the disposal of the client.  
( 0000250452 )  
All data from the sample and their identity were facilitated by the applicant.  
Interpretations and data expressed in the comments are not included in the range of accreditation.  
All those methods that the laboratory realized following a particular standard, are referred to the latest revision thereof.

Page 4 of 5

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Laboratorio Medio Ambiente c/ Trespaderna, 29 Edificio Barajas I (Barrio Aeropuerto) 28042 Madrid www.sgs.es  
t (34) 913 13 80 00 f (34) 913 13 80 99

Miembro del Grupo SGS (SGS SA)

**FINAL REPORT: MA18-05950**

SAMPLE DATA		CLIENT DATA
Order Nº:	524219-PANAFCON LIMITED	SGS Kenya,Ltd
Client ID:	SP5-Katundani Shopping centre	PO Box 90264
Laboratory ID:	MA18-05950.005	80100 Mombasa (Kenya)
Product:	Radiello Monitor	KENYA
Description:	Environmental support	
Container:	Sampling media for occupational health	
Received:	26/04/2018	Atn: Wilfridsa OJWANG

RESULTS			
ANALYSIS	RESULT	UNIT	TEST METHOD
NO2 in Radiello	<0,5	µg/Sample	Manual Radiello
SO2 in Radiello	<5	µg/Sample	Manual Radiello

Analysed: 07/05/2018



**SGS Kenya Limited**  
P.O. Box 90264, MOMBASA, 80100  
Tel: 2226677, / 8 / 9  
Fax: 222803

Report Printed in Madrid May, 08th of 2018.



Alfonso Moreno Pulido  
Physical Chemistry Technical Director

These results refer exclusively to the samples analysed.  
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( 0000250452 )  
All data from the sample and their identity were facilitated by the applicant.  
Interpretations and data expressed in the comments are not included in the range of accreditation.  
All those methods that the laboratory realized following a particular standard, are referred to the latest revision thereof.

Air quality, soil and noise measurements Report	Page : 24 of 25
	Reference : 524219
ENVIRONMENTAL BASELINE SURVEY REPORT FOR MARIAKANI-DONGO KUNDU 220KV TRANSMISSION LINE	Revision :01
	Date :31 May 2018

### 6.3 Appendix III: Calibration Certificate

ORIGINAL	
Kenya Bureau of Standards P.O Box 54974-00200 NAIROBI Tel: (+254 020) 6948000 info.metrology@kebs.org Website: www.kebs.org	
<b>Calibration Certificate</b>	
Page 1 of 6 Pages	BS/MET/19/15/3/6/03
<b>REQUESTED BY:</b> SGS (K) LTD <b>ADDRESS :</b> P.O BOX 72118-00200 NAIROBI <b>EQUIPMENT:</b> SOUND LEVEL METER <b>TYPE/MODEL :</b> LxT1 <b>SERIAL NO. :</b> 0004841 <b>MANUFACTURER:</b> LARSON DAVIS <b>MICROPHONE TYPE:</b> PCB 377B02 <b>MICROPHONE SERIAL NO.</b> 165406 <b>LABORATORY :</b> ACOUSTICS AND VIBRATION - NP 15 <b>DATE :</b> 2017-09-05 <b>CERTIFICATE NO.:</b> BS/MET/19/15/3/6/03 <b>STICKER SERIAL NO:</b> B23836	
<b>1.0. STANDARDS AND REFERENCE EQUIPMENT USED</b>	
Pulse 3630 calibration platform consisting of: <ul style="list-style-type: none"> <li>• B&amp;K controller module type 3560C S/No. 2522655</li> <li>• Agilent 34970A Data acquisition switch unit S/No. MYA 44010494</li> <li>• B&amp;K Inline capacitor WA 0302-A 18 pF S/No. 2499536</li> <li>• Multifunction Acoustic Calibrator Type 4226 S/No. 2532059</li> </ul>	
<b>2.0. CALIBRATION PROCEDURE</b>	
The Sound Level Meter was calibrated using Kenya Bureau of Standards Laboratory Procedure MET/15/CP/02: <i>Sound level meter calibration</i> and in accordance with the requirements of IEC60651 and IEC 60804.	
Prepared By: <b>Collins Taiti</b>	Date: <b>2017-09-05</b>
Checked By: <i>Anderson Moina</i>	Date: <i>2017-09-07</i>
Signed: <i>[Signature]</i>	Date: <i>2017-09-12</i>
<b>For: MANAGING DIRECTOR</b>	
<small>Calibration certificate without signature and official stamp is not valid. This certificate has been issued without any alteration and may not be reproduced other than in full except with the approval of the Managing Director KEBS. If undelivered please return to the above address.</small>	



Air quality, soil and noise measurements Report	Page : 25 of 25
	Reference : 524219
ENVIRONMENTAL BASELINE SURVEY REPORT FOR MARIAKANI-DONGO KUNDU 220KV TRANSMISSION LINE	Revision : 01
	Date : 31 May 2018

Page 6 of 6 pages

BS/MET/19/15/3/6/03

Ref. 56 dB	56.0	56.1	0.1	1.0	0.1
Burst Meas. 56 dB	55.1	54.8	-0.3	1.0	0.1
Ref. 46 dB	46.0	46.1	0.1	1.0	0.1
Burst Meas. 46 dB	45.1	44.7	-0.4	1.0	0.1

### 3.9 Time Averaging, Leq

	Expected Leq (dB)	Measured Leq (dB)	Deviation (dB)	Acceptable Tolerance (±dB)	Expanded Uncertainty (±dB)
Ref. Cont.	40.0	40.4	0.4	1.0	0.1
Leq 1/10	40.4	40.1	-0.3	0.5	0.1
Leq 1/100	40.4	40.1	-0.3	0.5	0.1
Leq 1/1000	40.4	40.1	-0.3	1.0	0.1
Leq 1/10000	40.4	40.1	-0.3	1.0	0.1

### 3.10 Pulse Range, Leq

	Expected Leq (dB)	Measured Leq (dB)	Deviation (dB)	Acceptable Tolerance (±dB)	Expanded Uncertainty (±dB)
Ref. Cont.	80.0	80.1	0.1	1.0	0.2
Leq 1mS	32.6	33.0	0.4	2.2	0.2
Leq 10mS	42.3	42.0	-0.3	1.7	0.2
Leq 100mS	52.3	51.6	-0.7	1.7	0.2
Leq 1S	62.3	61.7	-0.6	1.7	0.2

## 4.0. REMARKS

- 4.1 Calibration was conducted at a temperature of  $(23 \pm 1) ^\circ\text{C}$ , relative humidity of  $(56 \pm 10) \% \text{RH}$  and pressure of  $(838 \pm 5) \text{ mbar}$ .
- 4.2 The reference for the d3 scale is sound pressure level of  $20 \mu\text{Pa}$  at 1 kHz.
- 4.3 The uncertainty of measurement has been determined in accordance with Publication JCGM 100:2008 "Evaluation of measurement data-Guide to the expression of uncertainty in measurement" and represents the expanded value after multiplying by a coverage factor of 2 for a level of confidence of 95 %.
- 4.4 This certificate is valid until **September 2018**.

**SGS**  
SGS Kenya Limited  
P.O. Box 90264, MOMBASA, 80100  
Tel: 2226677, 1819  
Fax: 222803

ORIGINAL

Kenya Bureau of Standards  
P.O Box 54974-00200  
NAIROBI  
Tel: (+254 020) 6948000  
info.metrology@kebs.org  
Website: www.kebs.org



## Calibration Certificate

Page 1 of 6 Pages

BS/MET/19/15/3/6/03

REQUESTED BY: SGS (K) LTD  
ADDRESS: P.O BOX 72118-00200 NAIROBI  
EQUIPMENT: SOUND LEVEL METER  
TYPE/MODEL: LxT1  
SERIAL NO.: 0004841  
MANUFACTURER: LARSON DAVIS  
MICROPHONE TYPE: PCB 377B02  
MICROPHONE SERIAL NO. 165406  
LABORATORY: ACOUSTICS AND VIBRATION - NP 15  
DATE: 2017-09-05  
CERTIFICATE NO.: BS/MET/19/15/3/6/03  
STICKER SERIAL NO: B23836



### 1.0. STANDARDS AND REFERENCE EQUIPMENT USED

Pulse 3630 calibration platform consisting of;

- B&K controller module type 3560C S/No. 2522655
- Agilent 34970A Data acquisition switch unit S/No. MYA 44010494
- B&K Inline capacitor WA 0302-A 18 pF S/No. 2499536
- Multifunction Acoustic Calibrator Type 4226 S/No. 2532059

### 2.0. CALIBRATION PROCEDURE

The Sound Level Meter was calibrated using Kenya Bureau of Standards Laboratory Procedure MET/15/CP/02: *Sound level meter calibration* and in accordance with the requirements of IEC60651 and IEC 60804.

Prepared By: **Collins Taiti**

Date: **2017-09-05**

Checked By: *Anderson Maina*

Date: *2017-09-07*.....

Signed: *KIAGULO*.....

Date: *2017-09-12*.....

For: **MANAGING DIRECTOR**

**SGS**

SGS Kenya Limited  
P.O. Box 90264, MOMBASA, 80100  
Tel: 2226677, 1819  
Fax: 2228003

Calibration certificate without signature and official stamp is not valid. This certificate has been issued without any alteration and may not be reproduced other than in full except with the approval of the Managing Director KEBS.  
If undelivered please return to the above address.

Ref. 56 dB	56.0	56.1	0.1	1.0	0.1
Burst Meas. 56 dB	55.1	54.8	-0.3	1.0	0.1
Ref. 46 dB	46.0	46.1	0.1	1.0	0.1
Burst Meas. 46 dB	45.1	44.7	-0.4	1.0	0.1

### 3.9 Time Averaging, Leq

	Expected Leq (dB)	Measured Leq (dB)	Deviation (dB)	Acceptable Tolerance ( $\pm$ dB)	Expanded Uncertainty ( $\pm$ dB)
Ref. Cont.	40.0	40.4	0.4	1.0	0.1
Leq 1/10	40.4	40.1	-0.3	0.5	0.1
Leq 1/100	40.4	40.1	-0.3	0.5	0.1
Leq 1/1000	40.4	40.1	-0.3	1.0	0.1
Leq 1/10000	40.4	40.1	-0.3	1.0	0.1

### 3.10 Pulse Range, Leq

	Expected Leq (dB)	Measured Leq (dB)	Deviation (dB)	Acceptable Tolerance ( $\pm$ dB)	Expanded Uncertainty ( $\pm$ dB)
Ref. Cont.	80.0	80.1	0.1	1.0	0.2
Leq 1mS	32.6	33.0	0.4	2.2	0.2
Leq 10mS	42.3	42.0	-0.3	1.7	0.2
Leq 100mS	52.3	51.6	-0.7	1.7	0.2
Leq 1S	62.3	61.7	-0.6	1.7	0.2

## 4.0. REMARKS

- 4.1 Calibration was conducted at a temperature of  $(23 \pm 1) ^\circ\text{C}$ , relative humidity of  $(56 \pm 10) \%RH$  and pressure of  $(838 \pm 5) \text{ mbar}$ .
- 4.2 The reference for the dB scale is sound pressure level of 20  $\mu\text{Pa}$  at 1 kHz.
- 4.3 The uncertainty of measurement has been determined in accordance with Publication JCGM 100:2008 "Evaluation of measurement data-Guide to the expression of uncertainty in measurement" and represents the expanded value after multiplying by a coverage factor of 2 for a level of confidence of 95 %.
- 4.4 This certificate is valid until **September 2018**.

**SGS**  
 SGS Kenya Limited  
 P.O. Box 90264, MOMBASA, 80100  
 Tel: 2226677, / 8 / 9  
 Fax: 222803



### **Annex 10: Radiation Measurement Results**

- Radiation Measurements done by Radiotech Solutions Limited
- Radiation Measurement Results for 10 locations along the project corridor



# RADIOTECH SOLUTIONS LTD

P.O. BOX 99097-80107 MOMBASA

Tel: +254(0)41222-0640/+254 715 208 425

Email: [info@radiotechsolutions.com](mailto:info@radiotechsolutions.com) Website: [www.radiotechsolutions.com](http://www.radiotechsolutions.com)

Radionalysis, Radiocontamination Monitoring and Control, Quality Control & Quality Assurance for Radiation Devices, Consultancy Services on Radiation Safety & Training

Moi Avenue  
Jubilee Insurance Building, 2nd Flr Suit 15  
Mombasa - Kenya

80238

## RADIATION MEASUREMENT REPORT FOR THE PROPOSED MARIAKANI - DONGO KUNDU 220V TRANSMISSION LINE (ESIA COMPONENT)

### PROJECT PROPONENT:

PANAFCON DEVELOPMENT CONSULTANTS LIMITED as the client;

P.O. Box 53147-00200 NAIROBI.

Project Manager: .....

Sign; ..... Date; .....

RADIOTECH SOLUTIONS LTD as the Radiation Survey Experts;

P.O. BOX 95027 - 80104 MOMBASA.

Technical Manager; KOGWON KOECH

Sign; .....

Date; 27/4/2018



## **Overview**

The Kenya Electricity Transmission Company (**KETRACO**) is a state corporation wholly owned by the Government of Kenya whose mandate is to design, construct, and maintain high electricity transmission lines. As the proponent of this project, **KETRACO** has proposed to construct a 53km Mariakani – Dongo Kundu 220kV transmission line. The Project proponent has endeavored to ensure that the proposed development project and other associated infrastructural activities undergo Environmental and Social Impact Assessment (**ESIA**) full study following a project report to ensure that significant impacts on the environment are mitigated at the design, construction and operation stages. It is along this background that this study report was commissioned.

## **Terms of Reference**

The following Terms of Reference apply to the project:

1. Hold appropriate meetings with the project proponent to establish the procedures, define requirements, responsibilities and a time frame.
2. Produce an **ESIA** study report that contains among other issues potential impacts and recommendation of appropriate mitigation measures to minimize or prevent adverse impacts of radiation if any.
3. Carry out a systematic environmental assessment of radiation levels at the proposed project site (Mariakani – Dongo Kundu stretch) and the surrounding areas.
4. Provide a description of the proposed activities throughout the entire implementation process of the project with a special focus on potential radiation impacts to the surrounding environment and facilities.

**Images of proposed Site for the Project**



Beginning of the transmission line at Mariakani Sub - Station



At the homestead of Chizi Mazera Mari near Mbuguni Market



Near Kiteje Secondary School also near DK 10



At the Sub-station Site 1 – at the homestead of Joseph Kitutsa Timona near Mwangala Pri. School



Near Mwanda Dispensary at the homestead of Mr Mvunya Mwandoro Katembe



At the homestead of Madziko Rai in Bofu Sub-location, Mtaa location, to the north east if Bofu Centre

## Radiation Measurement Points

Average background dose rate is 0.05 micro Sieverts per hour ( $\mu\text{Sv/hr}$ )

No.	Sample Label on Maps	Maps	Description of Location	UTM Coordinates	Results in dose rate avg $\mu\text{Sv/hr}$
1	Radiation Measurement 1	Map 1	At the homestead of Nyota Kitale Mnyaka next to Mariakani Sub - Station	0544918 9580574	0.11
2	Radiation Measurement 2	Map 1	Near Shangia Primary School at the homestead of Ndzuwa Tsuma Kenga	0545149 9579529	0.114
3	Radiation Measurement 3	Map 1	Near Mwanda Dispensary at the homestead Mvunya Mwandoro Katembe	0548038 9569993	0.09
4	Radiation Measurement 4	Map 2	At the homestead of Madziko Rai in Bofu Sub-location, Mtaa Location	0550911 9561684	0.08
5	Radiation Measurement 5	Map 2	At Katundani Shopping Centre	0552400 9556600	0.13
6	Radiation Measurement 6	Map 3	Near Lutsangani Shopping Center and DK 7 New	0555700 9550650	0.15
7	Radiation Measurement 7	Map 4	Near Mbuguni Market at the homestead of Chizi Mazera Mari	0560843 9545458	0.11
8	Radiation Measurement 8	Map 4	Near Kiteje Secondary School also near DK 10	0565855 9545251	0.10
9	Radiation Measurement 9	Map 4	At the Sub - Station Site 1 at the homestead of Joseph Kitutsa Timona near Mwangala Primary School	0565688 9549607	0.12
10	Radiation Measurement 10	Map 4	At Sub - Station site 2 – at the homestead of Laurence Sammy Kavutsu Dena near Mwangala Primary School	0566451 9549356	0.11
Average dose rate along the line					0.1114

\*

### **Dose Calculations**

From the above results, the public exposure to natural radiation along the proposed line shows an average of 0.1114  $\mu\text{Sv/hr}$  which is a unit of measuring the radiation dose rate, therefore one receives doses as follows:-

1. One day -  $0.1114 \times 24 = 2.6736 \mu\text{Sv}$
2. One month – 2.6736 times avg. 30days = 0.080208 mSv
3. One year – 0.080208 times 12 months = 0.962496 mSv

This concludes that the limits are within acceptable International Atomic Energy Agency (**IAEA**) standards of 1mSv/yr, however, annual survey is recommended due to soil erosion, weathering of rocks and deforestation.



### Radioanalysis of the soil and rocks samples

Soil and rocks was taken at the following points and measured there radioactivity in Becquerel per Kilogram (Bq/Kg) for any presences of radioisotopes elements.

No.	Sample Label on Maps	Maps	Description of Location	UTM Coordinates	Radioactivity Bq/Kg
1	Radiation Measurement 1	Map 1	At the homestead of NyotaKitale Mnyaka next to Mariakani Sub - Station	0544918 9580574	212±20
2	Radiation Measurement 2	Map 1	Near ShangiaPrimary School at the homestead of NduwaTsuma Kenga	0545149 9579529	200±30
3	Radiation Measurement 3	Map 1	Near Mwanda Dispensary at the homestead Mvunya Mwandoro Katembe	0548038 9569993	368±24
4	Radiation Measurement 4	Map 2	At the homestead of Madziko Rai in Bofu Sub-location, Mtaa Location	0550911 9561684	340±24
5	Radiation Measurement 5	Map 2	At Katundani Shopping Centre	0552400 9556600	404±26
6	Radiation Measurement 6	Map 3	Near Lutsangani Shopping Center and DK 7 New	0555700 9550650	266±22
7	Radiation Measurement 7	Map 4	Near Mbuguni Market at the homestead of Chizi Mazera Mari	0560843 9545458	194±19
8	Radiation Measurement 8	Map 4	Near Kiteje Secondary School also near DK 10	0565855 9545251	75±16
9	Radiation Measurement 9	Map 4	At the Sub - Station Site 1 – at the homestead of Joseph KitutsaTimona near Mwangala Primary School	0565688 9549607	195±20
10	Radiation Measurement 10	Map 4	At Sub - Station site 2 – at the homestead of Laurence Sammy Kavutsu Dena near Mwangala Primary School	0566451 9549356	109±17

**For the maps highlighting the Radiation Measurement Points, please see list of coordinates.**

The measurements above show elevated levels of radiation which may be as a result of Natural Occurring Radiation Materials (**NORM**) like potassium (K40), thorium, uranium and any of their decay products.

### **Conclusion and Recommendations**

#### ***Conclusions;***

Given that the whole site location has indicated elevated levels of radiation emanating from soils and rocks due to the presence of Naturally Occurring Radioactive Materials (**NORM**), the project can be carried out. This is because there is no established relation between NORM and construction of the high voltage transmission line.

#### **Recommendations:**

Upon completion, the proponent needs to engage the Radiation Survey Experts to conduct post survey of radiation levels with the line of construction and surrounding areas to establish if there actual effects of high voltage transmission on the current situation and whether there is any threat to the public and possible mitigation measures to be put in place.

**Mariakani-Dongo Kundu 220kV Transmission Line  
Radiation Measurement Points**

No	Sample Label on Map	Maps	Description of Location	UTM Coordinates
1	Radiation Measurements 1 (RM1)	Map 1	At the homestead of Nyota Kilale Mnyaka at the beginning of the Transmission Line in Mariakani	0544918
				9580574
2	Radiation Measurement 2 (RM2)	Map 1	Near Shangia Primary School at the homestead of Nadzuwa Tsuma Kenga in Mitangoni Sub-location, Kaloleni Location, Kilifi County	0545149
				9579529
3	Radiation Measurement 3 (RM3)	Map 1	Near Mwanda Dispensary at the homestead of Mr Mvurya Mwandoro Katembe	0548038
				9569993
4	Radiation Measurement 4 (RM4)	Map 2	At the homestead of Madziko Rai in Bofu Sub-location, Mtaa location, to the north east of Bofu Centre	0550911
				9561684
5	Radiation Measurement 5 (RM5)	Map 2	At Katundani Shopping Centre	0552400
				9556600
6	Radiation Measurement 6 (RM6)	Map 3	Near Lutsangani Shopping Centre and DK 7 New	0555700
				9550650
7	Radiation Measurement 7 (RM7)	Map 4	Near Mbuguni Market at the homestead of Chizi Mazera Meri	0560843
				9545458
7	Radiation Measurement 8 (RM8)	Map 4	Near Kiteje Secondary School also near DK 10	0565855
				9545251
8	Radiation Measurement 9 (RM9)	Map 4	At the Sub-station Site 1 - at the homestead of Joseph Kitutsa Timona near Mwangala Primary School	0565688
				9549607
9	Radiation Measurement 10 (RM10)	Map 4	At Substation Site 2 - at the homestead belonging to Laurence Sammy Kavutsu Dena near Mwangala Primary School	0566451
				9549356

**Annex 11: Presentation used during Public Consultation Meeting (PCM)**

KETRACO jica PANAFCON DEVELOPMENT CONSULTANTS

## THE POWER SUPPLY COMPONENT OF THE MOMBASA SEZ DEVELOPMENT PROJECT

### ESIA Study Findings

Presentation During PCM June 18 – 22, 2018

NextGen Commercial Centre, 4th Floor No. 14, Mombasa Road, P O Box 83147 – 06205, NAIROBI Kenya  
Tel: +254 (0) 80088225, E-mail: info@panafcon.net

KETRACO jica PANAFCON DEVELOPMENT CONSULTANTS

### ESIA Study Items

- Project Description and Location Map
- ESIA Study Activities
- Project Benefits/Positive Impacts
- ESIA Study Findings/Impacts
- Socio-economic Survey Outcome
- Stakeholder and Community Concerns
- Proposed Mitigation Measures
- Conclusions and Recommendations

KETRACO jica PANAFCON DEVELOPMENT CONSULTANTS

### Project Description & Location Map


#### Project Description

- SEZ Project is to be developed by KETRACO
- Project is composed of:
  - ✓ 220kV Transmission Line (TL) from Mariakani to Dongo Kundu (Wayleave 40m wide and 53km long)
  - ✓ 220/33kV Sub-Station in Dongo Kundu (17.5acres)
  - ✓ 33 kV distribution line inside Mombasa SEZ from 220/33 kV substation

KETRACO jica PANAFCON DEVELOPMENT CONSULTANTS

### Project Description & Location Map (Contd)

#### Project Location Map – Showing Transmission Line (TL Route)



KETRACO jica PANAFCON DEVELOPMENT CONSULTANTS

### Project Description & Location Map (Contd)

#### Locations Where the TL Passes

#	County	Sub-County	Location	Length of Transmission Line (km)
1	Kilifi	Kaloleni	Mariakani	3.88km
			Mwavumbo	11.62km
			Mwatate	4.51km
2	Kwale	Kinango	Mtaa	3.51km
			Kasemeni	4.48km
			Gandini	8.51km
		Matuga	Mbunguni	8.01km
			Ng'ombeni	3.92km
3	Mombasa	Likoni	Mtongwe	3.99km

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### ESIA Study Activities

#### Preparatory Meetings

- Initial Stakeholder Meetings (Mombasa, Kilifi and Kwale Counties) – July 4-7, 2017
- Convening of Sensitization Meetings – July 12 – 18, 2017
- Dongo Kundu Sensitization Meeting March 20, 2018

#### Scoping Study Survey



- Initial Environmental Survey and Follow up Meetings – Jul 2017 – Jan 2018
- ESIA Scoping Report to NEMA - Feb 2018

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### ESIA Study Activities (Contd)



#### Detailed ESIA Study

- Field Data Collection Mar – May 2018
- Air, Noise, Water and Soil Measurements and Laboratory Analysis - April 2018
- Radiation Measurements – April 2018
- Data Analysis and Preparation of ESIA Study Report April - Date

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### Project Benefits/Positive Impacts



- Improvement of Electricity Supply
- Provision of adequate Power To SEZ Project
- Increase of Industrial/Commercial Activities
- Enhancement of Economic Growth of Mombasa Region and Kenya
- Generation of Direct and Indirect Jobs
- Improvement of income and enhancement of livelihood of Project Area Community
- Potential increase of export products

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### ESIA Study Findings/Impacts (Contd)

#### Affected Persons and Property



No	Description	Units	Quantity
1	House hold Heads	Number	607
2	Project Affected Persons (PAPs)	Number	3,849
3	Land Parcels	Number	566
4	Land Parcels	Total Area in acres	521.85
5	Structures (Residential=107)	Number	283
6	Businneses	Number	3
7	Trees	Number	11,810
8	Crops	Units	9,267

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### ESIA Study Findings/Impacts (Contd)



#### Cultural Sites Touched by the Project

#	Chainage	Location	Relative Position	Affected Cultural Property
1	17.2km	Mwatate	6.1km from DK4	Sacred tree on his parcel
2	23.5km	Kasemeni	2.1km from DK5	Sacred tree on his parcel
3	30.1km	DK6	At DK6	Kaya Gandini - Sacred forest (0.5acres affected out of 247acres)
4	27.8km	Kasemeni	2.3km from DK6	Family Graveyard
5	11.6km	Mwanda	0.4km from DK4	Community Graveyard

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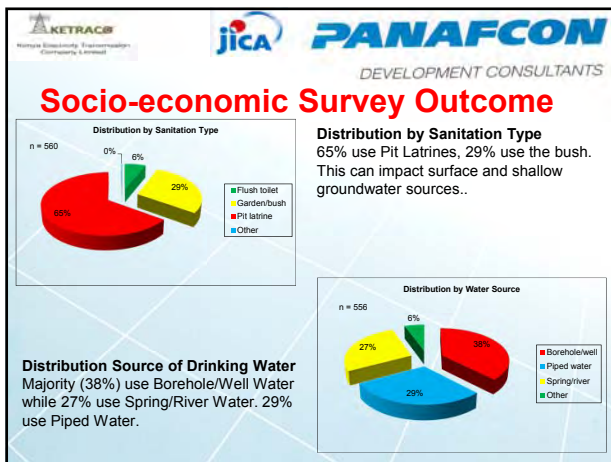
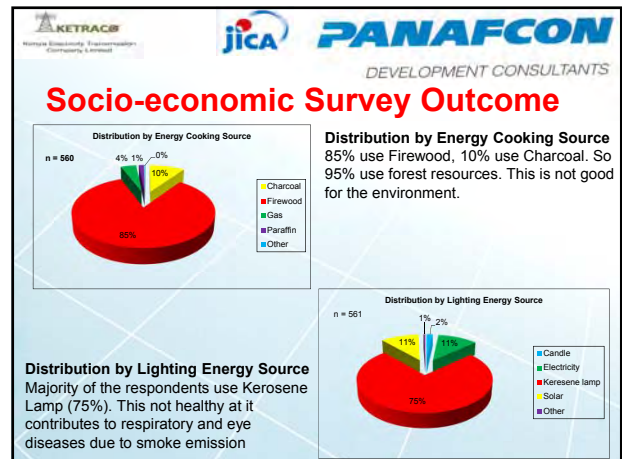
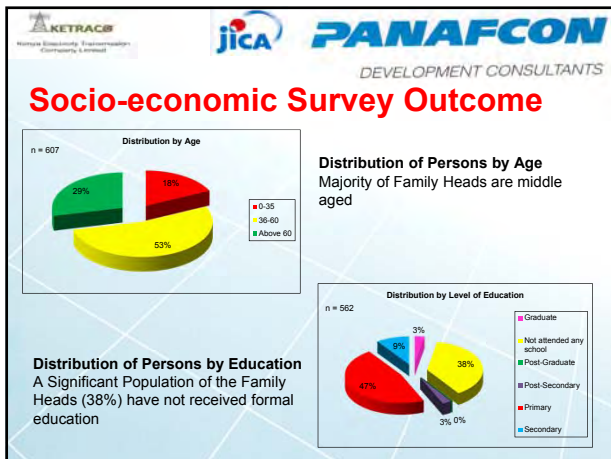
### ESIA Study Findings/Impacts (Contd)

- Disruption of Human Settlements
- Cutting down of Planted (Coconut Pam, Cashew Nut, Mango, Neem etc) and Indigenous Trees (Acacia, Baobab, "Mrabai", Tamarind etc)
- Potential Impact on Perennial, Seasonal Rivers/Streams and Wetlands
- Damage to crops during Construction
- Enhanced Presence of EMF Radiation
- Potential Interference with Cultural Sites (2 Shrines, Kaya Gandini and Grave Yards)

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### ESIA Study Findings/Impacts (Contd)

- Disruption of Businesses
- Disruption of Wildlife habitats (birds and some wildlife using the area betweenDK6 and DK7 as movement corridor.
- Land use change
- Bird Strikes and Electrocution of baboons etc
- Excess Noise and Dust during Construction
- Pollution from Machines and Vehicles



- Stakeholder & Community Concerns**
- How will KETRACO ensure land disputes do not delay compensation payments as observed in similar projects in the area?
  - Many people who have been affected by the project have no land titles, how will they be compensated?
  - Will the larger community benefit from KETRACO activities in the area or it will only benefit directly affected people?
  - What will happen if the construction vehicles pass through and possibly destroy crops on the land outside the wayleave area?

- Stakeholder & Community Concerns (Contd)**
- How will KETRACO establish/ know the value of indigenous trees?
  - Could the project employ local youths in each location/ sub-location and village where the TL passes?
  - How will the courts confirm the true heirs of a deceased person's land in the succession process?
  - How will valuation for different assets (land, structure, trees and crops) be done?

- Stakeholder & Community Concerns (Contd)**
- What will happen if the TL corridor affects Kaya shrine(s) which are common in the project area?
  - What will happen if the affected land is not adjudicated and hence has no title deed?
  - When will affected persons be paid compensation?
  - Will vulnerable persons get special assistance?
  - How will KETRACO improve environment where trees are cut?

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### Proposed Mitigation Measures

#	Impact	Proposed Mitigation Measure
1	Disruption of Human Settlements	Affected property has been identified and valued for compensation
2	Restricted use of Transmission Line Wayleave (Easement)	Compensation for restricted use of land will be paid
3	Acquisition of Sub-station Land	Full compensation for Acquired land will be paid
4	Cutting down of trees	Facilitation of tree planting activities
5	Interference with Rivers/Streams and Wetlands	Water sources will be avoided when constructing pylons
6	Damage to crops during Construction	Damaged Crops to be compensated
7	Presence of EMF Radiation	Operations outside the acquired 40m wayleave is safe.

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### Proposed Mitigation Measures (Contd)

#	Impact	Proposed Mitigation Measure
8	Damage to Cultural Sites (Shrines, Kaya Gandini and Grave Yards)	<ul style="list-style-type: none"> <li>Review Design to avoid sites</li> <li>Carry out ceremonies for Kaya Gandini and Shrines as recommended by elders</li> <li>Graves and Grave Yards will be avoided</li> </ul>
9	Excess Noise	Contractor to be instructed to minimize noise generation. No blasting of rock will be done.
10	Air Pollution	Contractor to reduce smoke and dust emission
11	Soil and Water Pollution	Contractor to be instructed to keep away oil and other chemical from reaching the soil or water sources
12	Solid and Liquid Waste	Contractor to be instructed to collect all liquid and solid waste for disposal. Contractor to engage a NEMA Approved waste disposal firm to collect and dispose waste.

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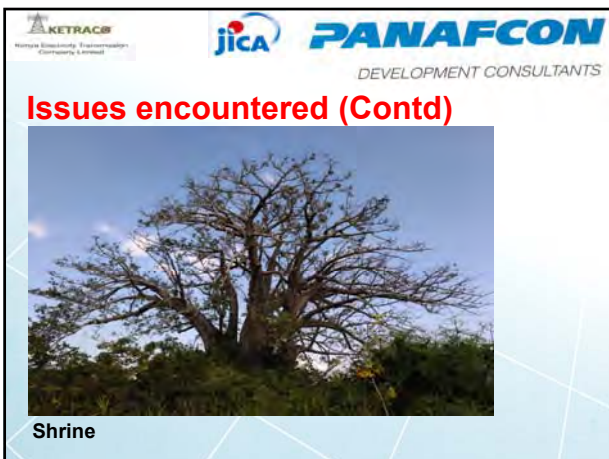
### Conclusions and Recommendations

**Conclusion**

- The proposed project is unlikely to generate any irreversible or permanent negative impacts
- The proposed power project will provide adequate power to the SEZ Project which is of major economic significance to Mombasa region and Kenya as a whole.

**Recommendation**

- Since a Resettlement Action Plan (RAP) Study has been carried out and the affected persons will be compensated and resettled, the project should be allowed to proceed when the process of compensation and resettlement is successfully concluded







**Annex 12: Minutes, Registers, Questions & Responses of the PCMs**

#	Venue	Date	Time	County	Sub-County	Location
1	Baraza Field near Tiba Petrol Station	Monday June 18, 2018	9:00 AM	Kilifi	Kaloleni	Mariakani
2	Mwanda Dispensary	Monday June 18, 2018	2:00 PM	Kwale	Kinango	Mwavumbo
3	Mazirizirini Police Station	Tuesday June 19, 2018	9:00 AM	Kwale	Kinango	Mwatate
4	Bofu Chief's Camp	Tuesday June 19, 2018	2:00 PM	Kwale	Kinango	Mtaa
5	Mnyenzi Health Centre	Wednesday June 20, 2018	9:00 AM	Kwale	Kinango	Kasemeni
6	AP Camp Lutsangani	Wednesday June 20, 2018	2:00 PM	Kwale	Kinango	Gandini
7	Mbunguni Chief's Camp Ground	Thursday June 21, 2018	9:00 AM	Kwale	Matuga	Mbunguni
8	Kiteje Assistant Chief's Camp	Thursday June 21, 2018	2:00 PM	Kwale	Matuga	Ng'ombeni
9	Dongo Kundu AP Camp	Friday June 22, 2018	9:00 AM	Mombasa	Likoni	Mtongwe
10	Questions and Answers During PCM					

**1. Mariakani Location PCM at the Baraza Field near Tiba Petrol Station**

- **Minutes**
- **Attendance Register**

**MINUTES OF THE PUBLIC CONSULTATION MEETING (PCM) FOR THE ESIA STUDY FOR THE POWERLINE MOMBASA SEZ DEVELOPMENT PROJECT HELD AT THE BARAZA FIELD NEAR TIBA PETROL STATION, MARIAKANI LOCATION ON MONDAY, 18 JUNE 2018 AT 09:00AM.**

**ATTENDANCE LIST:**

No.	Name	No.	Name	No.	Name
1	Joshua Oyieko	40	Chanzi Kabuli	79	Safari Jefa
2	Omummitah Agwaro	41	Tsuma Mwembe	80	Ngowa Charo
3	Mangale Kazan Dio	42	Matano Ndegwa	81	Khamisi Mwalewa
4	Luvi Yawa	43	Joto Tsuma	82	Mnao Mteme
5	Jefa Mwanngo	44	Bongo Mndalu	83	Uhuru Mteme
6	Khamisi Mwero	45	Mariam Kanzo	84	Kanze Kalume
7	Chondo M Chondo	46	Umazi Chironga	85	Agnes Mkambe Peter
8	Harrison Mulei	47	Sidi Mrabu	86	Charles m Mnamai
9	Samson Kazani Dio	48	Mwachiro Bingo	87	Ana Simion Mwalewa
10	Ndurya Dalu	49	Chirunga Bongo	88	Dzendere Mgandi
11	Kazungu David chai	50	John Nallo	89	Anzanzi Chitota
12	Kombo Chibogo	51	Amina Gumbau	90	Shaffi Mohammed
13	Chiti Tsuma	52	Anzazi Nzembe	91	Fransis Musya
14	Gilbert Tsuma	53	Manigi Nyota	92	Said Charo
15	Munga Kombo	54	Tsuma Kenga	93	James Mwazia
16	Nyota Chilache	55	Zatun Omar	94	Charles N Tsimba
17	Mudzumba Kenya	56	Mbeyu Bongo	95	Omar M Chivasi
18	Tsuma Makali Tsuma	57	Matulinda Matunza	96	Oscar Mumo
19	Said Nguma Kidoti	58	Mjeni Mwambeya	97	Omari Hassan
20	Mwaka Mika Dalu	59	Umazi Mwandalu	98	IFI Paradise K LTD
21	Safari Baya Karisa	60	Eddie J Mwarabu	99	Paul Kitula
22	Jumaa Chigamba	61	Mangale Nyawa	100	Dama Kombo
23	Sidi Karisa Gowa	62	Malai Tayari	101	Tabu Karisa
24	Kache Karisa Gona	63	Dzombo Chondo	102	Mbau Mgandi
25	Luvuno Dzombo	64	Mbeyu Karisa	103	Harrison Odhiambo
26	Mwaka Mwadalu	65	Mwadimu Chavu	104	Neema Mwango
27	Mbeyu Mbudzya	66	Prisila Kiema	105	George Kazunge
28	Umazi Mwanza	67	Said Z Mbadi	106	Mwadore Mwanye
29	Ndaikwa Bekombo	68	Charo Choma	107	Francis Maoto
30	Mupa Mgandi	69	Katana Nyawa	108	Nadzua Tsuma
31	Kaindi Kabuli	70	Peter Karigecha	109	Antony Safari
32	Daniel Bija	71	Nyira Mchaka	110	Sidi Charo
33	Peter Chigula	72	Bibi Charo	111	Damaris Kimondo
34	Khamisi Bufu	73	Monica Mutua	112	Clesensia Mchaji
35	Kengo Chengo	74	Sharon Ndama	113	Harrison Katana
36	Dama Mwachiru	75	Tsuma Nyanzi	114	Mlongo Chidzale
37	Chari Bongo	76	Aden Ismael Hassan	115	Kavenji Mtisya
38	Mjeni Ndurya	77	Mbao Mgandi	116	Kamende Daniel
39	Thomas Mungagi	78	Buru Mgandi	117	Kadzo Mrab Chifui

## AGENDA OF THE MEETING

1. Opening prayer by one of the participants.
2. Introduction of Participants
  - *National Government Representatives*
  - *County Government Representatives*
  - *KETRACO*
  - *JICA*
  - *Panafcon Ltd*
  - *Project Area Leaders/NGOs/CBOs*
3. Purpose of conducting the Public Consultation Meeting (*KETRACO*).
4. ESIA Study Activities carried out on the Transmission Line and Substation in Dongo Kundu(*Panafcon*)
5. Findings of the Study/Project Environmental Impacts (*Panafcon*).
6. Proposed Mitigation Measures
7. Views of the Participants – Comments, Q & A Session (*County Government/National Government/KETRACO/JICA/Panafcon*).
8. Closing Remarks by (*KETRACO/County Government/National Government*).
9. A.O.B.
10. Closing Prayer.

### **Minute 01:**

The meeting was called to order at 9.45am and began with a word of prayer from one of the participants (Mr Pascal).

### **Minute 02: Introduction of the Participants.**

The area Senior Chief (Madam Joyce Kombe) welcomed everyone in attendance. She acknowledged and thanked the participants for finding time to attend the meeting. She introduced the Assistant County Commissioner (Madam Damaris Kimondo).

She mentioned that this is the 3<sup>rd</sup> Meeting of the project and the purpose is to present the Findings of the Environmental and Social Impact Assessment of the Power Line Project.

The Chief welcomed the ACC to give the opening remarks. She recognized the area Assistant Chief, Village Elders from various villages in the project area and the representative of the Kilifi County Government. She specifically welcomed the team of experts from JICA and Panafcon. The ACC highlighted the importance of the project and its benefits noting that areas that have received adequate power supply developed quite rapidly. She urged the community to give the project implementers support so that the good benefits of the project can be realised. The ACC requested Joshua (Panafcon Ltd) to introduce the other team members and JICA Design Team (JDT) representative.

### **Minute 03: Purpose of conducting the Public Consultation Meeting (PCM).**

Mr. Oyieko started by highlighting the the 2 previous meetings (Sensitisation and PAP Consultation Meetings) and the current meetings (Public Consiltation Meeting - PCM).

- a) **Sensitisation Meeting:** Mr Oyieko elaborated that the Sensitisation Meeting held in July 2017 was to inform the project area community about the proposed project and the planned activities that will take place during the ESIA and RAP Study. The Transmission Line will take a corridor that is 40m wide.

- b) **.PAP Consultation Meeting:** The PAP Consultation Meetings were held in the month of April 2018. The purpose of the meeting is to disclose to the Project Affected Persons (PAPs) how the Transmission Line and substation Project is likely to affect them and the proposed restoration measures that will be put in place.
- c) **Public Consultation Meeting (PCM):** The purpose of conducting the PCMs is to disclose to the Project Area Community and Stakeholders the Findings of the Environmental and Social Impact Assessment (ESIA) Studies and the Proposed Mitigation Measures.

#### **Minute 04: The ESIA Study Activities carried out on the Transmission Line (TL) and substation in Dongo Kundu**

Panafcon carried an assessment of the powerline corridor from Mariakani-Dongo Kundu and evaluated existing vegetation (trees and crops), water sources (rivers, wells, boreholes, springs and surface water pans existing in the project area. An evaluation was also done on the presence of forests, wildlife and birds. Baseline measurements on noise, air soil, water and radiation were carried out. The ESIA Study identified the existing plants and animals along the project corridor establishing the project impacts on them.

#### **Minute 05: Findings of the ESIA Study/Project Environmental Impacts**

Mr Oyieko mentioned that the total distance covered by TL from Mariakani to Dongo Kundu is 53km. Mariakani Location covers 3.88km. He highlighted the following aspects:

##### **Project Benefits/Positive Impacts**

- Provision of Improved and Adequate power supply in the region;
- Increased industrial activities and enhancement of exports;
- Generation of Direct and Indirect Jobs
- Enhancement of Economic Growth of the Coastal Region and Kenya as a whole;
- Improvement of income for project area community

##### **Project Impacts**

- Disruption of Human Settlements;
- Cutting down of Planted (Coconut Pam, Cashew Nut, Mango, Neem etc) and Indigenous Trees (Acacia, Baobab, "Mrabai", Tamarind etc);
- Potential Impact on Perennial, Seasonal Rivers/Streams and Wetlands;
- Damage to crops during Construction;
- Enhanced Presence of EMF Radiation;
- Potential Interference with Cultural Sites (2 Shrines, Grave Yards);
- Disruption of Businesses;
- Occasional disruption of Wildlife habitats (birds and some wildlife using the community forest between DK6 and DK7 when they access this area;
- Land use change;
- Bird Strikes and Electrocutation of baboons etc;
- Excess Noise and Dust during Construction;
- Pollution from Machines and Vehicles.

##### **Socio-economic Survey Outcome**

- 85% of the project area households use firewood for cooking;
- 10% of the project area households use charcoal for cooking
- 75% of the households use kerosene lamps for lighting
- 65% of households use Pit Latrines while 29% have no sanitation facilities

**Minute 06: Proposed Mitigation Measures**

#	Impact	Proposed Mitigation Measure
1	Disruption Human Settlements	Affected property has been identified and valued for compensation and resettlement
2	Restricted use of Transmission Line Wayleave	Compensation for restricted use will be paid
3	Cutting down of trees	Facilitation of tree planting activities
4	Interference with Perennial, Seasonal Rivers/Strems and Wetlands	Water sources will be avoided when constructing pylons
5	Damage to crops during Construction	Damaged Crops to be compensated
6	Presence of EMF Radiation	Operations outside the acquired 40m wayleave is safe.
7	Damage to Cultural Sites (Shrines and Grave Yards)	<ul style="list-style-type: none"> <li>• Review Design to avoid sites</li> <li>• Carry out ceremonies for Shrines as recommended by elders</li> <li>• Graves and Grave Yards to be avoided</li> </ul>
8	Disruption of Businesses	Pay compensation for disrupted businesses
9	Bird Strikes and Electrocuting of Climbing Wildlife	Mark Conductors Build guards on pylons to restrict baboons and other animals
10	Excess Noise	Service vehicles and machines No Blasting of bedrock and workers to use ear protection
11	Air Pollution	<ul style="list-style-type: none"> <li>• Service vehicles and machines</li> <li>• Sprinkle water at construction sites and access roads</li> <li>• No burning of waste at the project site</li> </ul>
12	Soil and Water Pollution	<ul style="list-style-type: none"> <li>• Recover used oil for proper disposal</li> <li>• Store oils and chemicals on paved ground</li> <li>• Service vehicles and machines well to eliminate oil leaks</li> </ul>
13	Solid and Liquid Waste	<ul style="list-style-type: none"> <li>• Provide solid waste receptacle</li> <li>• Recover oil and chemical waste for proper disposal</li> <li>• Provide containment for storage of oils and other chemical</li> <li>• Engage NEMA Registered &amp; Approved waste disposal firm</li> </ul>

**Minute 06: Views and Questions on the Proposed Power Supply Component of the Mombasa SEZ Development Project**

**Q1: The project has taken up land belonging to private citizens of the project area. Will they ever receive compensation payment? (Mr.Shaffi Muhammed).**

**A1:** All the affected property including land will be duly compensated by KETRACO and payment will go to the genuine owners.

**Minute 07: Closing remarks**

The ACC thanked participants for attending the meeting and assured those affected that they will be compensated before being asked to vacate the project corridor. She urged them to support the project for faster growth. The ACC asked the community members to resolve all outstanding issues to avoid delayed compensation payment.

**Minute 08: AOB**

The chief made announcements about local issues of security and on-going projects in the area.

**Minute 09: Closing Prayer**

There being no other business, the meeting ended at 10.44am with a word of prayer from one of the participants.




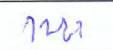





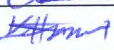

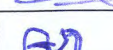
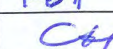
LIST OF PARTICIPANTS AT THE PUBLIC CONSULTATION MEETING (PCM) FOR MARIAKANI-DONGO KUNDU 220KV TRANSMISSION LINE FOR THE MOMBASA SEZ PROJECT

Venue of Meeting: BARAZA FIELD NEAR TIBA DISTRICT STATION: - MARIAKANI LOCATION.

Date and Time of Meeting: 18 - 06 - 2018 : 09:00 AM.

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
1.	Joshua P. Ojieko	Study Team Leader	Panafcon Ltd	j.ojiek@panafcon.net	0733 428 498	
2.	OMUMMITAI AGWAD	Research Assis	Panafcon Ltd	omummitai@gahung	0724 939 877	
3.	MANGATE KAZANI DIO				0714117065	
4.	LUNI YAWA				07222 76616	
5.	JEFF MWANGO				0701784535	
6.	KHOMUS MWERO KOMBO				0725753397	
7.	CHONDO M CHONDO				0718 467212	
8.	HARRISON MULEI				0726873650	
9.	SAMSON KAZANI DIO		PANAFCON LTD		0726 655 215	
10.	NDURUYA DAKU				0746 908123	
11.	KAZUNGU DAVID Chai				0701774113	
12.	KOMBO CHIBUGO				0790016105	
13.	GITHI TSUMIT				0710848274	
14.	GILBARI BONGO					
15.	MUNGA KOMBO					

















#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
16.	NYOIA CHILACHE					
17.	MUDZOMBA KENYA				0701426780	
18.	ISUMA MAKALI ISUMA				0716249528	
19.	SAID NGUMA KIDOTI				0708476198	
20.	MWAKA MINDALU				0712928602	
21.	SAFARI BATA KARISA				0717698222	
22.	JUMAACHISAMBA				0796899854	
23.	SIDI KAPISA SONA				.	
24.	KACHE KARISA SONA				.	8
25.	LUVUNO DZOMBO				.	
26.	MWAKA MINDALU				.	
27.	RIBETUMBUDZTA				0713892086	2
28.	UMAZI MWANZA				.	1
29.	NDAIKWA BEKOMBO				.	.
30.	MUPA MGANDI				.	.
31.	KAINDI KABULI				.	.
32.	David B. G'o				0796192386	
33.	Peter Chiguru				0723629347	
34.	Khamis BUKU				0710864319	
35.	KENGA CHEANGO				0790151532	
36.	DAMA MWACHIRU BONGO				.	
37.	CHARI BONGO				.	

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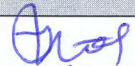


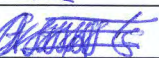
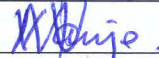


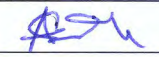
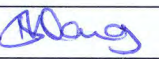


#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
38.	MJENI NDIRYA					
39.	THOMAS MGANZI					
40.	CHANZI KABULI				0702655753	
41.	TSUMA MWEMBE					
42.	MATAHO NDEGWA					
43.	BOTO TSUMA				0725358191	
44.	BONGO MNDALU				0717253286	
45.	MARIAM KADZO RANZI				0704655886	
46.	UMAZI CHIRUNGA				0706986155	
47.	SIBI MRABU				0748696469	
48.	MWACHIRO BINGO				0702302077	
49.	CHIRUNGA BONGO				0703136147	
50.	JOHN NALLA		Sagar Holdings	info@akaba.co.ke	0722704049	
51.	AMWA NGUMBAU					
52.	ANZAZI NZEMBE					
53.	MARINGI NTOTA				0740266771	
54.	TSUMA KENGA				0704762366	
55.	ZAMUN OMAR				0708254983	
56.	MIBEYU BONGO				0727055924	
57.	<del>MATIN DARI FUNDIA</del>				<del>0729855676</del>	<del></del>
58.	MATILIDA MATUNZA				0729895676	
59.	MJENI MWAMBETU				0711571163	

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
60.	UMAZI MUNDALU				0718254007	.
61	ENDIE J. MRABU				0706627081	
62	MANGALE NYAWA				0706826481	
63	MLAI TAYARI				07902804807	
64	DZOMBO CHONDO					
65	MBEYU KARISA				0716049519	MBEYU
66	Mwalimu Chano				0791273258	
67	PRISILA KIEMA				0708476185	
68	SADI-Z. BADI				0729937269	
69	CHANO CHOMA					
70	KATANA NYAWA				07026415857	
71	PETER KIRIGITH				0795760871	
72	NYIRA MUTUKA					
73	BIBI CHARO					
74	MONICA MUTUA				0723877544	
75	Sharon ndama					
76	Tsuma Nyama				0721-2	
77	Adele Ismail Hassan				0721-251426	
78	MBAO MUKUNDI				0731-561884	
79	BURU MGANDI				0700367559	
80	SAFARI JEPA					
81	NGDWA CHARO					

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
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83	MNAD MTEME				0728328951	<i>AM</i>
84	UHURU MTEME				0720083372	<i>AM</i>
85	KIANZE KALUMU				.	.
86	AGNESI MKAMBE PETER				0713433794	
87	KADZO MRAB CHIFUI				0706474855	<i>AM</i>
88	CHARLES M. MWAMBA				0798351394	<i>AM</i>
89	ANA SIDION MWALEWA				.	.
90	DZENDERE MFIANSI				.	.
91	ANZAZI CHITOJA					
92	SHAFI MUHAMMED				0790016000	
93	FRANCIS MUSYA				0701755356	<i>AM</i>
94	Saidi Choro				<del>078</del>	
95	JAMES MWANZA				0712890971	<i>AM</i>
96	CHARLES N. TSIMBA				0721406260	<i>AM</i>
97	OMAR M. CHIMVARI					<i>AM</i>
98	QSEFA MUMU AZASAH				0727940947	<i>AM</i>
99	OMAR HASSAN BUBOKI				0722816032	<i>AM</i>
100	IFI PARADISE V. LTD				0702094661	<i>AM</i>
101	PAUL KITULIA				0724881040	<i>AM</i>
102	DAMA KOMBO				.	.
103	TABU KARISA				.	.

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
104	MIBAO NGAMBI				0711262698	
105	Harrison Odhiambo	EIA/RAP	JDT	harrisonodhiambo@yahoo.com	0707264964	
106	NEEMA MWANGO	SCEO - KALOLENI	KILIFI COUNTY GOVT	Neshmwa@yahoo.com	0721226255	
107	George Kazungu	FOREST GUARD	KILIFI COUNTY	Georgekazungu@gmail.com	0710570537	
108	Mwaderi Wanyu	FOREST GUARD	KILIFI COUNTY	Wanyemwaderi@gmail.com	0728890292	
109	FRANCIS MAOTO	Agriculture off	MARIAKANI	maotofrancis@pharica.com	0723069388	
110	NADZUA TSUMA				0707239590	
111	ANTHONY SAFARI				0713344372	
112	SIDI CHARO				071	
113	Damanis Kimondo	ACC TOLAWA KANI	INTERIOR	accmawakaniward@gmail.com	0725250526	
114	CLEODIA MCHANGI	SEC. KALOLENI SUBCOUNTY	COUNTY GOVERNMENT	cles_ma@yahoo.com	0707179384	
115	HARRISON KATANIA	ALSHREEF	INTERIOR	HARRISONKATANIA@GMAIL.COM	0733588183	
116	MLONGO CHIDZEL					
117	KAUENJI MUISIA					
118	KAMENE DANIEL					
119						
120						
121						
122						
123						
124						
125						

**2. Mwavumbo Location PCM at Mwanda Dispensary Grounds**

- **Minutes**
- **Attendance Register**

**MINUTES OF THE PUBLIC CONSULTATION MEETING (PCM) FOR THE ESIA STUDY FOR THE POWER SUPPLY COMPONENT OF THE MOMBASA SEZ DEVELOPMENT PROJECT HELD AT MWANDA DISPENSARY GROUNDS, MWAVUMBO LOCATION ON MONDAY, 18 JUNE 2018 AT 02:00 PM.**

**ATTENDANCE LIST:**

No.	Name	No.	Name	No.	Name
1	Joshua P. Oyioko	38	Jackson M. Mwachilole	75	Menza
2	Ommumita Agwaro	39	Stephen Buru Ten	76	Mbooze Mtumwa
3	Harrison Odhiambo	40	Gera Chiti	77	Mchebati Yawa
4	Solomon K. Dalu	41	Kadii Lewa Jela	78	Zou Mleo
5	Josephine C. Chai	42	Dalu Dudu	79	Uchi Mbao
6	James Nyawa	43	Mwadori Katana	80	Mbalazi Gonad
7	Chiguba Mwamboze	44	John Mgala	81	Chizi Kuphenya
8	Hamisi Jira	45	Nyale Wanje	82	William Muyika
9	Rama Karani Meri	46	Salim Bagala	83	Mwatsahu Dalu
10	Bagala Dalu	47	Jumaa M. Kadzingo	84	Malembi Chigamba
11	Mwaruma	48	Mgandi Mamvula	85	Mwazuma Nyasi
12	Chimaera Kalimbo	49	Salim Matoto	86	Nyamvula Chiti
13	Juwaje Mwambeyu	50	Mgandi Mbao	87	Chiya Nyale
14	Wilson Jackson Mwangale	51	Dzombo Juma	88	Mbodze Kombo
15	Mwero Kalimbo	52	Chondo Nguma	89	Rajabu Mwachula
16	Evans Mwachilole Kui	53	Kalume Mwingo	90	Munga Mwabahu
17	Jumaa Gwama	54	Gona Juma	91	Nelson Dalu
18	Chigamba Munga	55	Elias Nyale	92	Safari M. Chalo
19	Chigaka Fundi	56	Nelson Mutoi	93	Mkala Bagla Dalu
20	Umazi Saudi	57	Patrick Munga	94	Mbovu Bagala
21	Mbeyu Ruwa	58	Renson Mundalu	95	Japheth Kuphenya
22	Chigamba Dalu	59	Swaleh Lelu Nzomo	96	Mwanajuma Bungu
23	Nyamawi Mwayaya	60	Mnyika Mbabu	97	Joseph Said
24	Dalu Chigamba	61	Mgandi Kadzingo Yama	98	Bakari Bagala
25	Jira Bejira	62	Katembe Nzembe	99	Dhahabu Mbovu
26	Daniel Wanini Dalu	63	Mucenzi	100	Chiguba Nyiro M.
27	Mgana Mwazuma	64	Defence Mwalla	101	Rama Kombo
28	Amos Mbovu Katembe	65	Nadzua J. Kazungu	102	Zuma Ndaro
29	Ziro Katana Ziro	66	Nyota N. Ngumbao	103	Mnyika D. Albert
30	Kuphenya Gwama Katembe	67	Matano Kalimbo	104	Eusila Cherop
31	Elias Nyale	68	Nyale Katana Ziro	105	Paul Mwagago
32	Masha Katana	69	Tsuma Rai Nyondo	106	Emmanuel Mwagago
33	Chai Dudu	70	Chaka Nduri	107	John Jira
34	Chongo Nguwe	71	James Mokingui	108	Mkambe Tsuma
35	Mbao Mgandi	72	Maria Rocki	109	Mvurya Meri
36	Khadija Kadzo	73	Dama Chongolwe	110	Katembe Meri
37	Ruth Mbala	74	Mtumwa Gonad	111	Mwatsahu Jira

No.	Name	No.	Name	No.	Name
112	Meri Zomo	146	Mvurya Meri	180	Dalu Katembe
113	Mgala Munga	147	Ndegwa Chidoti	181	Yama Mbao
114	Kasima Meri	148	Jumaa Mgandi Malembi	182	Choga Chirima
115	Mwabega Mbovu	149	Sada Kazungu	183	Juliet Wasai
116	Bagala Mbovu	150	Meri Kuphenya	184	Dzine Mbovu
117	Mwewe Nyizi	151	Mnyika Dallu	185	Sauda Jumaa
118	Dzombo Yaya	152	Katembe Naftali	186	Hamisi Nyawa
119	Hamisi Chaka	153	Harison K. Mbovu	187	Hamisi Mbao
120	Michael Ziro	154	Francis Dalu	188	Suleiman Chirapho
121	Jira Katana	155	Chiberya Chirapho	189	Dalu Albert
122	Susan Mbiyu	156	Buru Yama	190	Kadzingo Chiberya
123	Fatuma Bitri	157	Mgandi Chongongwe	191	Hasaan M. Menza
124	Katana John	158	Bakari Meri	192	Stephen K. Nzomo
125	Joyce Koech	159	Ramadhani M. Chitoja	193	Mwanjole N. Ndoro
126	Mwaka Gwama	160	Kuphenya Gwama	194	Chizi Nyaya
127	Mriam Diyo	161	Jira Kuphenya	195	Gala Katana
128	Mlongo Katana	162	Hamisi Mwatsahu	196	Taitas Baraka
129	Mbovu Mgalla	163	Mbao Mwamose	197	George Chaka
130	Nyawa Wato	164	Yama Mbao	198	Tsuma Rao
131	Kombo Ndaro	165	Dzame Menza	199	Kweru Rama
132	Dalu Harison	166	Nadzua Jira	200	Hamisi Ngala
133	Edward M. Jira	167	Salama Alii	201	Kwekwe Chaka
134	Alii Mwadzaya	168	Nzara Mbao	202	Meza Ngao
135	Ngome Mbetsa	169	Nzembe Chigamba	203	Kibibi Ruwa
136	Dalu Isaiah	170	Kilonzo Mtunga	204	Mamazu Rajab
137	Malembi Mvuu	171	Ramadhan Mgandi	205	Chaka Kalimbo
138	Kosua Mgamdi	172	Malembi Katembe	206	Kalimbo Mwero
139	Hassan Mwachilole	173	Mvurya Mwandoro	207	Tsuma Ngala
140	Mnyika Dalu	174	Hamisi Kwaka	208	Rosemary Katana
141	Mwatsahu Dalu	175	Mtumwa K. Mtumwa	209	Peter Mwema
142	Saidi Alii Mwadori	176	Rajab K. Saidi	210	Ziro Chizi
143	Nyale Katana	177	Mbetsa Kimaira	211	Jira Chaka
144	Wanini Dalu	178	Mohammed Chiguba	212	Ngao Rao
145	Katembe Meri	179	Kuphenya Dalu		

## AGENDA OF THE MEETING

1. Opening prayer by one of the participants.
2. Introduction of Participants
  - *National Government Representatives*
  - *County Government Representatives*
  - *KETRACO*
  - *JICA*
  - *Panafcon Ltd*
  - *Project Area Leaders/NGOs/CBOs*
3. Purpose of conducting the Public Consultation Meeting (*KETRACO*).



4. ESIA Study Activities carried out on the Transmission Line and Substation in Dongo Kundu(*Panafcon*)
5. Findings of the Study/Project Environmental Impacts (*Panafcon*).
6. Proposed Mitigation Measures
7. Views of the Participants – Comments, Q & A Session (*County Government/National Government/KETRACO/JICA/Panafcon*).
8. Closing Remarks by (*KETRACO/County Government/National Government*).
9. A.O.B.
10. Closing Prayer.

**Minute 01:**

The meeting was called to order at 1.20pm and began with a word of prayer from one of the participants (Mr Harisson D. Kutang'a).

**Minute 02: Introduction of the Participants.**

The area Chief (Mr. Solomon K. Dallu) welcomed everyone in attendance. He acknowledged and thanked the participants for finding time to attend the meeting. He introduced the Assistant County Commissioner (ACC) of Kasemeri Division (Madam Joyce Koech). The Chief mentioned that this is the 3<sup>rd</sup> Meeting of the project and the purpose is to present the Findings of the Environmental and Social Impact Assessment of the Power Line Project.

The Chief welcomed the ACC to give the opening remarks. She recognized the area leaders including the Kwale County Government Officers present. She welcomed the team of experts from JICA and Panafcon. The ACC highlighted the importance of the project and its benefits noting that areas that have received adequate power supply developed rapidly. She urged the community to give the project implementers support so that the good benefits of the project can be realised.

The ACC requested Joshua (Panafcon Ltd) to introduce the other team members and JICA Design Team (JDT) representative.

**Minute 03: Purpose of conducting the Public Consultation Meeting (PCM).**

Mr. Oyieko started by highlighting the the 2 previous meetings (Sensitisation and PAP Consultation Meetings) and the current meetings (Public Consiltation Meeting - PCM).

- a) **Sensitisation Meeting:** Mr Oyieko elaborated that the Sensitisation Meeting held in July 2017 was to inform the project area community about the proposed project and the planeed activities that will take place during the ESIA and RAP Study.
- b) **.PAP Consultation Meeting:** The PAP Consultation Meetings were held in the month of April 2018. The purpose of the meeting is to disclose to the Project Affected Persons (PAPs) how the Transmission Line and substation Project is likely to affect them and the proposed restoration measures that will be put in place.
- c) **Public Consultation Meeting (PCM):** The purpose of conducting the PCMs is to disclose to the Project Area Community and Stakeholders the Findings of the Environmental and Social Impact Assessment (ESIA) Studies and the Proposed Mitigation Measures.

**Minute 04: The ESIA Study Activities carried out on the Transmission Line and substation in Dongo Kundu**

Panafcon carried an assessment of the powerline corridor from Mariakani-Dongo Kundu and evaluated existing vegetation (trees and crops), water sorces (rivers, wells, boreholes, springs and surface water pans existing in the project area.

An evaluation was also done on the presence of forests, wildlife and birds. Baseline measurements on noise, air soil, water and radiation were carried out.

The ESIA Study identified the existing plants and animals along the project corridor establishing the project impacts on them.

#### **Minute 05: Findings of the ESIA Study/Project Environmental Impacts**

Mr Oyieko mentioned that the total distance covered by TL from Mariakani to Dongo Kundu is 53km. Mwavumbo Location covers 11.62km.: He highlighted the following aspects:

#### **Project Benefits/Positive Impacts**

- Improvement of power supply in the project area and provision of adequate power:
- Increased industrial activities in the project area
- Generation of Direct and Indirect Jobs
- Enhancement of Economic Growth of the Coastal Region and Kenya as a whole;
- Improvement of income for project area community
- Enhancement of exports

#### **Project Impacts**

- Disruption of Human Settlements;
- Cutting down of Planted (Coconut Pam, Cashew Nut, Mango, Neem etc) and Indigenous Trees (Acacia, Baobab, "Mrabai", Tamarind etc);
- Potential Impact on Perennial, Seasonal Rivers/Streams and Wetlands;
- Damage to crops during Construction;
- Enhanced Presence of EMF Radiation;
- Potential Interference with Cultural Sites (2 Shrines and Grave Yards);
- Disruption of Businesses;
- Occasional disruption of Wildlife when they access the community forest area between DK6 and DK7 as movement corridor or dispersal area;
- Land use change;
- Bird Strikes and Electrocuting of baboons etc;
- Excess Noise and Dust during Construction;
- Pollution from Machines and Vehicles.

#### **Socio-economic Survey Outcome**

- 85% of the project area households use firewood for cooking;
- 10% of the project area households use charcoal for cooking
- 75% of the households use kerosene lamps for lighting
- 65% of households use Pit Latrines while 29% have no sanitation facilities

**Minute 06: Proposed Mitigation Measures**

#	Impact	Proposed Mitigation Measure
1	Disruption Human Settlements	Affected property has been identified and valued for compensation and resettlement
2	Restricted use of Transmission Line Wayleave	Compensation for restricted use will be paid
3	Cutting down of trees	Facilitation of tree planting activities
4	Interference with Perennial, Seasonal Rivers/Streams and Wetlands	Water sources will be avoided when constructing pylons
5	Damage to crops during Construction	Damaged Crops to be compensated
6	Presence of EMF Radiation	Operations outside the acquired 40m wayleave is safe.
7	Damage to Cultural Sites (Shrines and Grave Yards)	<ul style="list-style-type: none"> <li>• Review Design to avoid sites</li> <li>• Carry out ceremonies for the Shrines as recommended by owners</li> <li>• Graves and Grave Yards to be avoided</li> </ul>
8	Disruption of Businesses	Pay compensation for disrupted businesses
9	Bird Strikes and Electrocution of Climbing Wildlife	Mark Conductors Build guards on pylons to restrict baboons and other animals
10	Excess Noise	Service vehicles and machines No Blasting of bedrock and workers to use ear protection
11	Air Pollution	<ul style="list-style-type: none"> <li>• Service vehicles and machines</li> <li>• Sprinkle water at construction sites and access roads</li> <li>• No burning of waste at the project site</li> </ul>
12	Soil and Water Pollution	<ul style="list-style-type: none"> <li>• Recover used oil for proper disposal</li> <li>• Store oils and chemicals on paved ground</li> <li>• Service vehicles and machines well to eliminate oil leaks</li> </ul>
13	Solid and Liquid Waste	<ul style="list-style-type: none"> <li>• Provide solid waste receptacle</li> <li>• Recover oil and chemical waste for proper disposal</li> <li>• Provide containment for storage of oils and other chemical</li> <li>• Engage NEMA Registered &amp; Approved waste disposal firm</li> </ul>

**Minute 06: Views and Questions on the Proposed Power Supply Component of the Mombasa SEZ Development Project**

**Q1: Will payment be the same if I and my neighbour are affected but my affected area is slightly different from my neighbours? (*Kombo Ndoro*).**

**A1:** The amount to be paid as compensation for land will depend on the size of land affected by the project. Whoever has a larger size of land within the the same area will be paid more commensurate with the size.

**Q2: If my house is very close to the transmission line corridor, will I not be affected? (*Daniel Dalu*).**

**A2:** Even if one occupies about 1m away from the 40m corridor, there is no danger. The transmission only occupies approximately the central 8m. The remaining 16m on either side is unoccupied. S any structure located just outside the 40m corridor is safe.

**Q3: When will compensationpayment be made? (*Harrison Dalu*).**

**A3:** Compensation payment will be once verification is done. Panafcon is finaliseing the RAP Report which will be submitted to JDT and KETRACO for review and thereafter once satisfied, they will sumit the report to National Land Commission for verification and compensation payment.

**Q4: If our father who was registered dies, will his name remain on the list for payment? (Juma Mgunya Kadzingo).**

**A4:** When the registered person dies before compensation is paid out, family members can nominate a representative who will receive compensation payment on behalf of the family. Where land was in the name of the deceased, land succession procedure should be executed to ensure the name of the recipient appears in the land documents.

**Q5: How will affected crops outside the corridor be handled? (Umazi Katembe).**

**A5:** Affected crops outside the transmission line corridor will be compensated by the contractor during construction. This is because determination of which crops are affected and which ones are not affected cannot be determined before construction commences.

**Q6: What should PAPs without accounts do? Where should they open bank accounts and when? (Harisson D. Kutong'a).**

**A6:** All affected persons will be informed in good time when to open bank accounts. Bank accounts can be opened in any mainstream bank of their convenience. There will be adequate notice to allow everyone to open account before disbursement of payment is done.

**Q7: Can we open a joint account? (Isaiah Dalu).**

**A7:** A joint account can be opened and compensation payments received through the joint account.

**Q8: Will the valuation figures of 2 affected trees determined in 2014 be used yet the trees have grown bigger? (Jackson M. Mwachilole).**

**A8:** If the trees are still affected, new values will be used however if they are not affected in the new design then they will not be touched.

**Q9: I do not have an account. Will I get enough time to open an account? (Umazi Mwanzegele).**

**A9:** All affected persons will be given adequate time to open bank accounts.

**Q10: Mbovu Mgalla.**

**a) Can KETRACO put a substation in Mwavumbo location so that residents can benefit from the new power line?**

**b) Can KETRACO improve roads in the project area?**

**c) Will youth be given job opportunities?**

**d) Can PAPs be sensitised on how to prudently use compensation funds?**

**A10:**

a) The intention of the current project is to deliver adequate power for the Dongo Kundu Special Economic Zone (SEZ). KETRACO will be informed about the request to provide power to project area community.

b) KETRACO does not facilitate construction of roads as a mainstream activity. The request will be forwarded to KETRACO for consideration.

c) KETRACO will make efforts to ensure youth are given priority for job opportunities within their location. Those with special skills will be encouraged to register with local administration and also submit direct job application to the contractor when the contractor mobilises to the site.

d) As part of the resettlement and restoration, KETRACO will facilitate training of PAPs on prudent use of compensation funds.

**Minute 07: Closing remarks**

The ACC thanked Panafcon for regularly consulting with the project area community. She thanked participants for attending the meeting and assured those affected that they will be compensated before being asked to vacate the project corridor. She urged them to support the project for faster growth. She asked the community members to resolve all outstanding issues to avoid delayed compensation payment.

The Ward Administrator took the opportunity to express satisfaction with the consultation process so far. He thanked project implementors for making the process inclusive.

**Minute 08: AOB**

The chief made announcements related to farming activities and on-going projects in the area.

**Minute 09: Closing Prayer**

There being no other business, the meeting ended at 02.50pm with a word of prayer from one of the participants.

LIST OF PARTICIPANTS AT THE PUBLIC CONSULTATION MEETING (PCM) FOR MARIAKANI-DONGO KUNDU 220KV TRANSMISSION LINE FOR THE MOMBASA SEZ PROJECT

Venue of Meeting: MWANIDA DISPENSARY - MWANUMBO - LOCATION.

Date and Time of Meeting: 18-06-2018 : 2:00 PM.

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
1.	Joshua P. Oyioko	Study Team leader	Panafcon Ltd	jioyioko@panafcon.net	0733 428 498	
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4.	SOLOMON K. DALU	CHIEF - MWANUMBO O.O.P	O.O.P	daluso@gmail.com	0715280300	
5.	JOSEPHINE C. CHIT	A / CHIEF MWANUMBO	O.O.P	Chaijosephine6@gmail.com	0700245445	
6.	JAMES NYAWA	Nyarusami	O.O.C	-	0707404011	
7.	CHICUBA, MWANUMBO	-	-	-	0733926788	
8.	HAMISI SIDO	-	2256218	-	0727242373	
9.	RAMA KARANI MERI	PARTICIPANT	-	-	0715037403	
10.	BAGALIA DALU	-	-	-	0729646273	
11.	MWANUMBA	mwanumbo	-	-	070874233	
12.	CHIMARA KALIMBU	-	-	-	0710119413	
13.	JUWATE MWANBEGA	-	-	-	0798901943	
14.	WILSON JACKSON MWANBEGA	-	-	-	0702248411	
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19.	CHIGAMBA JUMBI				0713217345	
20.	UMAZI SAUDA				0706987797	
21.	MBOGYI LUMA			8400947		
22.	CHIGAMBA DALU				0736752655	
23.	NYAMANI MWATAYA				0790 019336	
24.	DALU CHIGAMBA				0740 480676	
25.	JIRA BAJIRA				-	
26.	DANIEL WANINI DALU				0720480828	
27.	MCIANA MWAZUMA				-	
28.	AMOS NIBOYO KATEMBE				0715632861	
29.	ZIRO KATANA ZIRO				0742901731	
30.	KUPHEHYA GWAMA KATEMBE				0724675131	
31.	ELIAS NYALE				0701351301	
32.	MASHA KATANA				0742802546	
33.	Chai de de				0700741652	
34.	CHONGONGWE				-	
35.	MBAO MGIANDI				0711469031	
36.	KHADISA KABZO			12489140	0706A98003	
37.	RUTH MABACA			10754015	0728397783	

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38.	JACKSON M. MWACHILOLE	KETRACO COMMITTEE/CM			0725128869	
39.	STEPHEN BURIAI	11 21208'			8729162002	
40.	JERA CHITI	9771309			8729569515	
41.	KABILEWA JERA	4991213			0712665621	
42.	SALU DUDU	4651640535			0743558069	
43.	MWABERI KAJANA	28139903			0705599888	
44.	JOHN MGALE	33227194			0755581673	
45.	NYALE WAJJE	29778810			0717732839	
46.	SALIM BAGANA	8435203			0728812606	
47.	JUMA M. KADZINGO	11600929			0722177032	
48.	MGANDI MANVILA	33474906			0799708626	
49.	SALIM MAFORO	11801060			0726912411	
50.	MGANDI MIBAO	1362515			0705671032	
51.	BZOMBO JUMA	13448746			0711719780	
52.	CHONDO NAUMA	2176174			0791333581	
53.	KALUME MWINGO	9770926			0723357765	
54.	GONA JUMA	30273929			0711930401	
55.	ELIAS NYALE	9771257			0701351301	
56.	NELSON MUTOI	32316428			0740395791	
57.	PATRICK MINGA	1168838				
58.	RENSON MUNDANI	4621400			0705262756	
59.						



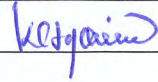


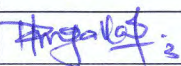
















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60.	SWALEH WELU NDOMO	2206051			0717570348	
61	Muyka Mbuli	3886955			0727619249	
62	MGANDI KADZINGO YAMA	8412647			0727123352	
63	KATIMBE NZEMBE	12280431			0701628354	
64	MUGENI	5016452			0716203035	defence m.
65	DEFENCE NMAILA	5348685			—	
66	NABURA J. KAZUNGU	20859887			0729397930	
67	NYOTA N. NGUMBAO	4574495			—	
68	MATANO KALIMBO	8397352			0700329403	
69	Nyphel Katana Ziko	31710165			0703977675	
70	TSUMA RAJ NYOTOO	9770920			0721727924	
71	CHAKA MARI	34297261			0710635348	et.
72	JAMES MAMUNGU	4574947			072600159	
73	MARIA ROLO	0220816			0717322293	
74	DAMEA CHONGORU	—			—	
75	Mtumwa GONDA	5016474			—	
76	<del>Mtumwa</del> MENZA	9771722			0726169956	
77	MBOOZEM Tumwa	4621596			0720581687	
78	Mchebati Juma	2187021			<del>072155</del>	
79	Zouu Micoo	5016750			0721153969	
80	UCHI MBAO	31206332			0714853632	
81	Mba Lazi GONDA	20860410			—	

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82	CHIZI KUPHENYA	8401148			—	
83	KILLIAN MUYIKA	8397572			—	
84	MWATSAMU DALU	462915			07166573	
85	MALEMI CHIGAMBA	21585104			0707858111	
86	MWAZUMA NYASI	5337707			0710841071	
87	NYAMULA CHIT	32142907			0702518691	
88	CHUYA NYAJA	31253795			0707935884	
89	MBO KAZI KEMBO	—			—	
90	RAJAB MUMAHMUD	23122224			0727493535	
91	MUNGANI MWAKAPU	34296939			—	
92	NEELSON DALU	8424771			0712760980	
93	SAFARI MCHALO	14493392			0725-082789	
94	MILALI BACALA DALU	5008593			0712315269	
95	MBOVI BACALA	26930090			0706085265	
96	JAPHET KUPHENYA	32317807			0702905447	
97	MBARASUMA BUNGU	29220594			07287189386	
98	JOSEPH SAIN	13839400			0726230342	
99	BALANI BACALA	32196425			0721738066	
100	DHABU MBOVI	21775090			0718308609	
101	CHUBA HIRO M	8417548			0716396508	
102	RAMA KEMBO				0711415826	
103	ZUMA NBARO	0661628			0796432264	

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106	Paul Mwangago		—		0799708874	
107	Emmanuel Mwangago		—		0795138390	
108	John Jira		—		0714689022	
109	Mwabwa Tsuma	—	—		—	
110	Munyameri				—	
111	Kateru meri				0792570448	
112	Mwatsiru Jira	—	—		—	
113	Meri zomo				0720577993	
114	Mada Munga	—	—	—	—	
115	Kasima meri	—	—	—	—	
116	Mwabwa Mboru	—	—		071729650	
117	bedgat Mboru	—	—	—	—	
118	Mwene Nyzi					
119	Dzombo Yaga					
120	Hamsi Chaka					
121	Michael Ziro					
122	Jira Katana					
123	Susan Mbiyu					
124	Fatuma Bitoi					
125	Katana John				0714689022	

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127	MWARA GWANDA				-	-
128	MARIAM DIYO				0741742993	
129	NILONGO KATANA				0705599838	
130	MBOU NI GALLA				0728689759	
131	NYAWA WATO				0713230080	
132	KOMBO NDARO				0726406362	
133	DALU HARISON				0702776197	
134	EDWARD. M. JIRA				0722257821	
135	ALII MWADZATA				0721363447	
136	HGOMA MBEISA				0789274817	
137	DALU ISALAH				0728820211	
138	MAREMBI TORUU				-	MAREMBI
139	KOSUA NI GANDI				0795058146	
140	HASSAN MWACHIOLE				0721460404	
141	MINTIKA DALU				0703586183	
142	MWATSAMU DALU				0703293387	
143	SAYDI ALII MWADORI				0720519126	
144	NYALE KATADA				0724509925	
145	KANINI DALU				0729387896	
146	KATEMBE MERI				0792570448	
147	MURTA MERI				0700722721	

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149	JUMAA MUGADI MAREMI				0728708344	
150	SADA KAZUNGU				0708361175	
151	MERI KUPHENYA				0704156068	
152	MUYIKA JALU				0727691013	
153	KATEMBE DAFTALI				0723090738	
154	HARISON K. MBOU				0700846919	
155	FRANCK DALU				0791557526	
156	CHIBERTY CHIRAPHO				0723734358	
157	BURU YAMA				0712457987	
158	MUGADI CHONGONGWE				0705575900	
159	BARARI MERI				0714776707	
160	UMASHANI M. CHICHA				0731949713	
161	KUPHENYA GWAMA				0791434078	
162	JIRA KUPHENYA				0741067178	
163	HAMISI KIWAISHU				0715606169	
164	MBAO MUMMOSE				0717395385	
165	YAMA MBAO				0720019890	
166	DRAME KIENZA				0713090752	
167	NADZUA JIRA				0729279311	
168	SALAMA ALII				0715357970	
169	PZARA MBAO				-	

PANAFCON LTD

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170	NZEMBE CHIGAMBA				0742900149	...
171	KILONZO KITUNGA				-	.
172	RAMADHAN NGARDI				0724076054	
173	MALEMBI KATEMBE				0716001609	
174	NOVURYA NIWANDORO				0720115340	MVU
175	HAMISI KWAKA				0712832420	
176	MTUMWA K. MTUMWA				0703195382	Mkw
177	RASAB K. SAIDI				0724385128	ROT
178	NBETSA KIMARA				0726894140	
179	MOHAMMED CHIGUBA				0706035904	
180	KUPHENYA DARU				079818367	
181	DARU KATEMBE				0797867696	
182	TAMA MBAO				0710392157	
183	CHOGA CHIRIMA				-	.
184	JULIET WAKAT				0792415803	
185	DRINE MBOU				0702404882	.
186	SAUDA JUMAA				0719526290	
187	HAMISI NYANA				0716095813	
188	HAMISI MBAO				0716304517	
189	SULEIMAN CHIRAPHO				0700447232	
190	DARU ALBERT				0721872761	
191	KADZINGO CHIBERYA				0729039804	

PANAFCON LTD

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
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193	STEPHEN K. NZOMO	CETKAADMINISTRATOR	KWARA COUNTY GOT	stephenofiah@gmail.com	0727163420	
194	NWANJOLE N. NAORO	ADMIN	KWARA COUNTY	ndoromwanjole@yahoo.com	0723 853626	
195	Chizi Nyaya					
196	Gala Katema					
197	Taitus Baraka				0736775890	
198	George Chaker.					
199	Tsumi Rao.					
200	Kuere Rama					
201	Hemisi Ngala					
202	Kwekwe Chaka					
203	Meza Ngao.					
204	Kibibi Ramu					
205	Mamazu Rajab					
206	Chaker Kalimbo.					
207	Kalimbo Mwero.					
208	Izuma Ngala					
209	Rosemary Katana					
210	Peter Mumenee					
211	Zino Chizi					
212	Jira Chaka					
213	Ngao Rao				0721568911	

**3. Mwatate Location PCM at Mavirivirini Police Station Ground**

- **Minutes**
- **Attendance Register**



**MINUTES OF THE PUBLIC CONSULTATION MEETING (PCM) FOR THE ESIA STUDY FOR THE POWER SUPPLY COMPONENT OF THE MOMBASA SEZ DEVELOPMENT PROJECT HELD AT MAVIRIVIRINI POLICE STATION GROUNDS, MWATATE LOCATION ON TUESDAY 19 JUNE 2018 STARTING AT 09:00 AM.**

**ATTENDANCE LIST:**

No.	Name	No.	Name	No.	Name
1	Joshua P. Oyieko	38	Fatuma kazungu	75	Salaa Maundu
2	Omummitah Agwaro	39	Onesmus Chiboko	76	Joseph Ngana
3	Mohammed Luvi Mwero	40	Joyce Koech	77	Hamisi Gereza
4	Ngumbau Munyambu	41	Chigamba Banjo	78	Ali Chingo
5	Sombo Kombo	42	Brandon Mwastsahu	79	Hadija Omari
6	Tsuma Luvi	43	Moti Mwangunya	80	Umazi Tsuma
7	Jumaa N. Tungwa	44	Omar N. M	81	Mose Mwatundo
8	Ngondu Mureje	45	Mwarema Kaingu	82	Dzame Chikuphe
9	Samuel Kofu Mkala	46	Umazi Nura	83	Chari Tsuma
10	Mwajuma Njiro	47	Constance Fulucer	84	Umazi Mwambire
11	Mlongo Nyota	48	Kwekwe Nasoro	85	Mwaka Bavu
12	Katana Ngoka	49	Christine Musan	86	Paulo Nziro
13	Ngoka Mbudzya	50	Dalu Mwatsahu	87	Mohammed Mbovu
14	Zani Ndurya	51	Shida Mwinzagu	88	Frasisi Karege
15	Milon M. Zuma	52	Mohammed Charo	89	Joseph Chikonde
16	Nyamawi Mruche	53	Abdalla Kombo	90	Mkala Jawa
17	Fatuma Jastasi	54	Dalu Nyamawi	91	Tungwa Nyanje
18	Morisi Ndegwa	55	Ramadhan Manasi	92	Eliud C Bongo
19	Kahindi	56	Harrison Odhiambo	93	Alli Nasoro
20	Mejumaa Mambaba	57	Banjo Mvurya	94	Hadija Chizi
21	Gereza Mkala	58	Hassan Munga	95	Nzadze Mazera
22	Mwamvu Tembo	59	Asha Mbudzya	96	Sidi Mbaga
23	Abdallah Shehi	60	Nyamvula Ndana	97	Amina Chimera
24	Biti Ngana	61	Kavumzi Zuma	98	Chinyavu Ngana
25	Chizi Mangale	62	Mariam Gonda	99	Wilfred Z. Mwarua
26	Fatuma Mwanyoha	63	Morisi Mbetsa	100	Robert Jumla
27	Nyanje Gari	64	Slim Mwero	101	Njira Kazungu
28	Nyanje Mwero	65	Nyiro Nyawa	102	Umazi Shaban
29	Hassan Kombo	66	Chirunga	103	Chizi Mcharo
30	Suleiman Chaka	67	Rumba Mwarua	104	Saumu Juma
31	Hassan Wanini Mbongo	68	Nadzua Mwambire	105	Mupa Zani
32	Samson Chale Joho	69	Nyamawi Ngoro	106	Mupa Mzungu
33	Salim Tsuma	70	Dalu Chigamba	107	Ngashe Chimera
34	Idd Said	71	Walidi Dena Jawa	108	Alex Rai
35	Nzao Yawa	72	Munga Mwatsahu	109	Elvis Banju
36	Katana Chondo	73	Lukas Mbovu	110	Yawa Gure
37	Nyiro Nyawa	74	Delina Mangale	111	Amos Nyawa

No.	Name	No.	Name	No.	Name
112	Kupha Mwambire	134	Joice Chizi	156	Uchi Mwadigha
113	Patience Chaka	135	Mwana Juma	157	Zozi Chengo
114	Dzingo Bagalafatuma Mkambe	136	Dzame Ndegwa	158	Mupa Ndegwa
115	Fatuma Mkambe	137	Chizi Nyamawi	159	Mupa Zuma
116	Meri Mwalimu	138	Risunwa Rai	160	Mlongo Nyawa
117	Kanga Kathenge	139	Chizi Mwero	161	Mzalambi Mwalu
118	Amina Dama	140	Joice Kaingu	162	Kambe Heri
119	Gladus Kweku	141	Kache Chikoko	163	Ruwa Mwambire
120	Magert Nadzua	142	Dzame Ngoka	164	Amina Rajab
121	Zanab Mlongo	143	Nadzuwa Mgala	165	Mwarema Chimoni
122	Mwaka Mwambire	144	Kanga Kadenge	166	Ndoro Rai
123	Chizi Jira	145	Muda Nzembe	167	Nyanje Dzeha
124	Tatu Chizi Nyamawi	146	Uchi Mwadiga	168	Joho Tsuma
125	Mchemda Chirungu	147	Riziki Juma	169	Nyawa Mangala
126	Ewadi Tamzi	148	Chizi Robert	170	Mwavita Mrira
127	Mohamed Kiganyawa	149	Riziki Baya	171	Mnyazi Ndugu
128	Hamisi Chinyama	150	Mupa Galuka	172	George Mtita
129	Zuma Jumaa	151	Luvuno Twanga	173	Jumaa Mwaha
130	Kazungu Rajab	152	Kache Bagazi	174	Mrira Katande
131	Mwaka Randu	153	Luvuno Mgalla	175	Ndaikwa Chemeya
132	Mchombo Ndegwa	154	Mkambe Dzeha		
133	Chari M. Banjo	155	Uchi Mwadiga		

## AGENDA OF THE MEETING

1. Opening prayer by one of the participants.
2. Introduction of Participants
  - *National Government Representatives*
  - *County Government Representatives*
  - *KETRACO*
  - *JICA*
  - *Panafcon Ltd*
  - *Project Area Leaders/NGOs/CBOs*
3. Purpose of conducting the Public Consultation Meeting (*KETRACO*).
4. ESIA Study Activities carried out on the Transmission Line and Substation in Dongo Kundu(*Panafcon*)
5. Findings of the Study/Project Environmental Impacts (*Panafcon*).
6. Proposed Mitigation Measures
7. Views of the Participants – Comments, Q & A Session (*County Government/National Government/KETRACO/JICA/Panafcon*).
8. Closing Remarks by (*KETRACO/County Government/National Government*).
9. A.O.B.
10. Closing Prayer.

### Minute 01:

The meeting was called to order at 10.15am and began with a word of prayer from one of the participants (Madam Christine Musau).

**Minute 02: Introduction of the Participants.**

The area Chief (Mr. Samson Chale Joho) welcomed everyone in attendance. He acknowledged and thanked the participants for finding time to attend the meeting. He introduced the Assistant County Commissioner (ACC) of Kasemeni Division (Madam Joyce Koech). He also recognised the presence of the Village Administrator.

The Chief mentioned that this is the 3<sup>rd</sup> Meeting of the project and the purpose is to present the Findings of the Environmental and Social Impact Assessment of the Power Line Project.

The Chief welcomed the ACC to give the opening remarks. She recognized the area leaders including the Ward Administrator and Kwale County Government Officers present. She welcomed the team of experts from JICA and Panafcon. The ACC highlighted the importance of the project and its benefits noting that areas that have received adequate power supply developed rapidly. She urged the community to give the project implementers support so that the good benefits of the project can be realised. The ACC requested Joshua (Panafcon Ltd) to introduce the other team members and JICA Design Team (JDT) representative.

**Minute 03: Purpose of Conducting the Public Consultation Meeting (PCM).**

Mr. Oyieko started by highlighting the the 2 previous meetings (Sensitisation and PAP Consultation Meetings) and the current meetings (Public Consultation Meeting - PCM).

- a) **Sensitisation Meeting:** Mr Oyieko elaborated that the Sensitisation Meeting held in July 2017 was to inform the project area community about the proposed project and the planned activities that will take place during the ESIA and RAP Study.
- b) **PAP Consultation Meeting:** The PAP Consultation Meetings were held in the month of April 2018. The purpose of the meeting is to disclose to the Project Affected Persons (PAPs) how the Transmission Line and substation Project is likely to affect them and the proposed restoration measures that will be put in place.
- c) **Public Consultation Meeting (PCM):** The purpose of conducting the PCMs is to disclose to the Project Area Community and Stakeholders the Findings of the Environmental and Social Impact Assessment (ESIA) Studies and the Proposed Mitigation Measures.

**Minute 04: The ESIA Study Activities carried out on the Transmission Line and substation in Dongo Kundu**

Panafcon carried an assessment of the powerline corridor from Mariakani-Dongo Kundu and evaluated existing vegetation (trees and crops), water sources (rivers, wells, boreholes, springs and surface water pans existing in the project area. An evaluation was also done on the presence of forests, wildlife and birds. Baseline measurements on noise, air soil, water and radiation were carried out. The ESIA Study identified the existing plants and animals along the project corridor establishing the project impacts on them.

**Minute 05: Findings of the ESIA Study/Project Environmental Impacts**

Mr Oyieko mentioned that the total distance covered by TL from Mariakani to Dongo Kundu is 53km. Mwatate Location covers 4.51km.: He highlighted the following aspects:

**Project Benefits/Positive Impacts**

- Improvement of power supply in the project area and provision of adequate power:
- Increased industrial activities in the project area
- Generation of Direct and Indirect Jobs
- Enhancement of Economic Growth of the Coastal Region and Kenya as a whole;

- Improvement of income for project area community and enhancement of exports

**Project Impacts**

- Disruption of Human Settlements;
- Cutting down of Planted (Coconut Pam, Cashew Nut, Mango, Neem etc) and Indigenous Trees (Acacia, Baobab, “Mrabai”, Tamarind etc);
- Potential Impact on Perennial, Seasonal Rivers/Streams and Wetlands;
- Damage to crops during Construction;
- Enhanced Presence of EMF Radiation;
- Potential Interference with Cultural Sites (2 Shrines and Grave Yards);
- Disruption of Businesses;
- Occasional disruption of Wildlife when they access the community forest area between DK6 and DK7 as movement corridor or dispersal area;
- Land use change;
- Bird Strikes and Electrocutation of baboons etc;
- Excess Noise and Dust during Construction;
- Pollution from Machines and Vehicles.

**Socio-economic Survey Outcome**

- 85% of the project area households use firewood for cooking;
- 10% of the project area households use charcoal for cooking
- 75% of the households use kerosene lamps for lighting
- 65% of households use Pit Latrines while 29% have no sanitation facilities

**Minute 06: Proposed Mitigation Measures**

#	Impact	Proposed Mitigation Measure
1	Disruption Human Settlements	Affected property has been identified and valued for compensation and resettlement
2	Restricted use of Transmission Line Wayleave	Compensation for restricted use will be paid
3	Cutting down of trees	Facilitation of tree planting activities
4	Interference with Perennial, Seasonal Rivers/Streams and Wetlands	Water sources will be avoided when constructing pylons
5	Damage to crops during Construction	Damaged Crops to be compensated
6	Presence of EMF Radiation	Operations outside the acquired 40m wayleave is safe.
7	Damage to Cultural Sites (Shrines and Grave Yards)	<ul style="list-style-type: none"> <li>• Review Design to avoid sites</li> <li>• Carry out ceremonies for Shrines as recommended by elders</li> <li>• Graves and Grave Yards to be avoided</li> </ul>
8	Disruption of Businesses	Pay compensation for disrupted businesses
9	Bird Strikes and Electrocutation of Climbing Wildlife	Mark Conductors Build guards on pylons to restrict baboons and other animals
10	Excess Noise	Service vehicles and machines No Blasting of bedrock and workers to use ear protection
11	Air Pollution	<ul style="list-style-type: none"> <li>• Service vehicles and machines</li> <li>• Sprinkle water at construction sites and access roads</li> <li>• No burning of waste at the project site</li> </ul>
12	Soil and Water Pollution	<ul style="list-style-type: none"> <li>• Recover used oil for proper disposal</li> <li>• Store oils and chemicals on paved ground</li> <li>• Service vehicles and machines well to eliminate oil leaks</li> </ul>
13	Solid and Liquid Waste	<ul style="list-style-type: none"> <li>• Provide solid waste receptacle</li> <li>• Recover oil and chemical waste for proper disposal</li> <li>• Provide containment for storage of oils and other chemical</li> <li>• Engage NEMA Registered &amp; Approved waste disposal firm</li> </ul>

**Minute 06: Views and Questions on the Proposed Power Supply Component of the Mombasa SEZ Development Project**

**Q1: How will project area community benefit from the power since it goes straight from Mariakani to Dongo Kundu? We use firewood for cooking and kerosene for lighting. (Christine Musau).**

**A1:** The current transmission line project from Mariakani-Dongo Kundu has high voltage (220kV) and is dedicated for the Special Economic Zone (SEZ). It has been noted that the project area community are not well connected to electricity and KETRACO will work together with Kenya Power and Rural Electrification Authority (REA) to facilitate connection.

**Q2: Project area community need to be connected to power and assisted to get good sanitation facilities? (Hassan Wanini Mboga).**

**A2:** The request has been noted and will be forwarded to KETRACO. The current project is dedicated at supplying power to the SEZ in Dongo Kundu. The findings of the study on sanitation facilities will be shared with other agencies so that the community can be assisted.

**Q3: Affected persons are looking forward to good payment for land since this is our main source of livelihood? (Zani Nduria Dalu).**

**A3:** Compensation payment for land is for reduced or restricted use of the land. Other farming activities will still be allowed within the corridor.

**Q4: Do we require to make special preparations for receiving compensation payments? (Walidi Jawa).**

**A4:** All affected persons who will be receiving compensation payments will be informed in good time when to open bank accounts.

**Q5: What will happen to mature trees within the transmission line corridor? (Nyiro Nyawa).**

**A5:** Trees within the 40m corridor will be valued and owners compensated since they they will be cut down.

**Minute 07: Closing remarks**

The Assistant Chief of the area (Nasib Chrima Mwingo) advised persons who will be paid compensation to use the money wisely.

The Ward Administrator (Mwanjoro Ndoro) expressed satisfaction with the regular consultations with the community. He noted that this will reduce conflicts and concerns when the project is being implemented. He advised community members to use money wisely.

The ACC thanked Panafcon for regularly consulting with the project area community. She thanked participants for attending the meeting and assured those affected that they will be compensated before being asked to vacate the project corridor. She urged them to support the project for faster growth. She asked the community members to resolve all outstanding issues to avoid delayed compensation payment.

**Minute 08: AOB**

The Village Administrator made announcements on farming activities in the area and urged farmers to attend farming meetings when they are called.

**Minute 09: Closing Prayer**

There being no other business, the meeting ended at 12.15pm with a word of prayer by Walidi Jawa.

LIST OF PARTICIPANTS AT THE PUBLIC CONSULTATION MEETING (PCM) FOR MARIAKANI-DONGO KUNDU 220KV TRANSMISSION LINE FOR THE MOMBASA SEZ PROJECT

Venue of Meeting: MAVIRIVIRINI POLICE STATION - MWATATE LOCATION.

Date and Time of Meeting: 19-06-2018: 9:00 AM.

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
1.	Joshua P. Oyieko	Study Team Leader	Panafcon Ltd	J.oyieko@panafcon.net	0733 428 498	
2.	DMUMMITAH' AGUARO	Research ASST	Pangfcon Ltd.	aomummitah@pangfcon.net	0724 939 877	
3.	MOHAMED LUVI MWERO	ASST CHIEF	OOP	Mohamedlumi22@gmail.com	0724 228 075	
4.	NGUMBAU MUMKAMBU			Kelvin@jumbauk@gmail.com	0729 518 270	
5.	SOMBO KOMBO					
6.	BUMA LUVI				0710 352 333	
7.	ZUMA N TANGUWA				0700 845 806	
8.	NGONDU MUREJE				- - - -	
9.	SAMUEL KOFU MKALA (LIMAZI CHIMERA)				0717 812 604	
10.	MUGJUMA NJIRO				0721 388 6034	
11.	MILONGO MOTOA				0729 5843 79	
12.	KATANA NGOKA				0746 732 853	
13.	Ngoka Mbudya				0714 496 019	
14.	ZANI NDURJA	MEMBER			0700 235 540	
15.	MILTON M. ZUMA				0726 405 640	

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
16.	WAMAWI MUYICHE	V/ELDER			0725286432	
17.	FATIUM JASTASI	V/ELDER			0715480092	
18.	MORISI NDEGULA				0722009822	
19.	<del>KAHINDI</del>					
20.	medumaa nambani					
21.	GEREZA MKALA				0725975337	
22.	MWAMVU TEMBO				0706362918	
23.	Abdullah Shehi				0707130368	
24.	Biti Ngana					
25.	chizi mangale					
26.	Fatumu Mwanjika				0723918439	
27.	NYANJE GARI					
28.	NYANJE MWERO				0705877332	
29.	HASSAN KOMBO				0713639664	
30.	SULEIMAN CHAKA				- - - -	
31.	HASSAN Wamini Mboro				0712863504	
32.	Samsan CHALE JOHO				0721520009	
33.	SALIM TSUMA	V/ELDER			0795663624	
34.	IDD SAIDI	V/ELDER			0702588376	
35.	NZAO TAWA				0702935884	
36.	KATANA CHONDO	V/ELDER			0725919819	
37.	NYIRO NYAWA				0727378694	



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41.	CHICAMBA BARIJUA				0723272925	
42.	BRANDON MWATSAHU				073359309	
43.	Moti Mwangi				071030171	
44.	Omar N. M				0790713513	
45.	Mwarema Kangu				0711954139	
46.	UMAJI NURA				---	
47.	CONSTANCE FALUCEL				0708200983	
48.	Kulekwe NASORO				---	
49.	CHRISTINE MUSTA				0701144078	
50.	DILU MWATSAHU				0713241497	
51.	SHIDA MWINZANGU				---	
52.	MOHAMMED CHAND				0795102276	
53.	ABDULLA KUMBU				0720941276	
54.	DILU NYAMAWI				0721434561	
55.	RAMADHAN WANJISI				0727415329	
56.	Harrison Odhiambo	EIA/RAP	Jica Design Team	harrisonodhiambo@malcoo.com	0707264964	
57.	BURGU MURIA				0796445084	
58.	HASSAN MUNGA				0704115473	
59.	ASTHA BUDYTA				---	

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61	Kaumba ZUMA				---	
62	Mariamu Jonda				07-----	
63	MORISI MBEISA					
64	SALIM MULLERO					
65	NTIRO NGAWA				0702524335	
66					---	
67	CHIRUNGA				-----	
68	RUMBA MUKARU				-----	
69	MADZUWA MWAMBIRE				-----	
70					-----	
71	Nyambani Adores DAKU CHIGIMBA.					
72	WALIDI DENA JAWA				0723405495	
73	MUTIGA MUAZAHU.				---	
74	LUKAS MBOUHI.				---	
75	DELINA - MANGU				0727853098	
76	SALAMA MAUNDU.				0742891664	
77	JOSEPHO KANA				-----	
78	HAMISI GICREZA					
79	ALI CHITGO.				0712560542.	
80	HADIJA OMARI				0714589003-	
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83	Mose Mwatondo				-----	
84	Dzame Chikophe				-----	
85	<del>Pa</del> Chari Chuma					
86	UMASI MWAMBIRE					
87	Mwaka BAZU-					
88	PAULU NZIRO				0714345516	
89	MUHAMMED MBOU				0788543026	
90	Krosisi Karege				05 15 252650	
91	JOSEPH CHIKONDE				0724084248	
92	Mkaka Janga				0715492191	
93	Tungwa Nyawo				0710907910	
94	Khuo e Bongo				0728489486	
95	ALLI NASORO				0728179260	
96	Hadija Chizi				0715226560	
97	Nzardze Mazera				-----	
98	Sidi Mbaga				-----	
99	Phina Chimtra				-----	
100	Chimura Ngara					
101	WILFRED Z. MWALA				0902481195	
102	ROBERTI JUMLA				0703861055	
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106	ehzi Mchase				---	
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108	MUPA Zani				---	
109	MUPA Mzungu.				---	
110	Ngoshe Chimere.				0742901209	
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112	ELVIS KANJJI	VI ELDER			0703802764	
113	TAWA LWRE	VI ELDER			0218671810	
114	Amos Nyaua	VI ELDER			0727619241	
115	KUPKA MUMAMBIRE				0734881262	
116	PATIENCE CHAKA					
117	Pzingo bagalo.					
118	Fatima MKAMBE				0743991574	
119	MELI MUALIMU.				0740140581	
120	Kanga Kallenge					
121	Amira Dama.				0712881312	
122	GLADIS KWAKU.	VI ELDER.			0907185116	
123	Magezi WADZOWA.					
124	Zetab Mbonjo.				0799191609	
125	Mwaka MUMAMBIRE				0720417097	

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127	Iditu Chizi Nyamawi				1111	
128	Mchambo Chirangu				1111	
129	Ewedi Jamba				0725716091	
130	Mohamed Kisanjawa				0727101979	
131	Hamsi Chinyama				0720548604	
132	Kuma Juma				0742901234	
133	Kozungu Rabb				1111	
134	Mwaka Rando					
135	Mchambo Ndegere				0710711420	
136	CHARI-M. BANJU				0729269285	
137	JOICE CHIZI				0725134481	
138	MWANA JUMA				0725627483	
139	DZAME NDEGWA					
140	CHIZI NYAMAWI					
141	KWUMA KAI					
142	CHIZI MWERO					
143	JOICE KANGU				0717017048	
144	KACHE CHIKOKO					
145	DZAME NGOKA					

146	NADDUWA MGALA					
147	KANGA KADENGE					
148	MUDA NZEMBE					
149	UCHI MWADIGA					
150	RIZIKI JUMA					0707710208
151	CHIZI ROBIBI					
152	RIZIKI BAYA					
153	MUPA GALUKA					
154	LUVUMU TWANGA					
155	KACHE BAGAZI					
156	LUVUMU MGALA					
157	MKAMBE DZITA					
158	UCHI MWADIGA					
159	MUPA MWADIGA					
160	ZOZI CHITIGO					
161	MUPA NDERWA					
162	MUPA ZUMA					
163	MKOTIGO NYAWA					
164	MZALAMBI MWADIKU					
165	KAMBE HERI					
166	RUWA MWAMBIRE					072751471
167	AMINA RAJAB					0721316007
168	MWAREMA CHINONI					

169	NDIRO RAI				
170	NYANJE DZEHA			0705685930	
171	JUHO Tsuma				
172	NYANA MANGA				
173	MWANJA MIRA				
174	MNYAZI NDUGU				
175	GEORGE MITA				
176	JUMA MWAHA				
177	MIRA KAIANDI			070088177	
178	NDAKWA CHEMEYA			07029822859	
179				0705620315	
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**4. Mtaa Location PCM at Bofu Chiefs Camp**

- **Minutes**
- **Attendance Register**



**MINUTES OF THE PUBLIC CONSULTATION MEETING (PCM) FOR THE ESIA STUDY FOR THE POWER SUPPLY COMPONENT OF THE MOMBASA SEZ DEVELOPMENT PROJECT HELD AT BOFU CHIEF'S CAMP, MTA A LOCATION ON TUESDAY 19 JUNE 2018 STARTING AT 02:00 PM.**

**ATTENDANCE LIST:**

No.	Name	No.	Name	No.	Name
1	Joshua Oyieko	30	Chiwala M Kombo	59	Nzara Luvi
2	Omummitah Agwaro	31	Rumba M Chiwata	60	Mwanaidi Kunguru
3	Harrison Odhiambo	32	Nyawa Wata	61	Tumu Mwayaya
4	Salim Ngoro Chaka	33	Mwarocha Charo	62	Nyadze Nyae
5	Joyce Koech	34	Mngaro Chidzango	63	Mupa Yawe
6	Joseph N Nyae	35	Mwajoa Kwache	64	Hadija Mbeyo
7	Nelson N Maingi	36	Stephen Dalu	65	Chare Beziro
8	Beja Kamanza	37	Tunu Beuche	66	Umazi Yaye
9	Mwamwero B katana	38	James M Dena	67	Rehema Chakaya
10	Ibrahim Nzira Chaka	39	Ngoro Chaka Mavune	68	Swafia Shaban
11	Rodbers N Ngumuta	40	Rai Mavune Ngowa	69	Mwaka Ndorya
12	Salim Moto	41	Mwaropha Kambi	70	Chizi Kaddingo
13	Rodgers N Ngumuta	42	Kahaso Mboko	71	Eliza Shadrack
14	Mwanyayo Tsuma	43	Mwachidudu	72	Nzalambi Mazera
15	Johnson Chacha	44	Ndwarya Mwero	73	Mbodze Ndomo
16	Mwalimu H Kibud	45	Rama Mangale	74	Mwanakombo Mwanadzombo
17	Rumba Mwadzina	46	Ndegwa Shumba	75	Chari Yana
18	Ndegwa Chwewe	47	Ali Ngoro	76	Kadza Chitibwa
19	Mohammed Ndumo	48	Rashid Ngoro	77	Nyevu Beja
20	Mwayaya Kamanza	49	Ndumo Ndawa Rai	78	Zawadi Ngoro
21	Mwandia Matano	50	Sammy Biou Shadrack	79	Marisa Luvi
22	Ali Mkuta Tsuma	51	Rocha Ndegwa	80	Nadzuwa Joma
23	Elija kunguru	52	Mwinyi B Mwawira	81	Kagombe Karisa
24	Nyundo Rai Nyundo	53	Chiboko Ngandu	82	Mupa Ndegwa
25	Madziko Rai Nyundo	54	Yusuf Mweru	83	Miwa Kasimu
26	Jackson Mvune	55	Jumaa Ndegwa	84	Fatuma Mbangala
27	Mangale Nyanje	56	Binti Ali Rashid	85	Mundu Haraka
28	Muriphe Rocha	57	Kwekwe M Chiluku	86	Musene Ngao
29	Joseph Mnyaka	58	Umazi Shauri		

**AGENDA OF THE MEETING**

1. Opening prayer by one of the participants.
2. Introduction of Participants
  - *National Government Representatives*
  - *County Government Representatives*
  - *KETRACO*

- JICA
  - Panafcon Ltd
  - Project Area Leaders/NGOs/CBOs
3. Purpose of conducting the Public Consultation Meeting (*KETRACO*).
  4. ESIA Study Activities carried out on the Transmission Line and Substation in Dongo Kundu(*Panafcon*)
  5. Findings of the Study/Project Environmental Impacts (*Panafcon*).
  6. Proposed Mitigation Measures
  7. Views of the Participants – Comments, Q & A Session (*County Government/National Government/KETRACO/JICA/Panafcon*).
  8. Closing Remarks by (*KETRACO/County Government/National Government*).
  9. A.O.B.
  10. Closing Prayer.

**Minute 01:**

The meeting was called to order at 02.10pm and began with a word of prayer from one of the participants (Rodgers Ngumuta).

**Minute 02: Introduction of the Participants.**

The area Chief (Mr. Joseph Nyae) welcomed everyone in attendance. He acknowledged and thanked the participants for finding time to attend the meeting. He introduced the Assistant County Commissioner (ACC) of Kasemeri Division (Madam Joyce Koech). He also recognised the presence of the County Government representatives.

The Chief mentioned that this is the 3<sup>rd</sup> Meeting of the project and the purpose is to present the Findings of the Environmental and Social Impact Assessment of the Power Line Project.

The Chief welcomed the ACC to greet the gathering. She recognized the area leaders including the Village and Ward Administrators. She welcomed the team of experts from JICA and Panafcon. The ACC highlighted the importance of the project and its benefits noting that areas that have received adequate power supply developed rapidly. She urged the community to give the project implementers support so that the good benefits of the project can be realised. The ACC requested Joshua (Panafcon Ltd) to introduce the other team members and JICA Design Team (JDT) representative.

**Minute 03: Purpose of Conducting the Public Consultation Meeting (PCM).**

Mr. Oyieko started by highlighting the the 2 previous meetings (Sensitisation and PAP Consultation Meetings) and the current meetings (Public Consltation Meeting - PCM).

- a) **Sensitisation Meeting:** Mr Oyieko elaborated that the Sensitisation Meeting held in July 2017 was to inform the project area community about the proposed project and the planeed activities that will take place during the ESIA and RAP Study.
- b) **PAP Consultation Meeting:** The PAP Consultation Meetings were held in the month of April 2018. The purpose of the meeting is to disclose to the Project Affected Persons (PAPs) how the Transmission Line and substation is likely to affect them and the proposed restoration measures that will be put in place.
- c) **Public Consultation Meeting (PCM):** The purpose of conducting the PCMs is to disclose to the Project Area Community and Stakeholders the Findings of the Environmental and Social Impact Assessment (ESIA) Studies and the Proposed Mitigation Measures.

**Minute 04: The ESIA Study Activities carried out on the Transmission Line and substation in Dongo Kundu**

Panafcon carried an assessment of the powerline corridor from Mariakani-Dongo Kundu and evaluated existing vegetation (trees and crops), water sources (rivers, wells, boreholes, springs and surface water pans existing in the project area. An evaluation was also done on the presence of forests, wildlife and birds. Baseline measurements on noise, air soil, water and radiation were carried out. The ESIA Study identified the existing plants and animals along the project corridor establishing the project impacts on them.

**Minute 05: Findings of the ESIA Study/Project Environmental Impacts**

Mr Oyieko mentioned that the total distance covered by TL from Mariakani to Dongo Kundu is 53km. Mtaa Location covers 3.51km.: He highlighted the following aspects:

**Project Benefits/Positive Impacts**

- Improvement of power supply in the project area and provision of adequate power;
- Increased industrial activities in the project area
- Generation of Direct and Indirect Jobs
- Enhancement of Economic Growth of the Coastal Region and Kenya as a whole;
- Improvement of income for project area community and enhancement of exports

**Project Impacts**

- Disruption of Human Settlements;
- Cutting down of Planted (Coconut Palm, Cashew Nut, Mango, Neem etc) and Indigenous Trees (Acacia, Baobab, "Mrabai", Tamarind etc);
- Potential Impact on Perennial, Seasonal Rivers/Streams and Wetlands;
- Damage to crops during Construction;
- Enhanced Presence of EMF Radiation;
- Potential Interference with Cultural Sites (2 Shrines and Grave Yards);
- Disruption of Businesses;
- Occasional disruption of Wildlife when they access the community forest area between DK6 and DK7 as movement corridor or dispersal area;
- Land use change;
- Bird Strikes and Electrocuting of baboons etc;
- Excess Noise and Dust during Construction;
- Pollution from Machines and Vehicles.

**Socio-economic Survey Outcome**

- 85% of the project area households use firewood for cooking;
- 10% of the project area households use charcoal for cooking
- 75% of the households use kerosene lamps for lighting
- 65% of households use Pit Latrines while 29% have no sanitation facilities

**Minute 06: Proposed Mitigation Measures**

#	Impact	Proposed Mitigation Measure
1	Disruption Human Settlements	Affected property has been identified and valued for compensation and resettlement
2	Restricted use of Transmission Line Wayleave	Compensation for restricted use will be paid
3	Cutting down of trees	Facilitation of tree planting activities
4	Interference with Perennial, Seasonal Rivers/Streams and Wetlands	Water sources will be avoided when constructing pylons
5	Damage to crops during Construction	Damaged Crops to be compensated
6	Presence of EMF Radiation	Operations outside the acquired 40m wayleave is safe.
7	Damage to Cultural Sites (Shrines and Grave Yards)	<ul style="list-style-type: none"> <li>• Review Design to avoid sites</li> <li>• Carry out ceremonies for Shrines as recommended by elders</li> <li>• Graves and Grave Yards to be avoided</li> </ul>
8	Disruption of Businesses	Pay compensation for disrupted businesses
9	Bird Strikes and Electrocution of Climbing Wildlife	Mark Conductors Build guards on pylons to restrict baboons and other animals
10	Excess Noise	Service vehicles and machines No Blasting of bedrock and workers to use ear protection
11	Air Pollution	<ul style="list-style-type: none"> <li>• Service vehicles and machines</li> <li>• Sprinkle water at construction sites and access roads</li> <li>• No burning of waste at the project site</li> </ul>
12	Soil and Water Pollution	<ul style="list-style-type: none"> <li>• Recover used oil for proper disposal</li> <li>• Store oils and chemicals on paved ground</li> <li>• Service vehicles and machines well to eliminate oil leaks</li> </ul>
13	Solid and Liquid Waste	<ul style="list-style-type: none"> <li>• Provide solid waste receptacle</li> <li>• Recover oil and chemical waste for proper disposal</li> <li>• Provide containment for storage of oils and other chemical</li> <li>• Engage NEMA Registered &amp; Approved waste disposal firm</li> </ul>

**Minute 06: Views and Questions on the Proposed Power Supply Component of the Mombasa SEZ Development Project**

**Q1: Will a house that was recorded during the census survey be compensated if it collapses before payment is done. (*Rama Mangale*).**

**A1:** Compensation will be done using photographs taken during census survey. However, PAPs are encouraged to inform project implementers (KETRACO) through the PAP Committees when such a thing happens to avoid issues during verification for compensation.

**Q2: What will happen if accidentally the Transmission Line cables fall on someone allowed to farm or graze along the corridor? (*RashidNdoro Rai*).**

**A2:** Such an incident rarely occurs but should it happen, KETRACO will use to its internal mechanism to provide reprieve to the affected persons..

**Q3: What happens in a homestead where the only recipient is a minor? Can the other household in the homestead receive payment on minor's behalf? (*Masoud Ndegwa*).**

**A3:** Compensation payment is made to the owner of land or other assets. Where the owner is a minor, an adult person with ID in the homestead can be nominated to represent the minor and receive such payments on behalf of the minor as a guardian.

**Q4: How is compensation for land done if the parcel of land is under Group Ranch (Mwavumbo)? (JumaMangale Nyanje).**

**A4:** Compensation for land is made on the production of land ownership documents. If the land is under group ranch and land ownership documents have not been provided then they will provide the necessary documentation to confirm land ownership to lands office/NLC for verification and facilitation of compensation payment.

**Q5: What will KETRACO planning to do for the project area community? (James Dena).**

**A5:** If the community has any public project that requires support, they are encouraged to forward such suggestions to KETRACO for consideration. KETRACO will work with other agencies to see what kind of support can be provided..

**Q6: Can PAPs who did not provide their identity cards do it now? (Nondo RAI Nondo).**

**A6:** All affected persons who were not able to provide their IDs during the survey did so later. It is likely that you are not a PAP hence there has been no need for you to avail your ID. Provide us with a copy of the ID for verification of the records.

**Q7: When will compensation be payment be done? Can skilled workers be given job opportunities? (Tunu Beuchi).**

**A7:** When the RAP is completed, it will be forwarded to JICA Design Team and KETRACO for review after which KETRACO will submit it to National Land Commission (NLC) for verification and payment. NLC will provide details of the offers for compensation payment and rates used to calculate values of various assets. Those who have skills in various construction activities can forward their papers to the contractor through the local administration and KETRACO for consideration.

#### **Minute 07: Closing remarks**

The Ward Administrator (Mwamwero Katana) expressed satisfaction with the regular consultations with the community. He noted that this will reduce conflicts and concerns when the project is being implemented. He advised community members to be truthful in the information they provide to avoid disputes.

The ACC thanked Panafcon for regularly consulting with the project area community. She thanked participants for attending the meeting and assured those affected that they will be compensated before being asked to vacate the project corridor. She urged them to support the project for faster growth.

#### **Minute 08: AOB**

There was no AOB

#### **Minute 09: Closing Prayer**

There being no other business, the meeting ended at 03.45pm with a word of prayer by one of the participants (Ibrahim Nzira Charo)

**LIST OF PARTICIPANTS AT THE PUBLIC CONSULTATION MEETING (PCM) FOR MARIAKANI-DONGO KUNDU 220KV TRANSMISSION LINE FOR THE MOMBASA SEZ PROJECT**

Venue of Meeting: BOTU CHIEF'S CAMP

Date and Time of Meeting: 19-06-2018; 2:00PM.

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
1.	JOSHUA P. OYIEKO	Study Team Leader	Panafcon Ltd	j.o.yieko@panafcon.net	0733 428 498	
2.	ANUMMIAT'ARWARO	Research ASST	Panafcon Ltd	anummiat@panafcon.net	0724 939 877	
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11.	SALIM? MOTI				0702380411	
12.	ROBERTS N. NGUMVIA				0726572408	
13.	BAYA SHOKOA LWIDI				0721627619	
14.	Mwonyaya Tsungu				-	
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19.	MOTAMED NOKUMU				0715735194	
20.	MWATATA KAMANZA				0713550803	
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22.	ALI MUKULIA TSUMA				0729584326	
23.	ELIJAH KUNGURU NYAG				0714833615	
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25.	MADZIKO RAI NYONDO				0710952064	
26.	JACKSON MAMUNE MAKANZA				0748220750	
27.	MANGALU NYANJE				0702926064	
28.	MURUPHE	ROCHA			0701207388	
29.	JOSEPH MNYICA				0722968227	
30.	CHWATA M. KOMBO				0740865540	
31.	RUMBA H. CHWATA				0721443463	
32.	NTAWA WATO				0729094835	
33.	MWACHA CHARO				0727939930	
34.	MNGARO CHIZANGI				0700713235	
35.	MWAZA KUGOCHI				0712685426	
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42.	KAHASO CHIBOKO				0721404904	
43.	MWACHIDU DU				0727851232	Suu
44.	<del>NELSON K. MANGI</del>					
45.	NDIRYA MWERO	V/ELDER			0725510306	
46.	RAMA MANETE					
47.	NDEGWA O. SHUMBA				0715573739	
48.	ALI NDIRO MWARISI				07115178851	
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53.	MWINYI. B MWAWIRA					
54.	CHIBOKO NGANTU				0703873627	
55.	TUSUF MWERO				0703751422	
56.	M. JUMA NDEGWA				0708249914	
57.	BINTI ALI RASHID	V/ELDER			0710275183	
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63	NZADZE DYKE					
64	MUDA YAWA				0720954937	M T
65	Hadija mbeu				0798901974	
66	CHARI BELIRO				0792429133	CHARI
67	UMASI DYKE				0703127220	UMAZI
68	Rehema Chakaya				0717329988	
69	SWAFIA SHABAN BOSS				0701136327	Swafia
70	MURKA NOURYA				0710166588	M.N.B
71	CHIZI KADZINGO				0790615409	
72	ELIZA SHEDRACK				0708817900	Eliza
73	NZALAMBI MAZERA				0792681697	
74	MBIBZE NDUMO					M.N.
75	MWATAKUMBO MINTUBZANA					
76	CHIZI YAWA					
77	KADZO CHITIBWA					
78	DIYU BEJA					
79	ZAWADI NDOZO					
80	MARISA LUVI				0706157765	
81	DADZUWA JOWA					

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
82	KANGOMBE KARISA					K K
83	MUDA NDEWA					MUDA
84	MIWA KASSIMU					M. Kassimu
85	FATUMA BANGALA					F. B.
86	MUNDU HARAKA NGANDI				0723615036	Mundu
87	MUSENA B. NGOA	ASSI-CHIEF	OOP	bejangoa@gmail.com	0716434167	M. N. N. N.
88						
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**5. Kasemeni Location PCM at Mnyenzi Health Centre**

- **Minutes**
- **Attendance Register**

**MINUTES OF THE PUBLIC CONSULTATION MEETING (PCM) FOR THE ESIA STUDY FOR THE POWER SUPPLY COMPONENT OF THE MOMBASA SEZ DEVELOPMENT PROJECT HELD AT MNYENZENI HEALTH CENTRE, KASEMENI LOCATION ON WEDNESDAY 20 JUNE 2018 STARTING AT 09.00AM.**

**ATTENDANCE LIST:**

No.	Name	No.	Name	No.	Name
1	Joshua Oyieko	38	Kwekwe Dzombo	75	Mwanaidi N Juma
2	Omummitah Agwaro	39	Joseph Shumba	76	Ruwa Mwangale
3	Joyce Koech	40	Maulid Z Tzuma	77	Chirunga Chiro
4	Harrison Odhiambo	41	Mgadi Mwakonga	78	Mlongo Mwaruwa
5	Tungwa Mwamula	42	Alex Kombo	79	Nzara Nyanje
6	Ngala M Katana	43	Francis Ndegwa	80	Mwanajuma Nyundo
7	Makanzo Rashid	44	Mwariowa Mwadiyo	81	Kamwana Mbetsa
8	Mwamwero B Katana	45	John Mkukuyo	82	Mwagalalo Ngoro
9	Msambala M Mumba	46	Nyamawi Diyo	83	Hamisi Chimera
10	Ngome Zuma	47	Stima Mwamba	84	Simba Ngoro
11	Makanzu Kazungu	48	Gwede D Gwede	85	Anzazi Munga
12	Beya Daro	49	Matari Nyae	86	Nyanje Zuma
13	Ali Rashid	50	Ndegwa Munga	87	Heri Rocha
14	Kazungu Makanzu	51	Nyondo Tsimba	88	Chirunga Dzombo
15	Malachu Ngome	52	Omari Charanga	89	Chimera Mwachidudu
16	Ngoro Tsimba Ngoro	53	Nyondo Nyamawi	90	Chizi Mwakalu
17	Pekeshe Beziro	54	Ngombeko Kola	91	Shera Mwakanga
18	Ali Ngolokolo	55	Mrichani Mangale	92	Kombo Bakari
19	Ndegwa Madeni	56	Changoto Beziro	93	Mbetsa Beja
20	Rajab Kangu	57	Ndegwa Madeni	94	Tsuma Zuma
21	Zuma Ngome	58	Rai Ngoro	95	Bohora Mdila
22	R Mwanganyika	59	Dingo Ngoro	96	Mwanyuni Tsochizi
23	Ali Kombe	60	Ngao Ngoro	97	Suleman Chimera
24	Juma Bechizi	61	Mrisa Ngoro	98	Ngawa Ngoro
25	Tabu Yongo	62	Ndegwa Kombo	99	Mzira Nyiro
26	Luvuno Ngoro	63	Chimera Mangale	100	Sarah Waweru
27	Mangale Gwende	64	Mwero Chodo	101	Benson K Kokoi
28	Ruwa Suma	65	Mlembe Vunga	102	Omari Azonga
29	Ngoro Tsimba	66	Mwangolo Dundo	103	Anzazi Dogu
30	Kombo Mangale	67	Ngoro Chaka	104	Kupha Mwanyuni
31	Chizi Gwede	68	Umazi Chiphoro	105	Bora Kombo
32	Chzi Charo	69	Rehema Jama	106	Kombo Nyanje
33	Chiziz Zuma	70	Ngao Tsuma	107	Morisa Ngombeko
34	Nyamula Tsuma	71	Charles Tsuma Tsimba	108	Mebakari Salim
35	Kanga Munga	72	Ngoro Said Omar	109	Rehema Ndurya
36	Halima Mnazi	73	Chaka Tsuma Ngao	110	Moris Chinyeke
37	Uchi mjema	74	Ruwa Nyanje	111	Haranga Mwangolo

No.	Name	No.	Name	No.	Name
112	Mohamed Mwakanzo	116	Luvuno Nyaye	121	Kanzo Shibe
113	Omari Kalume	117	Nzai Kakweyu	122	Chanyanu Mwero
114	Swalleh Hamissi	118	Ndawa Mbuja	123	Mwako Mboga
115	Nyamani Mrezi	119	Umazi Magangi	124	Tsuma Zuma
114	Swalleh Hamissi	120	Nyanje Damau		

## AGENDA OF THE MEETING

1. Opening prayer by one of the participants.
2. Introduction of Participants
  - *National Government Representatives*
  - *County Government Representatives*
  - *KETRACO*
  - *JICA*
  - *Panafcon Ltd*
  - *Project Area Leaders/NGOs/CBOs*
3. Purpose of conducting the Public Consultation Meeting (*KETRACO*).
4. ESIA Study Activities carried out on the Transmission Line and Substation in Dongo Kundu(*Panafcon*)
5. Findings of the Study/Project Environmental Impacts (*Panafcon*).
6. Proposed Mitigation Measures
7. Views of the Participants – Comments, Q & A Session (*County Government/National Government/KETRACO/JICA/Panafcon*).
8. Closing Remarks by (*KETRACO/County Government/National Government*).
9. A.O.B.
10. Closing Prayer.

### Minute 01:

The meeting was called to order at 10.30am and began with a word of prayer from one of the participants (Pastor Ndoro William)

### Minute 02: Introduction of the Participants.

The acting Chief of the area (Mr. Msambala Mumba) welcomed everyone in attendance. He acknowledged and thanked the participants for finding time to attend the meeting. He introduced the Assistant County Commissioner (ACC) of Kasemeni Division (Madam Joyce Koech). He also recognised the presence of the County Government representatives.

He facilitated self introduction of the guests who were present at the meeting.

The Chief welcomed the ACC to greet the gathering. She recognized the area leaders including the Village and Ward Administrators. She welcomed the team of experts from JICA and Panafcon. The ACC highlighted the importance of the project and its benefits noting that areas that have received adequate power supply developed rapidly. She urged the community to give the project implementers support so that the good benefits of the project can be realised. The ACC requested Joshua (Panafcon Ltd) to introduce the other team members and JICA Design Team (JDT) representative.

**Minute 03: Purpose of Conducting the Public Consultation Meeting (PCM).**

Mr. Oyieko started by highlighting the the 2 previous meetings (Sensitisation and PAP Consultation Meetings) and the current meetings (Public Consltation Meeting - PCM).

- a) **Sensitisation Meeting:** Mr Oyieko elaborated that the Sensitisation Meeting held in July 2017 was to inform the project area community about the proposed project and the planeed activities that will take place during the ESIA and RAP Study.
- b) **.PAP Consultation Meeting:** The PAP Consultation Meetings were held in the month of April 2018. The purpose of the meeting is to disclose to the Project Affected Persons (PAPs) how the Transmission Line and substation is likely to affect them and the proposed restoration measures that will be put in place.
- c) **Public Consultation Meeting (PCM):** The purpose of conducting the PCMs is to disclose to the Project Area Community and Stakeholders the Findings of the Environmental and Social Impact Assessment (ESIA) Studies and the Proposed Mitigation Measures.

**Minute 04: The ESIA Study Activities carried out on the Transmission Line and substation in Dongo Kundu**

Panafcon carried an assessment of the powerline corridor from Mariakani-Dongo Kundu and evaluated existing vegetation (trees and crops), water sorces (rivers, wells, boreholes, springs and surface water pans existing in the project area. An evaluation was also done on the presence of forests, wildlife and birds. Baseline measurements on noise, air soil, water and radiation were carried out. The ESIA Study identified the existing plants and animals along the project corridor establishing the project impacts on them.

**Minute 05: Findings of the ESIA Study/Project Environmental Impacts**

Mr Oyieko mentioned that the total distance covered by TL from Mariakani to Dongo Kundu is 53km. Kasemeni Location covers 4.48km.: He highlighted the following aspects:

**Project Benefits/Positive Impacts**

- Improvement of power supply in the project area and provision of adequate power:
- Increased industrial activities in the project area
- Generation of Direct and Indirect Jobs
- Enhancement of Economic Growth of the Costal Region and Kenya as a whole;
- Improvement of income for project area community and enhancement of exports

**Project Impacts**

- Disruption of Human Settlements;
- Cutting down of Planted (Coconut Pam, Cashew Nut, Mango, Neem etc) and Indigenous Trees (Acacia, Baobab, "Mrabai", Tamarind etc);
- Potential Impact on Perennial, Seasonal Rivers/Streams and Wetlands;
- Damage to crops during Construction;
- Enhanced Presence of EMF Radiation;
- Potential Interference with Cultural Sites (2 Shrines and Grave Yards);
- Disruption of Businesses;
- Occassional disruption of Wildlife when they access the community forest area between DK6 and DK7 as movement corridor or dispersal area;
- Land use change;
- Bird Strikes and Electrocutation of baboons etc;
- Excess Noise and Dust during Construction;
- Pollution from Machines and Vehicles.

**Socio-economic Survey Outcome**

- 85% of the project area households use firewood for cooking;
- 10% of the project area households use charcoal for cooking
- 75% of the households use kerosene lamps for lighting
- 65% of households use Pit Latrines while 29% have no sanitation facilities

**Minute 06: Proposed Mitigation Measures**

#	Impact	Proposed Mitigation Measure
1	Disruption Human Settlements	Affected property has been identified and valued for compensation and resettlement
2	Restricted use of Transmission Line Wayleave	Compensation for restricted use will be paid
3	Cutting down of trees	Facilitation of tree planting activities
4	Interference with Perennial, Seasonal Rivers/Strems and Wetlands	Water sources will be avoided when constructing pylons
5	Damage to crops during Construction	Damaged Crops to be compensated
6	Presence of EMF Radiation	Operations outside the acquired 40m wayleave is safe.
7	Damage to Cultural Sites (Shrines and Grave Yards)	<ul style="list-style-type: none"> <li>• Review Design to avoid sites</li> <li>• Carry out ceremonies for and Shrines as recommended by elders</li> <li>• Graves and Grave Yards to be avoided</li> </ul>
8	Disruption of Businesses	Pay compensation for disrupted businesses
9	Bird Strikes and Electrocuting of Climbing Wildlife	Mark Conductors Build guards on pylons to restrict baboons and other animals
10	Excess Noise	Service vehicles and machines No Blasting of bedrock and workers to use ear protection
11	Air Pollution	<ul style="list-style-type: none"> <li>• Service vehicles and machines</li> <li>• Sprinkle water at construction sites and access roads</li> <li>• No burning of waste at the project site</li> </ul>
12	Soil and Water Pollution	<ul style="list-style-type: none"> <li>• Recover used oil for proper disposal</li> <li>• Store oils and chemicals on paved ground</li> <li>• Service vehicles and machines well to eliminate oil leaks</li> </ul>
13	Solid and Liquid Waste	<ul style="list-style-type: none"> <li>• Provide solid waste receptacle</li> <li>• Recover oil and chemical waste for proper disposal</li> <li>• Provide containment for storage of oils and other chemical</li> <li>• Engage NEMA Registered &amp; Approved waste disposal firm</li> </ul>

**Minute 06: Views and Questions on the Proposed Power Supply Component of the Mombasa SEZ Development Project**

**Q1: What happens to an incomplete house? How will affected people be moved out of the transmission line corridor? (Ali Ngolokolo Madeni).**

**A1:** A house that has just been started and is far from being completed should not be left as it is unless it is the only alternative for accommodation. KETRACO will need to be alerted on the same for further direction. Affected persons will be provided with adequate notice to enable them put up alternative houses before being moved away from the corridor. A notice of 3 months will be given however depending on the circumstances on the ground this period can be extended if such a request is put through to KETRACO.

**Q2: What will happen if a shrine is encountered? (Kombo Mangale Nyuni).**

**A2:** KETRACO will review the design but if it is not possible to shift the line then a traditional ceremony to transfer the shrine will be conducted as advised by the elders.

**Q3: Land belongs to my father but the trees belong to me. How will I know my share of the payment? (Ndegwa Kombo).**

**A3:** Compensation payments are separated according to property ownership. If the land belongs to your father payment for land will go to him but payment for trees will be separate and will come to you as the owner of the affected trees..

**Q4: A PAP who has 2 wives recorded land and other property under his name but died before compensation payment is done. Do we have rights to change the name of the recipient? (Kombo Mwangolo).**

**A4:** When a PAP dies before compensation is paid, family members can appoint a representative who can receive compensation payment on behalf of the family. Names on the land documents will have to be transferred to ensure the one receiving land compensation payment is also the one registered on the land documents (succession will have to be effected)

**Q5: How will KETRACO ensure those outside the corridor are not affected? (Makanzu Rashid).**

**A5:** All measures will be put in place to ensure that persons outside the corridor are not affected by the project activities during construction and operation. However, where this will not be possible, KETRACO and the Contractor will ensure that affected property is duly valued and compensated. PAP Committee members will ensure that during construction all impacts are noted and communicated to KETRACO for followup action.

**Q6: How will graves and graveyards be handled? (Ruwa Managale and Ruwa Nyanje).**

**A6:** KETRACO will ensure that all graves and graveyards are avoided in the final design of the transmission line pylon location.

**Q7: When will the project construction start? (Hamisi Ndoro Rai)**

**A7:** The construction of the project will only commence when all affected persons have been duly compensated and relocated away from the project corridor. The RAP Report will be finalised and submitted to JICA Design Team and KETRACO in the next 2-3 weeks for review and implementation.

**Q8: How can I be helped if my brother has recorded every property including mine under his name? (Mwagwaru Tsuma)**

**A8:** All affected property including land will be verified before compensation is paid out. False claims will not be honoured. Register the complaint with us so that we can verify before final report is released.

#### **Minute 07: Closing remarks**

The Ward Administrator (Mwamwero Katana) expressed satisfaction with the regular consultations with the community. He noted that this will reduce conflicts and concerns when the project is being implemented. He advised community members to be truthful in the information they provide to avoid disputes.

The ACC thanked Panafcon for regularly consulting with the project area community. She thanked participants for attending the meeting and assured those affected that they will be compensated before being asked to vacate the project corridor. She urged them to support the project for the area to realise faster development.



**Minute 08: AOB**

There was no AOB

**Minute 09: Closing Prayer**

There being no other business, the meeting ended at 11.45am with a word of prayer by one of the participants.

Kasemeri

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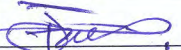

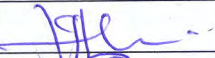





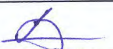




LIST OF PARTICIPANTS AT THE PUBLIC CONSULTATION MEETING (PCM) FOR MARIAKANI-DONGO KUNDU 220KV TRANSMISSION LINE FOR THE MOMBASA SEZ PROJECT

Venue of Meeting: MNYRZENI HEALTH CENTRE: KASEMERI LOCATION.

Date and Time of Meeting: 20-06-2018: 9:00 AM.







#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
1.	Joshua P. Oyioko	Study Team Leader	Panafcon Ltd	j.oyioko@panafcon.net	0733 428 498	
2.	DMUMMIAH AGARO	Research Assp	Panafcon Ltd	dmummiahagaro@panafcon.net	0724939877	
3.	JOYCE KOECH	ACC-KASEMERI	DOP/INTERIOR	joyceko@keplaco.com	0726966880	
4.	Hamilton Odhiambo	EIA/RAP	IDT	hamironodhiambo@yahoo.com	0707264964	
5.	TUNYWA MUWAMBA	MP'S OFFICE KASEMERI WARD	MP'S OFFICE KASEMERI WARD	tunywa.muwamba@gmail.com	0725708560	
6.	NGATA M. KIJANJAU	ASST CHIEF	DOP/INTERIOR		0707 256 946	
7.	Makanzu Rashid	w/Admin	CGK	rashidmakanzu@yahoo.com	0710701696	
8.	Mwamwero B. Katana	w/Admin	CGK	bayakatana33@gmail.com	0721787563	
9.	MSAMBALA M. MUMBA	AG. CHIEF	DOP/INTERIOR	MwambakariMusambale@gmail.com	0717 224 814	
10.	NGOME ZUMA				0796312422	
11.	MAKANZU KARUNGU				0713772692	
12.	BETA DARO				0713200314	
13.	Ali Rashid				0722178697	
14.	KARUNGU MAKANZU				0715375545	
15.	MALACHU NGOME				0704468989	

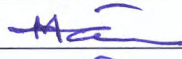
#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
16.	NDORO TSIMBANDORO				0726070957	
17.	DEKESHE BEZIRO				0718330026	
18.	Ali NGOLOKOIO				0746375062	
19.	NDEGWA MADENI				0726172740	
20.	RAJAB KANGU				0728275318	
21.	ZUMA NGOME				0710598988	
22.	R. MWAGANYISA				0721338402	
23.	Ali KOMBO				0700186806	
24.	JUMA BECHZI				0735296826	
25.	TABU YONHO					
26.	LUNUNO NDORO					
27.	MANKALE GWEDE				0708108509	
28.	ZUMA TSUMA					Tsuma
29.	NDORO TSIMBA			willy.ndorozi@gmail.com	0723955929	
30.	KOMBO MANKALE					
31.	CHIZI GWEDE					
32.	CHIZI CHARO				0715231565	
33.	CHIZI ZUMA				0797525854	
34.	NYAMULA TSUMA				0701417923	
35.	Kanga Munga					
36.	Hatima Mhazi				901734481	
37.	Uchi Mjema					

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
38.	Kwekwe Drombo					
39.	JOSEPH SHUMBA				0714924931	
40.	MAULIS Z. Tsurra				0722576337	
41.	Mgandi Mukoga				0729469798	
42.	Alex Kumbwa				0729258341	
43.	FRANCIS NDEGWA				0796523350	
44.	MWARWA MWADUTO				0706322000	
45.	John Mwakuto				0705951996	
46.	Nyamawi Digo				0718251607	
47.	Stans Mwangi				0712449097	
48.	GWESE.S. GWESE				0727564395	
49.	MAJARI NYAE					
50.	NDEGWA MUNGAT				0716688809	
51.	NYONDO TSIMBA				0700046925	
52.	OMARI - HAAANGA				0723-105992	
53.	KYONDO NYAMAWI				0727391073	
54.	NGOMBEKO KOLA					
55.	Mitchoni Mangale				0741822610	
56.	Changoto Bezira				071526076	
57.	Ndegusa Madeni				0706460166	
58.	Rai Ndoro				0718293930	
59.	Lingo Ngoro				0702765062	

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
60.	NGAO NDORO				X	SP
61	Mrisa Nforo				0729251178	MR
62	MDEGWA KOMBO				0711103913	MD
63	Chimera Mangale				0796360932	Chimera
64	Muero CHONDO (185)				0720518517	Muero
65	Mlambe Nungu				0791014852	Mlambe
66	MWANGOLA DUNDO				0727936513	MB.
67	Ndoro Chaka				0708502909	
68	Amara Chiphero				0700745878	
69	BEHEMA JAMA				0701517533	
70	Ngao kuma					NG
71	CHARLES TSUMA TSIMBA				0700663240	
72	NDORO SAID OMAR				0716275695	
73	CHAKA TSUMA NGAO					
74	Ruwa Nyenje				0705224669	
75	Mwanaidi N. <sup>Juma</sup> <del>Ataman</del>				0714810509	Nava
76	RUWAMANGALE				0736740280	Ruwa
77	CHRUWAGA CHIRO				0707715230	Chruwaga
78	Mbongo Mustruwa				0700936537	Mbongo
79	Nzara Nyanyo				Nzara	
80	Mwanajuma Njando				0719555502	
81	Kamwana Mbefes					

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
82	Mungalo Ngoro					
83	Hemise Chimera				0715503958	
84	Simba Ngoro					
85	ANZAZI MUNGA				0711848615	
86	Nyanje Zuma					
87	Hezi Rocha					
88	Chirunga Drombo					
89	Chimera Mwachidudu					
90	Chizi Mwakalu					
91	Shera Mwakogga					
92	KOMBO BAKARI DAMALI				0720136947	
93	Mbetsa Beja				0715144486	BS
94	Tuma Zuma					
95	Behara Mdira				0701354349	
96	Mwanyani Isochizi				0711844301	
97	Sutheman Chimera				0729551869	
98	Ngowa Ngoro					
99	Maira Nyiro					
100	Sarah Waweni	Nursing Officer	MOH	Sarahwaweni77@gmail.com	0721779086	
101	BENSON K. KOKOI	CHIEF	OOP-INTERIOR	benson.kokoi@yahoo.com	0724024180	
102	OMARI AZOYHA	Village Elder			0717017103	
103						

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
104	ANZAZI DOGO					
105	KUPHA MURRAYUNI					
106	BORA KOMBO					
107	KOMBU NYAMJE				0720735188	
108	MARSA NGOMBOKO				0704274520	
109	MEBAKATI SALLIM					
110	REHEMA MBUYA				0792081696	
111	MORIS CHIMEKE				0710873567	
112	Haranga Mwangido				0721564226	
113	MOHAMMED MAKANZI				0723458986	
114	OMARI KALUME					
115	SWALLEH HARUSS				0711479443	
116	NYAMANI MREZI				0715523590	
117	LUVUNO VIANE					
118	NZOTI KAKWATU					
119	NDASA MBUYA				0711661607	
120	UMAZI MAGANGI					
121	NYAMIKI DAMAU					
122	KANZO SHIBE					
123	CHAMAYU MWERO					
124	MWAKO MROKA					
125	TUMBA ZUMA					

**6. Gandini Location PCM at Lutsangani AP Camp**

- **Minutes**
- **Attendance Register**



**MINUTES OF THE PUBLIC CONSULTATION MEETING (PCM) FOR THE ESIA STUDY FOR THE POWER SUPPLY COMPONENT OF THE MOMBASA SEZ DEVELOPMENT PROJECT HELD AT LUTSANGANI AP CAMP, GANDINI LOCATION ON WEDNESDAY 20 JUNE 2018 STARTING AT 02.00PM.**

**ATTENDANCE LIST:**

No.	Name	No.	Name	No.	Name
1	Joshua P. Oyieko	38	Akili Malau Gubu	75	Manyele Kodza
2	Omummita Agwaro	39	Ngome Mangale	76	Delwamwenga Kariozo
3	Munga Ndegwa	40	Ali Malau Gube	77	Mwangadu Karisa
4	Umazi Mwangolo	41	Mlongo Mdzomba	78	Mwandaza Guwewe
5	Hamisi C. Kombo	42	Riziki Mweruphe	79	Kanga Msiti
6	Ruwa Kassim	43	Ruwa Kajimbi	80	Rai Mdune
7	Mkono Mwachondo	44	Chirima Ziro	81	Umazi Moma
8	Juma Ali	45	Nyanje Ruwa	82	Hassan Msinda
9	Joyce Koech	46	Rumba Mwayaya	83	Ali Shamakame
10	Msambala M. Mumba	47	Karabu Chipui	84	Haranga Mwanzuki
11	Harison Odhiambo	48	Juma Chengo	85	Mangale Munga
12	Munga Samuel	49	Karisa Mangale	86	Said M. Ngao
13	Samson Mbatii	50	Bora Kombo	87	Kombo Mavune
14	Kwaka Chindoro	51	Matari Nyundo	88	Chizi Mangale
15	Mwambire Maraha	52	Juma C. Kulala	89	Riziki Mdzomba
16	Kwekwe Jambo	53	Duga E. Duga	90	Jumaa Mwembe
17	Jumaa Konyesha	54	Mwaiwe Kufasa	91	Karisa Mangale
18	Mgalla Konyesha	55	Mriwa Mkala	92	Mohameed Dida
19	Zuma Mangale	56	Anderson Beja	93	Daudi Hamisi
20	Mangale Tungwa	57	Rumba Karimbo	94	Saumu Kenga
21	Mwandia Bombole	58	Chiwala Gube	95	Kajumwa Ziru
22	Jumapili Mdoe	59	Charles K. K. G	96	Chidzo Ega
23	Gube Mabindo	60	Mganga Mbui	97	Athumani Charo
24	Mwaiwe Ziro	61	Ali Ziro Tsuma	98	Amina Ali
25	Rama Ali Dziswa	62	Mavune K. Kulala	99	Chari Chiro
26	Margaret T. Mrema	63	Abdalla N. Gube	100	Bechizi Mwero
27	Mwatela Chigamba	64	Akombo Ali	101	Kadzenga Ali
28	Mwaka Ruwa	65	Ali Shamakami	102	Hamisi Bekombo
29	Nali Said Jumaa	66	Rashid Kombo	103	Mwaka Bega
30	Mbodze Mwaiwe Balozi	67	Ngumbao Menza	104	Mkembi Kombo
31	Mupa Ruwa	68	Moma Kombo	105	Ngati Chimoyo
32	Aisha Gopholo	69	Alii Mwalimu	106	Luvuni Nyamawi
33	Mlongo Ziro	70	Pala Ndeme	107	Anzazi Mwandia
34	Lubando Kajimbi	71	Bavu Kiphongo	108	Nyamvula Mazera
35	Luvuno Gari	72	Omari Dena	109	Anzazi Gambere
36	Chimoyo Kombo	73	Kufasa Gopholo	110	Fatuma Kengo
37	Mwandoro Gopholo	74	Mavune B. Kwala	111	Umazi Chilembi

No.	Name	No.	Name	No.	Name
112	Luvuno Dzunga	138	Chimoyo C. Chimoyo	164	Jirore Lewa
113	Mwaka Mrina	139	Nzai Randu Nzai	165	Betunda Kulala
114	Chilembi Tumu	140	Kaginya Sawa	166	Tungwa Moses
115	Madafu Tsuma	141	Chiwaya Sawa	167	Ali Msinda
116	Memunga Samuel	142	Ndegwa Hamadi	168	Kombo Chimoyo
117	Mwero Kombo	143	Wilfred Rombo	169	Daniel Chimoyo
118	Ngalla Baya	144	Jaji Mangale	170	Mrinzi Mabugu
119	Mshahame Mwatela	145	Nyawa Charo	171	Jumaa Maboga
120	Chuphi Dzuha	146	Kadenge Charo	172	Elvis J. Kombo
121	Mwahui Sawa Manson	147	Kalimbo Mwero	173	Omar C. Mwijo
122	Kombo Mangale	148	Hassan Defe	174	Tsuma Mavune
123	Mwangoka Magangi	149	Mwaiwe M. Kombo	175	Mmjo Malau
124	Rumba Chuphi	150	Mangale Mbaruku	176	Mwadzombo Mranga
125	Choga Gopholo	151	Mboga Dolo	177	Nyota Malalu
126	Menza Chimera	152	Bati Ngedzo	178	Juma Baraza
127	Nzaphila Zuma	153	Mwatela Balози	179	Husein Gube
128	Alifani Chimoyo	154	Matano Mohamed	180	Madzo Msiti
129	Juma Chimoyo	155	Chimoyo Kengo	181	Chimoyo Chiwewe
130	Mruche Sawa	156	Jirori Mbui	182	Ali Rumba
131	Chiwewe Chimoyo	157	Mwangolo Chidundu	183	Ngala Swalehe
132	Mangale Tsuma	158	Chidilo Ndie	184	Haranga Mwarua
133	Chai Mangale	159	Saidi Dzuha Chuphi	185	Juma Kombo Mwero
134	Mwijo Mwawafu	160	Bodwe Peku	186	Robert Joto
135	Jenjewa Kaginya	161	Mwanamwenga Nyanje	187	Ali Mongo
136	Mwangombe Karisa	162	Ndurya Msiti		
137	Omari B. Mussah	163	Kabwere Musaiwe		

## AGENDA OF THE MEETING

1. Opening prayer by one of the participants.
2. Introduction of Participants
  - *National Government Representatives*
  - *County Government Representatives*
  - *KETRACO*
  - *JICA*
  - *Panafcon Ltd*
  - *Project Area Leaders/NGOs/CBOs*
3. Purpose of conducting the Public Consultation Meeting (*KETRACO*).
4. ESIA Study Activities carried out on the Transmission Line and Substation in Dongo Kundu(*Panafcon*)
5. Findings of the Study/Project Environmental Impacts (*Panafcon*).
6. Proposed Mitigation Measures
7. Views of the Participants – Comments, Q & A Session (*County Government/National Government/KETRACO/JICA/Panafcon*).
8. Closing Remarks by (*KETRACO/County Government/National Government*).
9. A.O.B.
10. Closing Prayer.

**Minute 01:**

The meeting was called to order at 01.30pm and began with a word of prayer from one of the participants (Pastor Charles Kamanza Kaginya)

**Minute 02: Introduction of the Participants.**

The Assistant Chief of the area (Mr Munga Ndegwa) called the meeting to order and welcomed everyone in attendance. He welcomed the Chief of Gandini Location (Madam Umazi Mwangolo). Madam Chief acknowledged and thanked the participants for finding time to attend the meeting. She introduced the Assistant County Commissioner (ACC) of Kasemeni Division (Madam Joyce Koech) who greeted the gathering. She also recognised the presence of the County Government representatives and the area leaders including the Village and Ward Administrators. She acknowledged the presence of the new AP Officer in charge of Lutsangani AP Camp who was posted to the area recently.

Madam Chief welcomed the team of experts from JICA and Panafcon. She requested Joshua (Panafcon Ltd) to introduce the other team members and JICA Design Team (JDT) representative.

**Minute 03: Purpose of Conducting the Public Consultation Meeting (PCM).**

Mr. Oyieko started by highlighting the the 2 previous meetings (Sensitisation and PAP Consultation Meetings) and the current meetings (Public Consultation Meeting - PCM).

- a) **Sensitisation Meeting:** Mr Oyieko elaborated that the Sensitisation Meeting held in July 2017 was to inform the project area community about the proposed project and the planned activities that will take place during the ESIA and RAP Study.
- b) **PAP Consultation Meeting:** The PAP Consultation Meetings were held in the month of April 2018. The purpose of the meeting is to disclose to the Project Affected Persons (PAPs) how the Transmission Line and substation Project is likely to affect them and the proposed restoration measures that will be put in place.
- c) **Public Consultation Meeting (PCM):** The purpose of conducting the PCMs is to disclose to the Project Area Community and Stakeholders the Findings of the Environmental and Social Impact Assessment (ESIA) Studies and the Proposed Mitigation Measures.

**Minute 04: The ESIA Study Activities carried out on the Transmission Line and substation in Dongo Kundu**

Panafcon carried an assessment of the powerline corridor from Mariakani-Dongo Kundu and evaluated existing vegetation (trees and crops), water sources (rivers, wells, boreholes, springs and surface water pans existing in the project area. An evaluation was also done on the presence of forests, wildlife and birds. Baseline measurements on noise, air soil, water and radiation were carried out. The ESIA Study identified the existing plants and animals along the project corridor establishing the project impacts on them.

**Minute 05: Findings of the ESIA Study/Project Environmental Impacts**

Mr Oyieko mentioned that the total distance covered by TL from Mariakani to Dongo Kundu is 53km. Gandini Location covers 8.51km.: He highlighted the following aspects:

**Project Benefits/Positive Impacts**

- Improvement of power supply in the project area and provision of adequate power:
- Increased industrial activities in the project area

- Generation of Direct and Indirect Jobs
- Enhancement of Economic Growth of the Coastal Region and Kenya as a whole;
- Improvement of income for project area community and enhancement of exports

### Project Impacts

- Disruption of Human Settlements;
- Cutting down of Planted (Coconut Pam, Cashew Nut, Mango, Neem etc) and Indigenous Trees (Acacia, Baobab, “Mrabai”, Tamarind etc);
- Potential Impact on Perennial, Seasonal Rivers/Streams and Wetlands;
- Damage to crops during Construction;
- Enhanced Presence of EMF Radiation;
- Potential Interference with Cultural Sites (2 Shrines and Grave Yards);
- Disruption of Businesses;
- Occasional disruption of Wildlife when they access the community forest area between DK6 and DK7 as movement corridor or dispersal area;
- Bird Strikes and Electrocuting of baboons etc;
- Excess Noise and Dust during Construction;
- Pollution from Machines and Vehicles.

### Socio-economic Survey Outcome

- 85% of the project area households use firewood for cooking;
- 10% of the project area households use charcoal for cooking
- 75% of the households use kerosene lamps for lighting
- 65% of households use Pit Latrines while 29% have no sanitation facilities

### Minute 06: Proposed Mitigation Measures

#	Impact	Proposed Mitigation Measure
1	Disruption Human Settlements	Affected property has been identified and valued for compensation and resettlement
2	Restricted use of Transmission Line Wayleave	Compensation for restricted use will be paid
3	Cutting down of trees	Facilitation of tree planting activities
4	Interference with Perennial, Seasonal Rivers/Streams and Wetlands	Water sources will be avoided when constructing pylons
5	Damage to crops during Construction	Damaged Crops to be compensated
6	Presence of EMF Radiation	Operations outside the acquired 40m wayleave is safe.
7	Damage to Cultural Sites (Shrines and Grave Yards)	<ul style="list-style-type: none"> <li>• Review Design to avoid sites</li> <li>• Carry out ceremonies for Shrines as recommended by elders</li> <li>• Graves and Grave Yards to be avoided</li> </ul>
8	Disruption of Businesses	Pay compensation for disrupted businesses
9	Bird Strikes and Electrocuting of Climbing Wildlife	Mark Conductors Build guards on pylons to restrict baboons and other animals
10	Excess Noise	Service vehicles and machines No Blasting of bedrock and workers to use ear protection
11	Air Pollution	<ul style="list-style-type: none"> <li>• Service vehicles and machines</li> <li>• Sprinkle water at construction sites and access roads</li> <li>• No burning of waste at the project site</li> </ul>
12	Soil and Water Pollution	<ul style="list-style-type: none"> <li>• Recover used oil for proper disposal</li> <li>• Store oils and chemicals on paved ground</li> <li>• Service vehicles and machines well to eliminate oil leaks</li> </ul>
13	Solid and Liquid Waste	<ul style="list-style-type: none"> <li>• Provide solid waste receptacle</li> <li>• Recover oil and chemical waste for proper disposal</li> <li>• Provide containment for storage of oils and other chemical</li> </ul>

- |  |   |
|--|---|
|  | • Engage NEMA Registered & Approved waste disposal firm |
|--|---|

**Minute 06: Views and Questions on the Proposed Power Supply Component of the Mombasa SEZ Development Project**

**Q1: How will you handle people outside the corridor whose property is affected by the project? (*Mwandano Gopholo/Jumaa Charles*).**

**A1:** Property affected by the project outside the transmission line corridor will be evaluated and compensated during construction. This is because it is not possible to determine at this moment who will be affected.

**Q2: What has KETRACO planned for the project area community beyond compensation and resettlement of the affected persons? (*Jma Mbaruck Baushi*).**

**A2:** If the community has any public project that requires support, they are encouraged to forward such suggestions to KETRACO for consideration. KETRACO will work with other agencies to see what kind of support can be provided..

**Q3: Someone else has been recorded as property owner instead of me. How can I be helped? (*Mbogo Ndoro Ngao*).**

**A3:** During the census survey, affected persons provided their names as property owners. Provide us with the name of the person registered on your property for verification. Compensation will only be paid to genuine property owners.

**Q4: What has KETRACO planned for the youth as far as jobs are concerned? (*Tsuma Mwavune*).**

**A4:** Youth within each location will be given priority for casual jobs available during construction. They are also encouraged to apply for skilled jobs so that the contractor will be able to evaluate their competence and consider them for various positions.

**Q5: How will community land be handled? (*Mwatela*).**

**A5:** Community land will be compensated as community land under the name of the organisation and members will benefit as collectively agreed in the organisation.

**Q6: Why have we not been given the price of trees? (*Juma Barazae*).**

**A6:** The value of each tree has been determined as guided by Kenya Forest Service (KFS). The price of each tree will be provided to the PAPs when NLC will be giving compensation offers. This will include the prices of other assets also.

**Q7: Someone is using my land for a period. Who should be paid for the land? (*Charles Kamanza*)**

**A7:** Compensation payment for the land goes to the land owner. Compensation for crops, structures or trees goes to the bonafide owners of the assets. If the temporary occupant of the land decided to register his name as the owner, he will not be paid since payment of compensation for land will be done on the production of land ownership documents.

**Minute 07: Closing remarks**

Madam Chief emphasized that since the community has accepted the project, they need to support it fully so that the benefits can be realised. She took the opportunity to introduce the following teams:

- PAP Committee Members
- Village Elders

- **Balozi's (Security Teams)**

The ACC thanked Panafcon for regularly consulting with the project area community. She thanked participants for attending the meeting and assured those affected that they will be compensated before being asked to vacate the project corridor. She urged them to maintain peace and support the project for the area to realise faster development.

**Minute 08: AOB**

There was no AOB

**Minute 09: Closing Prayer**

There being no other business, the meeting ended at 03.00pm with a word of prayer by one of the participants (Mbaruk Juma Baushi).

Gandini

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LIST OF PARTICIPANTS AT THE PUBLIC CONSULTATION MEETING (PCM) FOR MARIAKANI-DONGO KUNDU 220KV TRANSMISSION LINE FOR THE MOMBASA SEZ PROJECT

Venue of Meeting: GANDINI AP CAMP - GANDINI LOCATION.

Date and Time of Meeting: 20-06-2018: 2:00 P.M.

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
1.	Joshua P. Oyioko	Study Team Leader	Panafcon Ltd	j.oyioko@panafcon.net	0733 428 498	
2.	DMUMNIAH ARARO	Research Asst	Panafcon Ltd	adumunib@yahoo.com	0724939877	
3.	MUNGA NDEGWA	Asst. Chief	O.O.P - GANDINI LOCATION	-	0705811862	
4.	UMAZI MWANGILO	CHIEF	O.O.P - GANDINI LOCATION	-	0717077624	
5.	HAMISI C. KOMBO	FARMER	RESIDENCE	-	0706113182	
6.	RUWA KASSIM	VIADMN	KC GOVERNMENT	ruwakassimmwangilo@gmail.com	0711255233	
7.	MKONO MWACHONDO	FARMER	RESIDENCE	-	0711215846	
8.	JUMA ALI	M KEMBI	-	-	07208545230	
9.	JOYCE KOGCHI	ACC KASSIEMI	OOP/INTERIOR	joycelepchiidi@gmail.com	0726966580	
10.	MSAMBALA M. MUMBA	Asst. Chief	OOP/INTERIOR	mwambalacari.musambala@gmail.com	0717224814	
11.	Harrison Odhiambo	EIA/RAP	JBT	harrisonodhiambo@yahoo.com	0707264960	
12.	Mungu Samuel	-	Tsunzu Co. - Concretu	-	0712195175	
13.	Samson mbati	v. elder	Tsunzu	-	0728460453	
14.	KWAKA CHINDORO	-	KWISANGANI	-	0720050178	
15.	MWAMBIRE MABATHA	-	" "	-	0706443559	

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16.	Kwekwe Jambu					
17.	JUMAA KONYESHA				0712547858	
18.	MGALLA KONYESHA				0727689918	
19.	ZUMA MANSALE				0727642870	
20.	MANSALE TUNGWA				—	
21.	MWAMISIA BOMBDE				0795663611	
22.	JUMAPILI MDOSI	V/ELDER			0701909917	
23.	GUBE MABINDO	—	—	—	0704661096	
24.	MWAIWE ZIRO	—	—	—	—	Mwaiwe
25.	Roma Ali Dziso	Balozzi	COMT(K)	—	—	R Dziso
26.	Margaret Tamera	V/Elder	—	—	0715211505	Megara
27.	MWATILA CHICAMBA	—	—	—	0719518336	M
28.	MWAKA RUWA	—	—	—	0708226685	M
29.	NALI SAID JUMAA				0703126603	N
30.	MBODZE MWAIWE	BALAZI			0717316553	M
31.	MUPA RUWA				07	Mupa
32.	ASHA GOPHOLO				—	Asha
33.	MLONGO ZIBU				0717311212	Mlongo
34.	LUBANBO KASIMBI	V/ELDER			0791557489	
35.	LUVUNO GARI	V/Elder			0727384252	
36.	Chimayo Kombo	—	—	—	0798658409	Chimayo
37.	Mwambao gopholo	—	—	—	0720202823	Mwambao



#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
38.	AKILI MALAU CURU	-	-	-	-	AKILI
39.	NGOMI MANGALE	-	-	-	0715786310	
40.	ALI MALAY GUBE	-	-	-	0713884908	
41.	MILONGO MIZOTABA	v/elder	-	-	0706459123	u
42.	RIZIKI MUREAUATG	v/elder	-	-	0792474205	UR
43.	RUWA KAJIMBI	-	-	-	-	RUWA
44.	CHIRIMAZIRO	-	-	-	0720601334	chirima
45.	NYANJE RUWA	Balazi	-	-	0725603730	Nyanje
46.	RUMBA MWAYAYA	-	-	-	-	RUMBA
47.	KARABU CHIPHVI	Balazi	-	-	0724732788	KARABU
48.	JUMA CHENGO	-	-	-	-	JUMA
49.	KARISA MANGALE	-	-	-	0713259074	
50.	BORA KOMBO	-	-	-	0721100685	
51.	MAYARI NYUNDO	-	-	-	-	MAYARI
52.	Juma C. Kulala	-	-	-	0700561052	
53.	DUGA E. DUGA	-	-	-	0710592369	
54.	MWAIWE KUFASA	-	-	-	0715726993	Mwaiwe
55.	MRIWA MICALA	-	-	-	0705433641	
56.	ANDERSON BESA	-	-	-	0726506550	Anderson
57.	RLIMBA KARIMBO	-	-	-	0710669101	
58.	CHIMWATA GUBE	-	-	-	0725003616	
59.	Charles K. K. G. PST	-	-	-	070979061	

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60.	MCHANGA MIBUI	-	-	-	-	
61	ALI ZIRO ISUMA	-	-	-	0717311213	
62	MAVUNE K. KULALA	-	-	-	0723424855	
63	ABDALLA N GUBE	-	-	-	0716762425	
64	KOMBO ALI	-	-	-	0723048871	
65	Ali Shamsigama	-	-	-	0737998297	
66	RASHID KOMBO	-	-	-	0726753744	
67	Ngumbao Munga	-	-	-	0726305899	
68	MOMA KOMBO	-	-	-	-	MOMA
69	Ali Mwalimu	-	-	-	-	Ali
70	Pala ndeme	-	-	-	-	ndeme
71	Banu Kiphogo	-	-	-	-	Banu
72	OMARI DENA	-	-	-	0740281506	
73	Kufasa KIPHOGO	-	-	-	0737816524	
74	MAVUNE B. KULALA	-	-	-	0713414508	
75	MANIYELE KODJA	-	-	-	-	-
76	OLUWATWETA KARIGA	-	V/ELDER	-	0723694462	
77	MUSANGANI KANJA	-	-	-	-	-
78	MWANBAZA GHWENIE	-	-	-	-	GT
79	KANGA Maiti	-	-	-	0714083292	Kang
80	RAI MAUNE	-	-	-	-	
81	UMAZI MOMA	-	-	-	-	+

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82	HASSANI Msimba				0715456971	
83	Ali Shamsi, Nyamau				0757998297	
84	HARUNGA MUSAZUKI				0716826744	
85	MANGALE MUNGA				0728680564	
86	Said M. Ngao				0716581127	
87	KOMBO MAWUNE				0724907003	
88	CHIZI MANGALE				0732332798	
89	RIZIKI MBZOMBA					
90	JUMAA MUMBELE				0723189561	
91	KARISA MANGALE					
92	MOHAMMED DIALA					
93	DAUD HAMISA					
94	SAUMU KIENGA					
95	KAJUMUSA ZIRU					
96	CHIZO EGA					
97	Ahmedani Chao					
98	Aminu Ali					
99	Chari Chiro					
100	Bechizi Mwero					
101	Kadenga Ali					
102	Hamisi Bekombo					
103	Mwaka Bega					

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
104	MKENYOTI KOMBO	BODABODA			0725941231	MKen
105	MGIATI Chimojo				0726942802	MGIATI
106	LUVUNO NYEMARA	MKULIMA			07222872	Ni-
107	ANZAZI Mwanasaka	MKULIMA			0715411788	NK
108	NYARUVUWA MAZERA	MKULIMA			071234	NK
109	ANZAZI GAMBARE					-
110	FATIUMA KENGO					-
111	MUZI CHILEMBI					-
112	LUVUNO DZUNGA				0702665032	NK
113	MWAKA MAINA					-
114	CHILEMBI JUMU	Fish			0727589427	Chilembi
115	MADAFU ISUMA	Vice Chair	Isunga Bmu	-	0710301155	Madafu
116	MEMUNGA SAMUEL				0729291307	Memunga
117	MUSERO KOMBO	V. Elder	L. MILANJUNI			MUSERO
118	NGALIA BAYA					-
119	MSHAHANE MWATELA					-
120	CHUPHI DZUNGA					-
121	MWAKUJI SAWA	MALISON			0740869799	MWAKUJI
122	KOMBO MANGALE				0725037840	KOMBO
123	MWANGOKA MABANGI				0725535817	MWANGOKA
124	RUMBA CHUPHI				0721817473	RUMBA
125	CHOGA GORTOLO				0791856721	CHOGA

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126	MENZA CHIMERA				0790130534	CON
127	NZARHILA ZUMA				0710801642	<del>CON</del>
128	ALIPONI CHIRIYO				074264310	CON
129	HAMA CHIMOTO				07	CON
130	MUSCHE SANA				0721591518	CON
131	Chiwewe Chimiso				0706067803	CON
132	MANGALE TSIENYA					CON
133	CHI MANGALE					CON
134	Muligo Mwachasa				078053828	CON
135	Jenyawa Kaganya				0790675919	CON
136	MWANIGOMBO KARSA				0701147137	CON
137	DMARI B. MUSSAH				0712838705	Mussah
138	CHIMOTO -C- CHIMOTO				0720108846	Chi
139	NZAI RAYDU NZAI				0713693236	CON
140	KACHUYA SAKWA				0725607758	CON
141	CHIWOYA SAKWA				0711733191	CHI
142	NDENGA HAMA				0715145651	CON
143	Wilfred Kombo				0742100338	CON
144	JAJI MANGALE					
145	NYANJA CHARO					CON
146	KADENGE CHARO					CON
147	KALIMBO MURRO				0719603519	KAS

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
148	HASSAN DEFE				07	
149	MWAHWE M. KOMBO				0728626603	
150	MANGALE MIBARUKA				0718941368	
151	MBOGA NDORO				0705665975	
152	BATI NGENDO				0703748209	
153	MWATELA BALOZI				0713302769	
154	MATANO M'HAMMED					
155	CHUMBO KENGO					
156	JIRODI MBUI				0729584435	
157	MWANGOLO CHALINDILO					
158	CHILLO MDCI				0733445889	
159	SAIDI DZUHA CHUPHI				0714456381	
160	BODWE PEKE				8704010298	
161	MWANAMWENGA C. NYARIE				0721928601	
162	MINDURU MBIKI				0700351932	
163	ICABINDERE MUSAWE				0713260158	
164	JIRORE LEWA					
165	BETUNDA KUHALA					
166	TUNGWA MOSES					
167	AEI MUMBA					
168	Kombo chumayo				0729835362	
169	Daniel chumayo				0701360501	

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170	MARINYI MABLOGU				0713259465	
171	JUMATA MBOGA				0718795816	
172	ELVIS J. KUMBO				0723610360	
173	OMAR .C. MWIPI				0718962539	
174	TSUMIA MAMUNE				0707563190	
175	MUNJO MALAU				0710845690	
176	MWAZOMBO MRANGA				0798437907	
177	NYOTA MALAU				0714574834	
178	JUMA BANGZA				0715638034	
179	MUSEM GUBE				0727571851	
180	MABZO MSHI					
181	CHIMYO CHINWEWE				0719733683	CHIMYO
182	ALI KUMBA				0702481193	
183	MGBLA SWALEHE				0727790897	MR
184	HARANGA MWARUA				0706433805	
185	JUMATA KOMBO MUREO				0704223490	
186	ROBERT SOTO				0721579366	
187	ALI MONGO					
188						
189						
190						
191						

**7. Mbunguni Location PCM at Mbunguni Chief's Camp Ground**

- **Minutes**
- **Attendance Register**



**MINUTES OF THE PUBLIC CONSULTATION MEETING (PCM) FOR THE ESIA STUDY FOR THE POWER SUPPLY COMPONENT OF THE MOMBASA SEZ DEVELOPMENT PROJECT HELD AT MBUNGUNI CHIEF'S CAMP GROUND, MBUNGUNI LOCATION ON THURSDAY 21 JUNE 2018 STARTING AT 09.00AM.**

**ATTENDANCE LIST:**

No.	Name	No.	Name	No.	Name
1	Joshua P. Oyieko	38	Kamwana Karisa	75	Ali Bakari
2	Omummita Agwaro	39	Nadzuwa Kombo	76	Ali Gwedzele
3	Omari H. Bambanya	40	Fatuma Bagala	77	Mwandoro Ali
4	Bunguu Ndaru	41	Nienzi Rashid	78	Said Rawa
5	Ali Salim Jambia	42	Shaban Suwar	79	Ngetse Rama
6	Dolla N. Mwambimbdo	43	Ali J. Suwar	80	Kadzo Yaa
7	Mwangolo Chidundu	44	Mwatabu Ali	81	Riziki Baya
8	Ngovi Chindoro	45	Ndoro Chaka	82	Nzalambi Wangoni
9	Juma Shauri	46	Juma M. Mabanda	83	Naomb Mwangodza
10	Abdallah Said	47	Biasha Phengo	84	Mwanmsha Kenga
11	Juma Tuku	48	Amina Majimbo	85	Jumwa Mrisa
12	Juma Abdalla	49	Mwanasiti Said	86	Mejuma Said
13	Mwangaza Hamisi	50	Mwanatumu Ali	87	Rehema Randan
14	Chari Kamanza	51	Ali Kadenge	88	Mupa Tuwa
15	Vurya Kaphu	52	Mwingo Chirima	89	Mbodze Nyae
16	Suleiman Suwari	53	Juma Matano	90	Agnes Tsuwa
17	Josphat M. Murisa	54	Fatuma Mwamarezi	91	Nguta Ngala
18	Mupa J. Majaliwa	55	Kadzango A. Suwar	92	Mwero Rai
19	Mwalii Mwamkanyi	56	Luvuno Ndoro	93	Ndege Beega
20	Amina Suwari	57	Mbeyu Bakari	94	Mwanarusi Rashid
21	Mkasi Juma	58	Mariam Dolla	95	Hamisi Randani
22	Malachu Mwadzowa	59	Mwanaisha Suleiman	96	Nassor Dollar
23	Mwanasiti Salim	60	Chizi Vuwo	97	Athumani J. Suwar
24	Shani Abeid	61	Mohamed Abdalla	98	Nyawa Rama
25	Matungo Ali	62	Sato Rawa	99	Abdalla Juma
26	Bakar Dolla	63	Rashid Beja	100	Hamisi Juma
27	Athuman Suwar	64	Rama Salim	101	Matano Athuman
28	Suwar M. Viro	65	Ali Kariwa	102	Rama Abdalla
29	Ali Bora	66	Pengine Gabwere	103	Madziko Julo
30	Kombo Abdalla	67	Mohamed Ali	104	Ramadhani Said
31	Chizi Mazera	68	Ali Swaleh	105	Mwachidudu Mwaphengo
32	Said Mwandoro	69	Bechari Mwandegwa	106	Dzuwa Matano
33	Mwambodze Tsangari	70	Stephin Mwanzije	107	Said Juma
34	Evans M. Murisa	71	Hamisi Phengo	108	Nyawa Mtuku
35	Mwanamisi Mkala	72	Chengo Dzuwo	109	Kwekwe Madziko
36	Tsuma Ndoro	73	Mohamed Kombo	110	Rama Kadzingo
37	Abdalla Salim	74	Ndegwa Mwandegwa	111	Uchi Mwaruwa

No.	Name	No.	Name	No.	Name
112	Mwanaisha Said	130	Juma Munga	148	Mrisa Nyondo
113	Umazi Bodwe	131	Mazera Kamanza	149	Ngowa Nyondo
114	Bakar Mwaruwa	132	Mapenzi Chityeke	150	Hamisi Kenya
115	Mbwana Hassan	133	Nyundo Bejeto	151	Juma Shaban Mwabasi
116	Vunga	134	Hamisi S. Mwamui	152	Robert Shunet
117	Mwadiga Mangale	135	Hassan Guni	153	Nimusimu Mwasina
118	Mwaanje Tsngar	136	Juma Gambere	154	Fatuma Tabwara
119	Hamisi Juma	137	Ali Said	155	Harrison Odhiambo
120	Chimera Mzungu	138	Matano Ngala	156	Ndegwa Mwadiga
121	Umazi Chiphatsi	139	Said Hamisi	157	Shaban Athuma
122	Mishi Dena	140	Salim Hamisi	158	Swaleh Mwandago
123	Mbodze Chimera	141	Mangale Nyundo	159	Omar Mwandegwa
124	Mesalim Salim	142	Gwende Bechari	160	Mejumaa Tsongo
125	Mwanasha Salim	143	Chizama Ngoka	161	Mesaid Mwalachu
126	Mwanamisi Hassan	144	Mohamed Ali	162	Mwaka Bavu
127	Mejumaa Bora	145	Mohamed Chimera	163	Fatuma Omar
128	Mupa Ngombu	146	Mohamed Hassan	164	Robert Chaka
129	Stephen Ngome	147	Omar Mohamed		

#### AGENDA OF THE MEETING

1. Opening prayer by one of the participants.
2. Introduction of Participants
  - *National Government Representatives*
  - *County Government Representatives*
  - *KETRACO*
  - *JICA*
  - *Panafcon Ltd*
  - *Project Area Leaders/NGOs/CBOs*
3. Purpose of conducting the Public Consultation Meeting (*KETRACO*).
4. ESIA Study Activities carried out on the Transmission Line and Substation in Dongo Kundu(*Panafcon*)
5. Findings of the Study/Project Environmental Impacts (*Panafcon*).
6. Proposed Mitigation Measures
7. Views of the Participants – Comments, Q & A Session (*County Government/National Government/KETRACO/JICA/Panafcon*).
8. Closing Remarks by (*KETRACO/County Government/National Government*).
9. A.O.B.
10. Closing Prayer.

#### Minute 01:

The meeting was called to order at 10.00am and began with a word of prayer from one of the participants (Juma Shauri

**Minute 02: Introduction of the Participants.**

The Assistant Chief of the area (Mr Mwatabu Ali) called the meeting to order and welcomed everyone in attendance. He welcomed the Chief of Mbunguni Location (Mr Abdalla Salim). The Chief acknowledged and thanked the participants for finding time to attend the meeting. He recognised the presence of the County Government representatives and the area leaders including the Village and Ward Administrators..

The Chief welcomed the team of experts from JICA and Panafcon and requested Joshua (Panafcon Ltd) to introduce the other team members and JICA Design Team (JDT) representative.

**Minute 03: Purpose of Conducting the Public Consultation Meeting (PCM).**

Mr. Oyieko started by highlighting the the 2 previous meetings (Sensitisation and PAP Consultation Meetings) and the current meetings (Public Consltation Meeting - PCM).

- a) **Sensitisation Meeting:** Mr Oyieko elaborated that the Sensitisation Meeting held in July 2017 was to inform the project area community about the proposed project and the planned activities that will take place during the ESIA and RAP Study.
- b) **PAP Consultation Meeting:** The PAP Consultation Meetings were held in the month of April 2018. The purpose of the meeting is to disclose to the Project Affected Persons (PAPs) how the Transmission Line and substation Project is likely to affect them and the proposed restoration measures that will be put in place.
- c) **Public Consultation Meeting (PCM):** The purpose of conducting the PCMs is to disclose to the Project Area Community and Stakeholders the Findings of the Environmental and Social Impact Assessment (ESIA) Studies and the Proposed Mitigation Measures.

**Minute 04: The ESIA Study Activities carried out on the Transmission Line and substation in Dongo Kundu**

Panafcon carried an assessment of the powerline corridor from Mariakani-Dongo Kundu and evaluated existing vegetation (trees and crops), water sources (rivers, wells, boreholes, springs and surface water pans existing in the project area. An evaluation was also done on the presence of forests, wildlife and birds. Baseline measurements on noise, air soil, water and radiation were carried out. The ESIA Study identified the existing plants and animals along the project corridor establishing the project impacts on them.

**Minute 05: Findings of the ESIA Study/Project Environmental Impacts**

Mr Oyieko mentioned that the total distance covered by TL from Mariakani to Dongo Kundu is 53km. Mbunguni Location covers 8.01km.: He highlighted the following aspects:

**Project Benefits/Positive Impacts**

- Improvement of power supply in the project area and provision of adequate power:
- Increased industrial activities in the project area
- Generation of Direct and Indirect Jobs
- Enhancement of Economic Growth of the Coastal Region and Kenya as a whole;
- Improvement of income for project area community and enhancement of exports

**Project Impacts**

- Disruption of Human Settlements;

- Cutting down of Planted (Coconut Pam, Cashew Nut, Mango, Neem etc) and Indigenous Trees (Acacia, Baobab, “Mrabai”, Tamarind etc);
- Potential Impact on Perennial, Seasonal Rivers/Streams and Wetlands;
- Damage to crops during Construction;
- Enhanced Presence of EMF Radiation;
- Potential Interference with Cultural Sites (2 Shrines and Grave Yards);
- Disruption of Businesses;
- Occasional disruption of Wildlife when they access the community forest area between DK6 and DK7 as movement corridor or dispersal area;
- Bird Strikes and Electrocution of baboons etc;
- Excess Noise and Dust during Construction;
- Pollution from Machines and Vehicles.

### Socio-economic Survey Outcome

- 85% of the project area households use firewood for cooking;
- 10% of the project area households use charcoal for cooking
- 75% of the households use kerosene lamps for lighting
- 65% of households use Pit Latrines while 29% have no sanitation facilities

### Minute 06: Proposed Mitigation Measures

#	Impact	Proposed Mitigation Measure
1	Disruption Human Settlements	Affected property has been identified and valued for compensation and resettlement
2	Restricted use of Transmission Line Wayleave	Compensation for restricted use will be paid
3	Cutting down of trees	Facilitation of tree planting activities
4	Interference with Perennial, Seasonal Rivers/Streams and Wetlands	Water sources will be avoided when constructing pylons
5	Damage to crops during Construction	Damaged Crops to be compensated
6	Presence of EMF Radiation	Operations outside the acquired 40m wayleave is safe.
7	Damage to Cultural Sites (Shrines and Grave Yards)	<ul style="list-style-type: none"> <li>• Review Design to avoid sites</li> <li>• Carry out ceremonies for Shrines as recommended by elders</li> <li>• Graves and Grave Yards to be avoided</li> </ul>
8	Disruption of Businesses	Pay compensation for disrupted businesses
9	Bird Strikes and Electrocution of Climbing Wildlife	Mark Conductors Build guards on pylons to restrict baboons and other animals
10	Excess Noise	Service vehicles and machines No Blasting of bedrock and workers to use ear protection
11	Air Pollution	<ul style="list-style-type: none"> <li>• Service vehicles and machines</li> <li>• Sprinkle water at construction sites and access roads</li> <li>• No burning of waste at the project site</li> </ul>
12	Soil and Water Pollution	<ul style="list-style-type: none"> <li>• Recover used oil for proper disposal</li> <li>• Store oils and chemicals on paved ground</li> <li>• Service vehicles and machines well to eliminate oil leaks</li> </ul>
13	Solid and Liquid Waste	<ul style="list-style-type: none"> <li>• Provide solid waste receptacle</li> <li>• Recover oil and chemical waste for proper disposal</li> <li>• Provide containment for storage of oils and other chemical</li> <li>• Engage NEMA Registered &amp; Approved waste disposal firm</li> </ul>

**Minute 06: Views and Questions on the Proposed Power Supply Component of the Mombasa SEZ Development Project**

**Q1: Will those affected healthwise be supported? (*Juma Matano*)**

**A1:** Where it can be confirmed that persons have been affected by the project, KETRACO will provide support. However, KETRACO will ensure that measures are put in place to avoid accidents and impacts to community health.

**Q2: If land belongs to a family/group, who is supposed to be paid? (*Suleiman Swari*)**

**A2:** The group or family members will appoint a representative who will collect the compensation payment on behalf of the other family members or group members.

**Q3: What happens to housing structures which cannot last more than 2 years? (*Mwatabu Ali*)**

**A3:** Ideally compensation should be done within one year of carrying out the census survey. If the structure starts developing signs of collapsing before compensation is paid, pass the information to KETRACO through the PAP Committee.

**Minute 07: Closing remarks**

The ACC (Robert Shunet) thanked Panafcon for regularly consulting with the project area community. He thanked participants for attending the meeting and assured those affected that they will be compensated before being asked to vacate the project corridor. He urged the community to maintain peace and support the project for the area to realise faster development.

The Ward Administrator (Hamisis Kenya), the Sub-County Administrator (Madam Nimusimu Mwasina) and Advisor to the Governor (Madam Fatuma Tabwara) thanked the community for attending the meeting and providing support to the project. They encouraged members to continue showing interest in development activities in the County.

**Minute 08: AOB**

There was no AOB

**Minute 09: Closing Prayer**

There being no other business, the meeting ended at 11.10am with a word of prayer by one of the participants (Maalim Juma Shauri).

Mbunguni

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LIST OF PARTICIPANTS AT THE PUBLIC CONSULTATION MEETING (PCM) FOR MARIAKANI-DONGO KUNDU 220KV TRANSMISSION LINE FOR THE MOMBASA SEZ PROJECT

Venue of Meeting: MBUNGUNI

Date and Time of Meeting: 21-06-2018 9:00 Am.

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
1.	Joshua P. Oyieko	Study Team Leader	Panafcon Ltd	j.oyieko@panafcon.net	0733 428 498	<i>Joyieko</i>
2.	MUMMATH AGWAZO	Research <del>Asst</del>	Panafcon Ltd	omummata@panafcon.net	0724 939 877	<i>M. Agwazo</i>
3.	OMAR H. BAMBANYA				0746772105	<i>Bambanya</i>
4.	BUNGU NDARO				0793907722	<i>Bungu</i>
5.	ALI SARIM JAMBIA				0727569588	<i>Ali</i>
6.	DOLA N. MWAMBINDO				0735232098	<i>Mwambindo</i>
7.	MWANGISO CHONDU				- - -	<i>MW</i>
8.	NGWI CHINDORO				- - -	<i>Ngwi</i>
9.	JUMA SHAURI				0727578611	<i>Juma</i>
10.	ABDALLAH SARD				0718233831	<i>Sard</i>
11.	JUMA FEIKU				0701379037	<i>Feiku</i>
12.	JUMA ABDALLA				- - -	<i>Juma</i>
13.	MWANGIZA HAMISI				0729260061	<i>Hamisi</i>
14.	CHARI KAMANZA				- - - -	<i>CHARI</i>
15.	MURYA KADHU				0799033238	<i>Munya</i>

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
16.	SUWEIMAN SUWAR				- - -	Sulaiman
17.	JOSPHAT M. MURISA				0722935366	Josphat
18.	MURK J. MASHUKU				0700672453	Murk
19.	MKAZI MWAMKANYI				0716284240	Mkazi
20.	AMINA SUWARI				- - -	Amina
21.	MKASI LUMA				0707707430	Mkasi
22.	MAKACHU MWADZWA				0703267521	M.S.J
23.	MWANASITI SALIM				0703741092	Salim
24.	SITANI ABID				- - -	Abid
25.	MATUNGU ANI				<del>0790675921</del>	Ani
26.	BAKAR DOLA				0790675921	Bakar
27.	ATILUMAN SUWAR				0711763055	Atiluman
28.	SUWAR M. VIRO				0799067261	Suwar
29.	ARI BORA				0702763126	Ari
30.	KOMBO ABDALLA				0728142467	Kombo
31.	CHIZI MAZERA				- - -	Chizi
32.	SAYO MWANDORO				0700880862	Saidi
33.	MWAMBOOZE ISANGAL				- - -	M.I.
34.	EVANS M. MURISA				0117082455	Evans
35.	Mwanamisi Micala				0723798210	Mic
36.	TSUMA NDOPE				0726001996	Tsum
37.	ABDALLH SAZIM	CHIEF	OOD	abdulnaga49@gmail.com	0726480864	Abd

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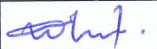





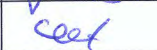
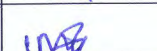
#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
38.	KAMWANA KARISA				0729637133	
39.	NADZUKIA KOMBO				- - -	N. K.
40.	FATUMA BAGAHA				0742895887	F. B.
41.	NIENZI RASHID				- - -	N. R.
42.	SHABAN SUWAR				0700824798	
43.	ARI J. SUWAR				- - -	ARI
44.	MWATABU ARI	ASS. CHIEF	D.O.P	Mwatabu6@gmail.com	077480331	
45.	KIDORO CHAKA				079604151	
46.	JUMA M. MABANDA				0721209238	
47.	BIASHA PHENGO				07 - - -	x B.
48.	ANUNA MAJIMBO				0719617595	
49.	MWANASII SARD				0790747867	x M-SI
50.	MWANAKIUMU ARI				0714873604	
51.	ARI KADENGE				0700552164	
52.	MWINGO CHRIMA				0714853480	
53.	JUMA MAFANO				0724225793	
54.	FATUMA MWAMAREZI				0705336621	F.
55.	KADRANGO A. SUWAR				0729513889	
56.	LUVONO NODRO				- - -	L. N.
57.	MBETU BAKARI				- - -	
58.	MARIAM DOLLA				0731262770	
59.	MWANAKISHA Suleima				- - -	



#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
60.	CHIZI VUWO				0742111480	
61	Mohamed Abdalla				0717679980	
62	SAPD KANG				- - -	S.P.R
63	RASHID BEJA				0702589020	
64	KAMX SARIW				- - -	Kamx
65	ARI KARINA				0796269918	
66	PENGINE GAMBERE				0797574908	
67	MOHAMED ALI				0700291987	
68	ARI SWAHEH				- - -	A.S.
69	BECHARI MWANDEGWA				0707908360	B.M
70	STEPHAN MWANZISE				0713107721	
71	HAWISI RHEMGO				0796694208	M-
72	CHANGA ARUWO				0700374699	
73	MOHAMED. KOMBO				0791942764	M.K.
74	MDEGWA MWANDEGWA				- - -	M.M.
75	ARI BAKARI				0727657089	A.B.
76	ARI GWEDZEHE				0726717858	
77	MWANDORI ARI				0788631379	
78	SAPD KANG				- - -	
79	NWESSE KANGA				0792530672	
80	KADZO YAA				0717924625	
81	KIZIKI BAYA				0708924550	R.B.

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
82	KALAMBI WANGOM				- -	H.W
83	NAOMB MWANGWOZA				- -	-
84	MWANMISHA KENGA				- -	WJ
85	JUMWA MUSA				- -	Jw
86	MREJUMA SAYS				- -	M.S
87	REHEMA RANDAN				0791365623	RH
88	MUDA TUMA				- -	M.T
89	MBODZE NYAE				- -	MB
90	AGNES TSUWA				- -	A.T
91	NGUIA NGALA				- -	
92	MUKIRO RAI				- -	MR
93	MORRE BERRID				- -	N.B.
94	MWANARYI RASHID				0717128209	MR
95	HANISI RANDANI				0715551037	<del>H</del>
96	MASSOR DALLAR				0728271806	M.S.
97	AITHUMAN J. SUWAR				0788386461	AS
98	NYXWA RAMA				07- - -	N.R.
99	ABDALLA JUMA				- -	A.B.
100	HANISI JUMA				0725280357	A.J.
101	MATIANO AITHUMAN				- -	<del>M</del>
102	RAMA ABDALLAH				- -	R.A.
103	MADZIKO JUKO				0718856239	M.J.

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
104	RAMADHAN SAID				0704718095	
105	MWACHOUU MWADHEKA				0715120250	
106	DZUMA MAFANO				- -	D. M.
107	SAID JUMA				- -	
108	NYAKIA MUKU				- - -	N. MUKU
109	KWEKE MADZIKU				0791572935	
110	RAMA KADZINSI				- - -	R. K.
111	UCHI MWARUWA					
112	MWANASHA SAID				0725362293	M.K.
113	AMAZI BODWE				0720971165	
114	BAIKAR MWARUWA				- -	
115	MWANX HASSAN				0726954104	
116	KUNGA				0719454433	
117	MWADIGA MANGALE				- -	
118	MWAZANJE SANGAR				0713260054	
119	HANISI JUMA				0742589998	
120	CHIMERA MZUNGU				0716655759	
121	UMBI CHIPHATI				0708624546	
122	MISHA DENA				- -	
123	MBODZE CHIMERA				- -	
124	MESAHU SAHU				- -	M.H
125	MWANASHA SAHU				- -	

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
126	MWANAMISI HASSAN				- - -	+ [Signature]
127	MEJUMAA BORA				- - -	[Signature]
128	MUDA NGOMBU				0707150093	0707150093
129	STEPHIN NGOME				0738472683	[Signature]
130	JUMA MUNGA				0728419569	[Signature]
131	MADERA KAMANZA				0705353481	[Signature]
132	MADENZI CHIYEKE				- - -	[Signature]
133	NTUNDO GELETO				0712873734	[Signature]
134	HAMISI-S.M WAMUI				0727545549	[Signature]
135	HASSAN GUAT				0746772090	[Signature]
136	JUMA GAUBERE				0713552622	[Signature]
137	ARI SAPP				0706592539	[Signature]
138	MATANO NGAWA					
139	SAPP HAMISI				0723866631	
140	SABIR HAMISI				0732889651	
141	MANGWE NTUND				0742598900	
142	GWENDE BELHARI				- - -	
143	CHIZAMA NGOKA				- - -	
144	MOHAMED ALI				- - -	
145	MOHAMED CHAMBERA				0700547146	
146	MOHAMED HASSAN				- - -	
147	OMAA MOHID				- - -	

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
148	MIRISA NYONDO				0727684988	
149	NGOWA NYONDO					
150	HUMISI KENYA	WARO ADMIN	CGK	humerkenya70@gmail	072240065	
151	JUMA SHABAN MWABASI	VILLAGE ADMIN	CGK	abashsh@yahoo.com	0726418061	
152	ROBERT SHUNET	ACC	NGAO	rshunet@gmail.com	0705008920	
153	NIMUSIMU MWESINGA	SCA MATIGA	CGK	nimusimuidli@yahoo.com	0722651818	
154	FATUMA TABWARA	POLITICAL ADVISOR	CGK	tabsfatma@gmail.com	0720456636	
155	HAMILTON TOLUAMBO	EIA/RAP	JDT	hamtoluambo@yahoo.com	0707264964	
156	NGOWA MWADIGA				-	
157	SHABAN ATHUMA				-	
158	SWALEH MWANDAGO				-	
159	OMAR MWANDIENZI				-	
160	MELUNGA TSONGO				-	
161	MESARD MUKALLEMI				-	
162	MWAKA BAVU				-	
163	FATIMA OMAR				-	
164	ROBERT SHUNET	N. Y. Dev				
165					0725667134	
166						
167						
168						
169						

**8. Ng'ombeni Location PCM at Kiteje Assistant Chief's Camp**

- **Minutes**
- **Attendance Register**

**MINUTES OF THE PUBLIC CONSULTATION MEETING (PCM) FOR THE ESIA STUDY FOR THE POWER SUPPLY COMPONENT OF THE MOMBASA SEZ DEVELOPMENT PROJECT HELD AT KITEJE ASSISTANT CHIEF'S CAMP, NG'OMBENI LOCATION ON THURSDAY 21 JUNE 2018 STARTING AT 02.00PM.**

**ATTENDANCE LIST:**

No.	Name	No.	Name	No.	Name
1	Joshua Oyieko	36	Bijuma Chigolo	71	Ali Bakari
2	Omummitah Agwaro	37	Bakari Mohammed	72	Khamisi Mohammed
3	Athimani Jiti	38	Heri Juma	73	Mohammed Hassan
4	Salama Musa	39	Mohammed Mwalimu	74	Mwalimu Dudula
5	Harrison Odhiambo	40	Shee Mwinyikombo	75	Abdallah Radan
6	Alfan Omar	41	Mwinyikai Selewa	76	Hamisi Abdallah
7	Hassan Omar	42	Mnyika Mhinda	77	Omari Ali
8	Mbwanati Dzoki	43	Salim Ramoyo	78	Lazima Yesi
9	Hamisi Suleman Dobi	44	Salim Juma	79	Salim Mwakutata
10	Swalleh Hassan	45	Hassan Kuphe	80	Rashid Mwasheri
11	Hamisi Habasi	46	Idi Ali	81	Mwannyemi Musa
12	Ali Ramathani	47	Hamisi Hassan	82	Hassan Magao
13	Suleman Mwakachi	48	Abdalla Ali	83	Rusuidi Mwazabi
14	Mohammed Mwangala	49	Rama	84	Fatuma Suleman
15	Mwadihha Yesi	50	Hassan Ali	85	Sheban Swaleh
16	Abdallah Ramakionjo	51	Riziki Salim	86	Mariam Fabian
17	Jiti Yesi	52	Mishi Mwandango	87	Fatuma Mguna
18	Hamisi Mwambega	53	Swalehe Abdallah	88	Fatuma Mohhaemd
19	Bakari Mwamfuli	54	Mohamed Omari	89	Hassan Juma
20	Bakari Sulemani	55	Majaliwa Said Chaki	90	Said Suleman
21	Hamisi Abdallah	56	Mwanatumu Pashua	91	Khaud Hadi Baada
22	Mohamed Suleman	57	Sabli Mwatuji	92	Yusuf Mwero
23	Juma Amani	58	Halfan Rama	93	Hamisi Abdallah
24	Halfani Ali	59	Mohammed Sharia	94	Abdallah Moina
25	Ali Mohammed	60	Juma Sumu	95	Hammed Suleman
26	Juma Rajab Ngao	61	Mohammed Sababu	96	Ali Haje
27	Mwinyihaja Mohammed	62	Mwinyi Kombo Omar	97	Marimu Salim
28	Abdala Chache	63	Shee Juma	98	Fatuma Musa
29	Mwanaisha Chigamba	64	Mwalimu Mbega	99	Rama Chaka
30	Mwari Mwanyugu	65	Kishombo Shee	100	Hassan Mwinyi
31	Mpuchwe Phengo	66	Athman Jiti	101	Chakaya Fuza
32	Fatuma Said	67	Athman Machese	102	Mwero Musa
33	Asha Mwinyi Mabanda	68	Mwanyigai Malumbo	103	Hassan Salim
34	Biamu Saidi	69	Hamissi Mwinyihaji		
35	Aga Mwangale	70	Ramathan Mwalimu		

## **AGENDA OF THE MEETING**

1. Opening prayer by one of the participants.
2. Introduction of Participants
  - *National Government Representatives*
  - *County Government Representatives*
  - *KETRACO*
  - *JICA*
  - *Panafcon Ltd*
  - *Project Area Leaders/NGOs/CBOs*
3. Purpose of conducting the Public Consultation Meeting (*KETRACO*).
4. ESIA Study Activities carried out on the Transmission Line and Substation in Dongo Kundu(*Panafcon*)
5. Findings of the Study/Project Environmental Impacts (*Panafcon*).
6. Proposed Mitigation Measures
7. Views of the Participants – Comments, Q & A Session (*County Government/National Government/KETRACO/JICA/Panafcon*).
8. Closing Remarks by (*KETRACO/County Government/National Government*).
9. A.O.B.
10. Closing Prayer.

### **Minute 01:**

The meeting was called to order at 02.00pm and began with a word of prayer from one of the participants (Swaleh Hassan)

### **Minute 02: Introduction of the Participants.**

The Chief of the area (Mr Athumani Macheso) called the meeting to order and welcomed everyone in attendance. He welcomed the Chief of Mbunguni Location (Mr Abdalla Salim). The Chief acknowledged and thanked the participants for finding time to attend the meeting. He recognised the presence of the former Chief of the area who is now the Ward Administrator (Athuman Jiti), County Government representatives and the area leaders including the Village Administrator..

The Chief welcomed the team of experts from JICA and Panafcon and requested Joshua (Panafcon Ltd) to introduce the other team members and JICA Design Team (JDT) representative.

### **Minute 03: Purpose of Conducting the Public Consultation Meeting (PCM).**

Mr. Oyieko started by highlighting the the 2 previous meetings (Sensitisation and PAP Consultation Meetings) and the current meetings (Public Consltation Meeting - PCM).

- a) **Sensitisation Meeting:** Mr Oyieko elaborated that the Sensitisation Meeting held in July 2017 was to inform the project area community about the proposed project and the planeed activities that will take place during the ESIA and RAP Study.
- b) **PAP Consultation Meeting:** The PAP Consultation Meetings were held in the month of April 2018. The purpose of the meeting is to disclose to the Project Affected Persons (PAPs) how the Transmission Line and substation Project is likely to affect them and the proposed restoration measures that will be put in place.



- c) **Public Consultation Meeting (PCM):** The purpose of conducting the PCMs is to disclose to the Project Area Community and Stakeholders the Findings of the Environmental and Social Impact Assessment (ESIA) Studies and the Proposed Mitigation Measures.

**Minute 04: The ESIA Study Activities carried out on the Transmission Line and substation in Dongo Kundu**

Panafcon carried an assessment of the powerline corridor from Mariakani-Dongo Kundu and evaluated existing vegetation (trees and crops), water sources (rivers, wells, boreholes, springs and surface water pans existing in the project area. An evaluation was also done on the presence of forests, wildlife and birds. Baseline measurements on noise, air soil, water and radiation were carried out. The ESIA Study identified the existing plants and animals along the project corridor establishing the project impacts on them.

**Minute 05: Findings of the ESIA Study/Project Environmental Impacts**

Mr Oyieko mentioned that the total distance covered by TL from Mariakani to Dongo Kundu is 53km. Ng'ombeni Location covers 3.92km.: He highlighted the following aspects:

**Project Benefits/Positive Impacts**

- Improvement of power supply in the project area and provision of adequate power:
- Increased industrial activities in the project area
- Generation of Direct and Indirect Jobs
- Enhancement of Economic Growth of the Coastal Region and Kenya as a whole;
- Improvement of income for project area community and enhancement of exports

**Project Impacts**

- Disruption of Human Settlements;
- Cutting down of Planted (Coconut Palm, Cashew Nut, Mango, Neem etc) and Indigenous Trees (Acacia, Baobab, "Mrabai", Tamarind etc);
- Potential Impact on Perennial, Seasonal Rivers/Streams and Wetlands;
- Damage to crops during Construction;
- Enhanced Presence of EMF Radiation;
- Potential Interference with Cultural Sites (2 Shrines and Grave Yards);
- Disruption of Businesses;
- Occasional disruption of Wildlife when they access the community forest area between DK6 and DK7 as movement corridor or dispersal area;
- Bird Strikes and Electrocution of baboons etc;
- Excess Noise and Dust during Construction;
- Pollution from Machines and Vehicles.

**Socio-economic Survey Outcome**

- 85% of the project area households use firewood for cooking;
- 10% of the project area households use charcoal for cooking
- 75% of the households use kerosene lamps for lighting
- 65% of households use Pit Latrines while 29% have no sanitation facilities

**Minute 06: Proposed Mitigation Measures**

#	Impact	Proposed Mitigation Measure
1	Disruption Human Settlements	Affected property has been identified and valued for compensation and resettlement
2	Restricted use of Transmission Line Wayleave	Compensation for restricted use will be paid
3	Cutting down of trees	Facilitation of tree planting activities
4	Interference with Perennial, Seasonal Rivers/Streams and Wetlands	Water sources will be avoided when constructing pylons
5	Damage to crops during Construction	Damaged Crops to be compensated
6	Presence of EMF Radiation	Operations outside the acquired 40m wayleave is safe.
7	Damage to Cultural Sites (Shrines and Grave Yards)	<ul style="list-style-type: none"> <li>• Review Design to avoid sites</li> <li>• Carry out ceremonies for Shrines as recommended by elders</li> <li>• Graves and Grave Yards to be avoided</li> </ul>
8	Disruption of Businesses	Pay compensation for disrupted businesses
9	Bird Strikes and Electrocutation of Climbing Wildlife	Mark Conductors Build guards on pylons to restrict baboons and other animals
10	Excess Noise	Service vehicles and machines No Blasting of bedrock and workers to use ear protection
11	Air Pollution	<ul style="list-style-type: none"> <li>• Service vehicles and machines</li> <li>• Sprinkle water at construction sites and access roads</li> <li>• No burning of waste at the project site</li> </ul>
12	Soil and Water Pollution	<ul style="list-style-type: none"> <li>• Recover used oil for proper disposal</li> <li>• Store oils and chemicals on paved ground</li> <li>• Service vehicles and machines well to eliminate oil leaks</li> </ul>
13	Solid and Liquid Waste	<ul style="list-style-type: none"> <li>• Provide solid waste receptacle</li> <li>• Recover oil and chemical waste for proper disposal</li> <li>• Provide containment for storage of oils and other chemical</li> <li>• Engage NEMA Registered &amp; Approved waste disposal firm</li> </ul>

**Minute 06: Views and Questions on the Proposed Power Supply Component of the Mombasa SEZ Development Project**

**Q1: What benefits does KETRACO have for the project area community? (Ramadhan Ali Mwaono)**

**A1:** If the community has any public project that requires support, they are encouraged to forward such suggestions to KETRACO for consideration. KETRACO will work with other agencies to see what kind of support can be provided.

**Q2: Our youth do not have jobs, how can they be assisted? (Suleiman Dobi)**

**A2:** KETRACO will try to ensure that the contractor provides job opportunities to the project area youth as a priority. This will mainly be the casual jobs that do not require special skills. Youth within the project area who have special skills are encouraged to apply for skilled jobs that may be available through the local offices (Local National and County Government Offices)

**Q3: How will you determine who owns the affected land now that title deeds have not been issued? (Mwalimu Hamisi Dudula)**

**A3:** Various methods will be used including confirmation by the local administration who have the history of the area. National Land Commission (NLC) who have the responsibility of establishing the rightful owners of land parcels is also the agency that will carry out the verification before compensation is paid.

**Q4: Will affected persons be evicted by force without any notice? (Hamisi Selewa)**

**A4:** A notice period will be issued after compensation is paid to allow those whose houses have been affected to build new houses to relocate to. The notice period is usually 3 months but can be discussed with KETRACO if challenges are experienced.

**Q5: How will land without title deed be compensated? Can KETRACO consider drilling borehole for the community and can KETRACO provide machines for cutting down the trees? (Hassan Chigulu)**

**A5:** Where title deeds are not available KETRACO, the Lands Office and NLC will develop a mechanism of availing appropriate ownership documents that can be used to carry out compensation. The community can put forward a request for support from KETRACO to develop boreholes for drinking water for consideration. Tree owners will be expected to facilitate the cutting of their trees since the wood products from these cut trees will remain property of affected persons.

**Q6: How will project area community know where the machines and vehicles will pass during construction? How will the project area community report impacts like excess noise, dust, pollution during construction? (Alfani Rama).**

**A6:** The areas where vehicles and machines will only be known when the contractor is on the ground. Impacts from the contractor's activities during construction can be reported to the PAP Committees for followup action including compensation where damage to property is determined.

**Q7: Where do PAP Committee members operate from? How will those not affected by the project benefit? (Mohammed Sheria).**

**A7:** At the moment, the PAP Committee operates from the office of the Chief. The project will have several benefits including creation of job and business opportunities for the project area community. The economy of the project area and Kenya as a whole will be enhanced.

**Q8: Since land is small, consider providing Kiteje Secondary School with high rise buildings? (Hamisi Selewa Athman Jiti)**

**A8:** The request will be forwarded to KETRACO for consideration if the line will not be moved away from the compound of Kiteje Secondary School..

**Q9: When will PAPs be paid their compensation so they can start organising their life? (Madam Biamu Saidi Bawa)**

**A9:** The RAP Report will be finalised in the next 2-3 weeks and submitted to JDT and KETRACO for review. Once they are satisfied, the report it will be forwarded to NLC for verification and implementation. The payment is supposed to be done within a period of one year depending on availability of funds.

#### **Minute 07: Closing remarks**

The Chief and Ward Administrator thanked participants for attending the meeting and assured those affected that they will be compensated before being asked to vacate the project corridor. He urged the community to maintain peace and support the project for the area to realise faster development.

**Minute 08: AOB**

There was no AOB

**Minute 09: Closing Prayer**

There being no other business, the meeting ended at 04.30pm with a word of prayer by one of the participants (Hamisi Mwinyi Haji).

Ng'ombeni

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LIST OF PARTICIPANTS AT THE PUBLIC CONSULTATION MEETING (PCM) FOR MARIAKANI-DONGO KUNDU 220KV TRANSMISSION LINE FOR THE MOMBASA SEZ PROJECT

Venue of Meeting: KITEJE ASSISTANT CHIEF'S CAMP

Date and Time of Meeting: 21-06-2018 : 2:00 P.M.

#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
1.	Joshua P. Oyieko	Study Leader Team	Panafcon Ltd	j.oyieko@panafcon.net	0733 428 498	
2.	OMUMHIRI ARWADO	Researcher	Panafcon Ltd	omumhiri@panafcon.net	0724939877	
3.	Aziz Hassan Gazi	WARD ADMN	Kwale City	gazi@kwale.go.ke	0723029497	
4.	SALAMA MUSA	ASSIST CHIEF	KIKALE	SALAMA@gmail.com	0716922182	
5.	Hamzon Oduambo	EIA/RAP	JDT	hamzonodumbo@yafw.com	070764964	
6.	ALFANI OMARI				0704015249	
7.	HAMISI HASSAN				0741050114	
8.	Mbwana H. S. Kaplin				0726954104	
9.	Hamisi Suleiman Dabi				07758645182	HAMISI
10.	Suwakehe Hussen				—	
11.	Hamisi Abasi				—	
12.	Ali Reimoldhem				07291439576	
13.	Suleima A. Mwakachi				0718147908	
14.	Mohamed S. Mwachala				0700771212	M-SAP
15.	Mwambaka A. Tesi				—	

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
16.	ABDALLAH Ramakionjo				0715134751	Abkionjo
17.	Juti A. Yesi				-	J.T.
18.	HAMISI A. MWAMBEEN				-	H.A.
19.	BAKARI A MWAMFULI				0742464844	B.A.
20.	BAKARI SULEMANI				0704778569	B.S.
21.	HAMISI ABDALLA MAFUTU				0701733592	H.A.
22.	MOHAMED Sulemani				0702915914	M.S.
23.	JUMA AMINI				0723233647	J.A.
24.	HALFANI ALI				-	H.A.
25.	ALI Mohamedi				-	A.M.
26.	Juma Rajeshungu				0715552561	J.R.
27.	Mwinyikaji Mohamed				-	M.M.
28.	ABDALLA R. OTHACHA				0718799062	A.R.
29.	Mwamusho B Chugabuli				0710539388	M.B.
30.	Mwari Mwamungu				-	M.W.
31.	Mwichele A. Phengo				-	M.P.
32.	FATUMA SAIDI SALIM				-	F.S.
33.	ASHA MWINYI MABANDA				0713665978	A.M.
34.	BIAMU SAIDI				0701573234	B.S.
35.	AGA MWANGALE				-	A.G.
36.	BIDUMA O. MANGULU				0729044444	B.O.
37.	BAKARI MOHAMED				-	B.M.

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
38.	Haji Juma				0714511072	Haji
39.	MUHAMMAD MWAJUMU				—	<del>MWAJUMU</del>
40.	SHEE MWAJUMU				—	—
41.	MWIKYIKAI SELWA				07	MWIKYIKAI
42.	MWIKYIKAI MWAJUMU				0701706022	<del>MWAJUMU</del>
43.	SALIM J RAMOJA				0700427095	SALIM
44.	SALIM JUMA MWAJUMU				0795423923	SALIM
45.	HASSAN A ZUKUPHU				0746144331	HASSAN
46.	IDI AL-MUWAJUMU				—	—
47.	HASSAN HASSAN MWAJUMU				0701346634	HASSAN
48.	Abdalla ALI				0737394865	Abdalla
49.	RAMA				—	RAMA
50.	HASSAN ALI				0701639608	HASSAN
51.	RIZIKI SALIM				0717248049	RIZIKI
52.	MISHI MWAJUMU				—	MISHI
53.	SWELEHE ABDULLA				—	—
54.	Mohamed Comera				—	—
55.	MWALUWA SAID CHAKI				0706396388	MWALUWA
56.	Mwanatumu Pashua				0705439130	Mwanatumu
57.	SABITI MWATUJI				0725226216	SABITI
58.	HAKIM RAMA				0703803156	HAKIM
59.	Mohandis Sheria				0724691885	Mohandis

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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
60.	Juma Sulu Mwedega				079732990	
61	Mohamed A. Sibebu	SNR. CHAIRMAN			0710678863	
62	Plazinyi kombo Omari				35935721	
63	Mr SHEEJUMA				0705345806	
64	Mwelimu S. Mbega				—	
65	KISHIMBO GITEE	V/ADMIN	KWALE COUNTY	shreekashombad@gmail.com	0723526900	
66	ARTHURIAN (JIT)	ward/Adm	Kwale County	Jitid@gmail.com	0723029497	
67	ARTHURIAN MACHES	A.G. CHIEF	D.O.P.	macheso@gmail	0727240855	
68	Mwelimu S. Mbulambo				0715763300	
69	HAMISI MUNINGHAJI	KADHI			0725837953	
70	RAMADHANI MWALIMU				0701552845	
71	ALIBAKARI SHAMBI				0723668303	
72	KHAMIS MOHAMED				0710562950	
73	Mohamed S Hassan				0719507792	
74	Mwalim H. Dudula			072	0725267380	
75	ABDULLA RABANI				0713516747	
76	HAMISI ABBALLA				07029226	
77	OMARI ALI MWASAA				—	
78	LAZIMA YESI				0719191764	
79	Salim O. Mwakumira				0706992931	
80	Rashid Mwakera				—	
81	MWANUXEMI S. MUSA			musamuxemyemi@gmail.com	0790741758	



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#	Name of Participant	Position	Organization	E-Mail Address	Telephone Contact	Signature
82	KAMUSIMACWA				0706917128	KS
83	RASHIDI M. MWAZOBE				0718148729	RM
84	FATUMA SELEMAN					FS
85	Sheban Sealeh				0702352503	SS
86	MARIAM FABIAN				—	MF
87	FATUMA A. MCHUMI				—	FM
88	FATUMA MOHAMED				—	FM
89	Hussain Jumadeng				0715022712	HJ
90	Sadi Suleman				0701439586	SS
91	KHAUD HADI A. BAADEU				0722999088	KB
92	JUSUF MWERO				0716084612	JM
93	HAMISI ABDELHA				070452050	HA
94	Abelullahi moira				0714446710	AM
95	HASSAN SULEIMAN				0725252800	HS
96	HZE				0788384452	HZE
97	MARIMU SALIMU				0708432068	MS
98	FATUMA MUSA				—	FMK
99	Rama Chaka				—	RC
100	Hassan Mwingi				—	HM
101	Chakaya Juza				—	CJ
102	Mulero MUSA					MM
103	Hassan Salim					HS

**9. Mtongwe Location PCM at Dongo Kundu AP Camp**

- **Minutes**
- **Attendance Register**

**MINUTES OF THE PUBLIC CONSULTATION MEETING (PCM) FOR THE ESIA STUDY FOR THE POWER SUPPLY COMPONENT OF THE MOMBASA SEZ DEVELOPMENT PROJECT HELD AT DONGO KUNDU AP CAMP, MTONGWE LOCATION ON FRIDAY 22 JUNE 2018 STARTING AT 09.00AM.**

**ATTENDANCE LIST:**

No.	Name	No.	Name	No.	Name
1	Joshua P. Oyieko	38	Jaffer Ngumbao	75	Hadija Charo
2	Omummita Agwaro	39	Jaffer Ngumbao	76	Suleiman Said
3	James Kariuki	40	Saidi Omari	77	Said Suleiman
4	Abdalla Bakari	41	Mohamed Mwinyi	78	Hassan J. Mwachilalu
5	Hamisi Mohammed	42	Mohamed H. Wale	79	Kipara Mwangangi
6	Mohamed Nyaume	43	Ayubu A. Mwadzaka	80	Nura Babu
7	Sheban Omari	44	Stephan Sanyula	81	Masudi Swalehe
8	Rashid M. Mwazabi	45	Mohamed Ali Mwazima	82	Juma Mrenje Mwaponda
9	Abdallah Malima	46	Mohamed Hamisi	83	Silas Mwangangi
10	Mohamed Mwinyi	47	Mwadzame Mwachipoli	84	Suleiman Hassan
11	Michael M. Dzoro	48	Rama Sawasawa	85	Madudu Rai
12	Hamisi S. Madindima	49	Kadza Gamba	86	G. Kamande
13	Rashid Mohamed Tembo	50	Raphael Dume	87	Johnson Mwahnje
14	Salim Mwakutata Tembo	51	Julius Mureithi	88	Patrick Lugine
15	Hamisi Baraza	52	Ngombo M. Nyale	89	James Tsuma
16	Shake Livason	53	Abdallah J. Bephengo	90	Maita Lugwe
17	Swaleh Ali Phengo	54	Hellen Oloo Janes	91	Hamisi Kalume
18	Ali Mohamed	55	Mwanasiti Ali	92	Nelson Shake
19	Daris Talu Mwatakura	56	Meali Hamisi	93	Ali Rajab
20	Dorcus Mwake	57	Riziki Mohammed	94	Nzai Kombe
21	Kennedy Namukhi	58	Hassan M. Mangale	95	Mwinyihaji Rama
22	Hassan Omary	59	Hama Juma	96	Shaban Kutema
23	Deric Karisa	60	Zacharia Mwaniki	97	Edward Dume
24	Hamisi Kunena	61	Mary Muthoni	98	Said Simba
25	Julia Mwasaru Richard	62	Mwanasha Omari	99	Chupe Yogwe Chupe
26	Mwinyi S. Mwasarai	63	Sefu Juma Kutema	100	Ali Mwandurya
27	Darius Msafari	64	James D. Jira	101	Mwinyi Ali Mwakesi
28	Kelly Konde	65	Salim J. Ramoyo	102	Mohamed H. Mkondo
29	Ali Mwabana	66	Kibwa J. Mwanyoni	103	Mzee Beja
30	Rama Salim Mwaono	67	Athumani Maro	104	Said Athuman
31	Tsuma Mdzomba Kabi	68	Musyoka	105	Bakari Mwaboma
32	Zecaria Mwanie	69	Mwinyi Omari	106	Athuman Beja
33	Kombo Nyizi	70	Macdonald Mwalewa	107	Peter Macharia
34	Nyundo B. Mwero	71	Chizi Tsuma Kombo	108	Rai Mdune Ngao
35	M.A.Mwamtele	72	Philomena Mbita	109	Daniel Machria
36	Saumu A. Mwakutema	73	Masika Ngwede	110	Lydia Saru Mwabili
37	Gwilibe Bindi	74	Kajumwa John	111	Nyamawi Rumba

No.	Name	No.	Name	No.	Name
112	Mbaka Rumba	148	Walter Kurts	184	Kananasi Mwamisi
113	Kache Chaka	149	F.O. Abdallah	185	Waua Muta
114	Hamisi Swaleh	150	Ali Sasabu	186	Elizabeth Missais
115	Mwatela Nyamawi	151	Fatuma J. Khamisi	187	Bakari R. Iddi
116	Nicholas Mangi	152	Rasheed Abdallah	188	Mohamed Majisu
117	Livingston Mbaru	153	Swale Salim Bongo	189	Mary Benard
118	Samson Savai	154	Nosura Mwinyi	190	Agnes Mbui
119	Alphonse Mvoki	155	Riziki H. Mwakusirikwa	191	Eliatha Mate
120	Khamis R. Lwapho	156	Harrison Odhiambo	192	Mwinyi Hamisi
121	David Galobe Ndiritu	157	Shake Livason	193	Frask Nyoka
122	Toto Ngombo	158	Farouk Said	194	Juma Omari
123	Josephine Nzilani	159	Fedinand Mumo	195	Ramadhan M. Gahfyo
124	Nyae Mwavadu	160	Kamene Mlatso	196	Ali A. Bellah
125	Mwanamisi	161	Bakari Salim	197	Asha Mwinyi
126	Suleman Omar	162	Mwinyi Haji Haba	198	Bidalla Abdalla
127	Nyoro Njenga	163	Sheban Omar	199	Mejuma Kitambi
128	Pirisila Mutate	164	Jane Kambura	200	Kidodo Nyamawi Kambi
129	Jeya Swaleh	165	Mesaidi Kombo	201	Mwangoma Gunda
130	Mlongo Nyama	166	Fatuma Shee	202	Mgeni Mzungu
131	Kwekwe Mume	167	George M. Kalato	203	James J. Luvai
132	Fatuma Chilebi	168	Salim H. Baya	204	Mishi Suleman
133	Fatuma Juma	169	Salim Ali Mwaaji	205	Hamisi Wade
134	Zainabu Guyo	170	George S Musuya	206	Kibibi Hussen
135	Umazi Chaka	171	Zuura Kazungu	207	Mkulu Nzau
136	Ali Kodi	172	Meali Mohemedi	208	Mwanakombo Rama
137	Marim Ufu	173	Mwanasha Babu	209	Chari Salim
138	Mary Mtindi	174	Mwajuma Mwedadi	210	Riziki Juma
139	Margaret Tsuma	175	Mlongo Kamanza	211	Kigamba Mwatele
140	Elizabeth Ngala	176	Rema Musa	212	Ndoro Chara
141	Asha Wesada Gambo	177	Christine	213	Kanjo Matsele
142	Joshua Kimuli	178	Ogai Nyandieka	214	Arthur Kimani
143	Mutungu Nzioka	179	Pendo Salimo	215	Mwatela Lewa
144	Mesaidi Saidi	180	Chizi Mgala	216	Said Biya
145	Irine Wavinya Mutisya	181	Magreti Nyawa	217	Lawrance Denda
146	Misa Mohamed Mwazo	182	Fatuma Juma	218	Mnzika Beja
147	J.F. Macharia	183	Samuel Mwanzia		

### AGENDA OF THE MEETING

1. Opening prayer by one of the participants.
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  - *National Government Representatives*
  - *County Government Representatives*
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3. Purpose of conducting the Public Consultation Meeting (*KETRACO*).

4. ESIA Study Activities carried out on the Transmission Line and Substation in Dongo Kundu(*Panafcon*)
5. Findings of the Study/Project Environmental Impacts (*Panafcon*).
6. Proposed Mitigation Measures
7. Views of the Participants – Comments, Q & A Session (*County Government/National Government/KETRACO/JICA/Panafcon*).
8. Closing Remarks by (*KETRACO/County Government/National Government*).
9. A.O.B.
10. Closing Prayer.

**Minute 01:**

The meeting was called to order at 10.36am and began with a word of prayer from one of the participants (Sheikh Mandidiba)

**Minute 02: Introduction of the Participants.**

The Chief of the area (Mr Athumani Macheso) called the meeting to order and welcomed everyone in attendance. He welcomed the Chief of Mbunguni Location (Mr Abdalla Salim). The Chief acknowledged and thanked the participants for finding time to attend the meeting. He recognised the presence of the former Chief of the area who is now the Ward Administrator (Athuman Jiti), County Government representatives and the area leaders including the Village Administrator..

The Chief welcomed the team of experts from JICA and Panafcon and requested Joshua (Panafcon Ltd) to introduce the other team members and JICA Design Team (JDT) representative.

**Minute 03: Purpose of Conducting the Public Consultation Meeting (PCM).**

Mr. Oyieko started by highlighting the the 2 previous meetings (Sensitisation and PAP Consultation Meetings) and the current meetings (Public Consltation Meeting - PCM).

- a) **Sensitisation Meeting:** Mr Oyieko elaborated that the Sensitisation Meeting held in July 2017 was to inform the project area community about the proposed project and the planeed activities that will take place during the ESIA and RAP Study.
- b) **PAP Consultation Meeting:** The PAP Consultation Meetings were held in the month of April 2018. The purpose of the meeting is to disclose to the Project Affected Persons (PAPs) how the Transmission Line and substation Project is likely to affect them and the proposed restoration measures that will be put in place.
- c) **Public Consultation Meeting (PCM):** The purpose of conducting the PCMs is to disclose to the Project Area Community and Stakeholders the Findings of the Environmental and Social Impact Assessment (ESIA) Studies and the Proposed Mitigation Measures.

**Minute 04: The ESIA Study Activities carried out on the Transmission Line and substation in Dongo Kundu**

Panafcon carried an assessment of the powerline corridor from Mariakani-Dongo Kundu and evaluated existing vegetation (trees and crops), water sorces (rivers, wells, boreholes, springs and surface water pans existing in the project area. An evaluation was also done on the presence of forests, wildlife and birds. Baseline measurements on noise, air soil, water and radiation were carried out. The ESIA Study identified the existing plants and animals along the project corridor establishing the project impacts on them.

**Minute 05: Findings of the ESIA Study/Project Environmental Impacts**

Mr Oyieko mentioned that the total distance covered by TL from Mariakani to Dongo Kundu is 53km. Mtongwe Location covers 3.99km.: He highlighted the following aspects:

**Project Benefits/Positive Impacts**

- Improvement of power supply in the project area and provision of adequate power:
- Increased industrial activities in the project area
- Generation of Direct and Indirect Jobs
- Enhancement of Economic Growth of the Coastal Region and Kenya as a whole;
- Improvement of income for project area community and enhancement of exports

**Project Impacts**

- Disruption of Human Settlements;
- Cutting down of Planted (Coconut Pam, Cashew Nut, Mango, Neem etc) and Indigenous Trees (Acacia, Baobab, “Mrabai”, Tamarind etc);
- Potential Impact on Perennial, Seasonal Rivers/Streams and Wetlands;
- Damage to crops during Construction;
- Enhanced Presence of EMF Radiation;
- Potential Interference with Cultural Sites (2 Shrines and Grave Yards);
- Disruption of Businesses;
- Occasional disruption of Wildlife when they access the community forest area between DK6 and DK7 as movement corridor or dispersal area;
- Bird Strikes and Electrocutation of baboons etc;
- Excess Noise and Dust during Construction;
- Pollution from Machines and Vehicles.

**Socio-economic Survey Outcome**

- 85% of the project area households use firewood for cooking;
- 10% of the project area households use charcoal for cooking
- 75% of the households use kerosene lamps for lighting
- 65% of households use Pit Latrines while 29% have no sanitation facilities

**Minute 06: Proposed Mitigation Measures**

#	Impact	Proposed Mitigation Measure
1	Disruption Human Settlements	Affected property has been identified and valued for compensation and resettlement
2	Restricted use of Transmission Line Wayleave	Compensation for restricted use will be paid
3	Cutting down of trees	Facilitation of tree planting activities
4	Interference with Perennial, Seasonal Rivers/Strems and Wetlands	Water sources will be avoided when constructing pylons
5	Damage to crops during Construction	Damaged Crops to be compensated
6	Presence of EMF Radiation	Operations outside the acquired 40m wayleave is safe.
7	Damage to Cultural Sites (Shrines and Grave Yards)	<ul style="list-style-type: none"> <li>• Review Design to avoid sites</li> <li>• Carry out ceremonies for Shrines as recommended by elders</li> <li>• Graves and Grave Yards to be avoided</li> </ul>
8	Disruption of Businesses	Pay compensation for disrupted businesses
9	Bird Strikes and Electrocutation of Climbing Wildlife	Mark Conductors Build guards on pylons to restrict baboons and other animals
10	Excess Noise	Service vehicles and machines No Blasting of bedrock and workers to use ear protection

#	Impact	Proposed Mitigation Measure
11	Air Pollution	<ul style="list-style-type: none"> <li>• Service vehicles and machines</li> <li>• Sprinkle water at construction sites and access roads</li> <li>• No burning of waste at the project site</li> </ul>
12	Soil and Water Pollution	<ul style="list-style-type: none"> <li>• Recover used oil for proper disposal</li> <li>• Store oils and chemicals on paved ground</li> <li>• Service vehicles and machines well to eliminate oil leaks</li> </ul>
13	Solid and Liquid Waste	<ul style="list-style-type: none"> <li>• Provide solid waste receptacle</li> <li>• Recover oil and chemical waste for proper disposal</li> <li>• Provide containment for storage of oils and other chemical</li> <li>• Engage NEMA Registered &amp; Approved waste disposal firm</li> </ul>

**Minute 06: Views and Questions on the Proposed Power Supply Component of the Mombasa SEZ Development Project**

**Q1: Have fishermen been considered? (Kelly Konde)**

**A1:** The proposed mitigation measures are intended to protect water sources that may end up in Mwache, Myeza and Bombo Creeks.

**Q2: What are the dangers of carrying out farming activities inside the corridor? (Raphael Juma)**

**A2:** There are no major issues when there is no accidental snapping of the conductors since farming and grazing of animals is not a permanent activity within the corridor.

**Q3: How can those using kerosene lanterns and those lacking toilet facilities be assisted? (Rama)**

**A3:** Recommendations regarding the impacts of using kerosene lamps have been highlighted in the report and KETRACO will see how best to provide assistance for the project area community.

**Q4: Can you provide us with the prices of trees and crops? (Philip Nzioka)**

**A4:** The prices of trees and crops have been determined using guidelines from Kenya Forest Service (KFS) and Ministry of Agriculture Guidelines. The figures will be provided to PAPs when offers are being made.

**Q5: When will PAPs be paid their compensation? (Hamisi Baraza)**

**A5:** The RAP Report will be finalised in the next 2-3 weeks and submitted to JDT and KETRACO for review. Once they are satisfied, the report it will be forwarded to NLC for verification and implementation. The payment is supposed to be done within a period of one year depending on availability of funds.

**Q6: How is the land payment status? Earlier payments were very little? (James Jira).**

**A6:** Payment for land will be pegged on the current market value of land where the affected land is located.

**Q7: How will the community benefit from the project, will the factories protect the environment? Will youth get gainful employment? (Madam Julia Mwasaru Richard)**

**A7:** Community members will get job opportunities during construction and operation of the power project and the SEZ facility. The economy of the project area and Kenya will be enhanced.

The Powerline project and SEZ operations will be guided by the Environmental and Social Management Plans that are geared to protect the community and the environment. Youth will be given priority as far as casual construction job opportunities are concerned.

**Q8: How will affected persons outside the corridor be handled? (Mohammed Tumbo)**

**A8:** Property affected by the project outside the transmission line corridor will be evaluated and compensated during construction. This is because it is not possible to determine at this moment who will be affected.

**Q9: Where will PAPs go to? (Mohammed Ali)**

**A9:** PAPs will either be resettled within the same parcel of land if the remaining land is large enough or a new parcel of land within the project area will be purchased for their resettlement.

**Q10: Will affected persons be given time to vacate the corridor? (Eliata Mathews)**

**A10:** Ample notice will be given to the PAPs for them to construct the houses they be relocating to after vacating the corridor. A notice period is usually given however the period can be less or more depending on the relocation and resettlement challenges.

**Q11: What are the benefits of the project to the community? (Nyaume)**

**A11:** The community will get gainfull employment and the economy of the area and Kenya as a whole will be enhanced. Those affected will be be duly compensated for land and other assets.

#### **Minute 07: Closing remarks**

Chairman of Peace and Cohesion (Mr Walter Kurts) made the following closing remarks:

- PAPs should be paid all their money fairly
- The rESIA Report should include recommendation on assistance to project area community
- Impacts to the fishermen should be identified and dealt with
- Youth in the project area should be trained so they can take up skilled jobs

The ACC (Madam Jane. F. Machara) thanked participants for attending the meeting and assured those affected that they will be compensated before being asked to vacate the project corridor. She urged the community to maintain peace and support the project for the area to realise faster development.

#### **Minute 08: AOB**

There was no AOB

#### **Minute 09: Closing Prayer**

There being no other business, the meeting ended at 04.30pm with a word of prayer by one of the participants (Pastor Eliathu Martins).



LIST OF PARTICIPANTS AT THE PUBLIC CONSULTATION MEETING (PCM) FOR MARIKANI-DONGO KUNDU 220KV TRANSMISSION LINE FOR THE MOMBASA SEZ PROJECT

Venue of Meeting: DONGO KUNDU AP CAMP

Date and Time of Meeting: 22-06-2018 : 9:00 AM

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203	MGIENI MAZUNGU					Mgieni
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205	Mishi Suheman				-	Mishi
206	Hamisi Wade				0731336404	Hamisi
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**Questions and Responses during PCM**

No	Participant's Questions	Responses
<b>Mariakani Location PCM</b>		
1	The project has taken up land belonging to private citizens of the project area. Will they ever receive compensation payment? <b>(Mr.Shaffi Muhammed).</b>	<i>All the affected property including land will be duly compensated by KETRACO and payment will go to the genuine owners.</i>
<b>Mwavumbo Location PCM</b>		
2	Will payment be the same if I and my neighbour are affected but my affected area is slightly different from my neighbours? <b>(Kombo Ngoro).</b>	<i>The amount to be paid as compensation for land will depend on the size of land affected by the project. Whoever has a larger size of land within the the same area will be paid more commensurate with the size.</i>
3	If my house is very close to the transmission line corridor, will I not be affected? <b>(Daniel Dalu).</b>	<i>Even if one occupies about 1m away from the 40m corridor, there is no danger. The transmission only occupies approximately the central 8m. The remaining 16m on either side is unoccupied. S any structure located just outside the 40m corridor is safe.</i>
4	When will compensation payment be made? <b>(Harrison Dalu).</b>	<i>Compensation payment will be once verification is done. Panafcon is finalizing the RAP Report which will be submitted to JDT and KETRACO for review and thereafter once satisfied, they will submit the report to National Land Commission for verification and compensation payment.</i>
5	How will affected crops outside the corridor be handled? <b>(Umazi Katembe).</b>	<i>Affected crops outside the transmission line corridor will be compensated by the contractor during construction. This is because determination of which crops are affected and which ones are not affected cannot be determined before construction commences.</i>
<b>Mwatate Location PCM</b>		
6	Project area community need to be connected to power and assisted to get good sanitation facilities? <b>(Hassan Wanini Mboga).</b>	<i>The request has been noted and will be forwarded to KETRACO. The current project is dedicated at supplying power to the SEZ in Dongo Kundu. The findings of the study on sanitation facilities will be shared with other agencies so that the community can be assisted.</i>
7	What will happen to mature trees within the transmission line corridor? <b>(Nyiro Nyawa).</b>	<i>Trees within the 40m corridor will be valued and owners compensated since they will be cut down.</i>
<b>Mtaa Location PCM</b>		
8	Will a house that was recorded during the census survey be compensated if it collapses before payment is done? <b>(Rama Mangale).</b>	<i>Compensation will be done using photographs taken during census survey. However, PAPs are encouraged to inform project implementers (KETRACO) through the PAP Committees when such a thing happens to avoid issues during verification for compensation.</i>
9	What will KETRACO planning to do for the project area community? <b>(James Dena).</b>	<i>If the community has any public project that requires support, they are encouraged to forward such suggestions to KETRACO for consideration. KETRACO will work with other agencies to see what kind of support can be provided</i>
10	When will compensation payment be done? Can skilled workers be given	<i>When the RAP is completed, it will be forwarded to JICA Design Team and KETRACO for review after</i>

No	Participant's Questions	Responses
	job opportunities? <i>(Tunu Beuchi.</i>	<i>which KETRACO will submit it to National Land Commission (NLC) for verification and payment. NLC will provide details of the offers for compensation payment and rates used to calculate values of various assets. Those who have skills in various construction activities can forward their papers to the contractor through the local administration and KETRACO for consideration</i>
<b>Kasemeni Location PCM</b>		
11	What will happen if a shrine is encountered? (Kombo <b>Mangale Nyuni</b> ).	<i>KETRACO will review the design but if it is not possible to shift the line then a traditional ceremony to transfer the shrine will be conducted as advised by the elders.</i>
12	How will KETRACO ensure those outside the corridor are not affected? <i>(Makanzu Rashid).</i>	<i>All measures will be put in place to ensure that persons outside the corridor are not affected by the project activities during construction and operation. However, where this will not be possible, KETRACO and the Contractor will ensure that affected property is duly valued and compensated. PAP Committee members will ensure that during construction all impacts are noted and communicated to KETRACO for follow-up action.</i>
<b>Gandini Location PCM</b>		
13	How will you handle people outside the corridor whose property is affected by the project? <i>(Mwandano Gopholo/Jumaa Charles).</i>	<i>Property affected by the project outside the transmission line corridor will be evaluated and compensated during construction. This is because it is not possible to determine at this moment who will be affected.</i>
14	What has KETRACO planned for the project area community beyond compensation and resettlement of the affected persons? <i>(Jma Mbaruck Baushi).</i>	<i>If the community has any public project that requires support, they are encouraged to forward such suggestions to KETRACO for consideration. KETRACO will work with other agencies to see what kind of support can be provided.</i>
<b>Mbunguni Location PCM</b>		
15	Will those affected health wise be supported? <i>(Juma Matano)</i>	<i>Where it can be confirmed that persons have been affected by the project, KETRACO will provide support. However, KETRACO will ensure that measures are put in place to avoid accidents and impacts to community health</i>
16	What happens to housing structures which cannot last more than 2 years? <i>(Mwatabu Ali)</i>	<i>Ideally compensation should be done within one year of carrying out the census survey. If the structure starts developing signs of collapsing before compensation is paid, pass the information to KETRACO through the PAP Committee</i>
<b>Ng'ombeni Location PCM</b>		
17	Will affected persons be evicted by force without any notice? <i>(Hamisi Selewa)</i>	<i>A notice period will be issued after compensation is paid to allow those whose houses have been affected to build new houses to relocate to. The notice period is usually 3 months but can be discussed with KETRACO if challenges are experienced</i>
18	Since land is small, consider providing Kiteje Secondary School with high rise buildings? <i>(Hamisi Selewa Athman)</i>	<i>The request will be forwarded to KETRACO for consideration if the line will not be moved away from the compound of Kiteje Secondary School</i>

No	Participant's Questions	Responses
	<i>Jiti</i>	
19	When will PAPs be paid their compensation so they can start organising their life? ( <b>Madam Biamu Saidi Bawa</b> )	<i>The RAP Report will be finalised in the next 2-3 weeks and submitted to JDT and KETRACO for review. Once they are satisfied, the report it will be forwarded to NLC for verification and implementation. The payment is supposed to be done within a period of one year depending on availability of funds</i>
<b>Mtongwe Location PCM</b>		
20	Have fishermen been considered? ( <b>Kelly Konde</b> )	<i>The proposed mitigation measures are intended to protect water sources that may end up in Mwache, Myeza and Bombo Creeks.</i>
21	What are the dangers of carrying out farming activities inside the corridor? ( <b>Raphael Juma</b> )	<i>There are no major issues when there is no accidental snapping of the conductors since farming and grazing of animals is not a permanent activity within the corridor.</i>
22	How can those using kerosene lanterns and those lacking toilet facilities be assisted? ( <b>Rama</b> )	<i>Recommendations regarding the impacts of using kerosene lamps have been highlighted in the report and KETRACO will see how best to martial assistance for the project area community.</i>
23	Where will PAPs go to? ( <b>Mohammed Ali</b> )	<i>PAPs will either be resettled within the same parcel of land if the remaining land is large enough or a new parcel of land within the project area will be purchased for their resettlement.</i>
24	Will affected persons be given time to vacate the corridor? ( <b>Eliata Mathews</b> )	<i>Ample notice will be given to the PAPs for them to construct the houses they be relocating to after vacating the corridor. A notice period is usually given however the period can be less or more depending on the relocation and resettlement challenges.</i>

**Annex 13: ESIA Stakeholder Questionnaires**



**Environmental & Social Impact Assessment (ESIA) Questionnaire**

**Proposed Development of Power Infrastructure of Mombasa SEZ Development Project**

To be filled by Stakeholders likely to be affected by the Proposed Development of Power Infrastructure of Mombasa SEZ Development Project.

**Description of Proposed Project:** Development of 220kV Transmission Line extending over a distance of 50km from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County and having the following components:

- Development of 220kV Transmission Line from Mariakani (400/220kV Sub-Station) to Mombasa SEZ.
- Development of 220/32kV Sub-Station inside Mombasa SEZ.
- Development of 32kV distribution line inside Mombasa SEZ from 220kV/32k Sub-Station.

Location of Project: **The proposed Transmission Line will run from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 50km.**

Name of Stakeholder: ABDALLA SALIM

Organization: O.O.P (INTERIOR)

ID No./Rubber Stamp of Stakeholder: 13419800

Signature of Stakeholder: AS Date: 13/7/2017

CHIEF  
MBUGUNI  
LOCATION

1. Has the Proposed Power Transmission Line Project been mentioned to you before? \_\_\_\_\_

YES

2. In your opinion should the proposed Power Transmission Line Project be allowed to continue?

Yes

No

3. If the answer above is No, Please explain? \_\_\_\_\_

N/A

4. What do you like about the Power Transmission Line Project? \_\_\_\_\_

COMPENSATION OF THE AFFECTED MEMBERS

5. What do you dislike about the Power Transmission Line Project? Please explain. \_\_\_\_\_

N/A

6. Do you think the Proposed Power Transmission Line Project will affect the Environment? If so, which part of the environment? \_\_\_\_\_

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7. What improvements should the proposed Project include to reduce or minimize effect to the environment, if the development is to continue?

CONTRACTOR SHOULD MAINTAIN  
ALONG THE MARKED AREA.

8. What benefits do you think the proposed project will bring to the operations and environment of the project area?

COMMUNITY WILL HAVE ACCESS  
TO POWER.

9. Any other relevant comments related to the proposed Project.

EMPLOY LOCAL LABOUR DURING  
THE CONSTRUCTION

End - Thanks

**Environmental & Social Impact Assessment (ESIA) Questionnaire**

**Proposed Development of Power Infrastructure of Mombasa SEZ Development Project**

To be filled by Stakeholders likely to be affected by the Proposed Development of Power Infrastructure of Mombasa SEZ Development Project.

**Description of Proposed Project:** Development of 220kV Transmission Line extending over a distance of 50km from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County and having the following components:

- Development of 220kV Transmission Line from Mariakani (400/220kV Sub-Station) to Mombasa SEZ.
- Development of 220/32kV Sub-Station inside Mombasa SEZ.
- Development of 32kV distribution line inside Mombasa SEZ from 220kV/32k Sub-Station.

Location of Project: **The proposed Transmission Line will run from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 50km.**

Name of Stakeholder: ATHUMANI JITI MWATSEWA

Organization: CHIEF

ID No./Rubber Stamp of Stakeholder: 13417887

Signature of Stakeholder [Signature] Date: 13/07/17

1. Has the Proposed Power Transmission Line Project been mentioned to you before? YES

2. In your opinion should the proposed Power Transmission Line Project be allowed to continue?  
Yes  No

3. If the answer above is No, Please explain? \_\_\_\_\_

4. What do you like about the Power Transmission Line Project? TO Continue operating.

5. What do you dislike about the Power Transmission Line Project? Please explain. \_\_\_\_\_

No.

**ATHUMANI JITI**  
**CHIEF, NG'AMBENI LOCATION**  
**P. O. Box 96113, LIKONI**

6. Do you think the Proposed Power Transmission Line Project will affect the Environment? If so, which part of the environment? yes.

In the area of trees destruction which will lead to effect on rainfall

7. What improvements should the proposed Project include to reduce or minimize effect to the environment, if the development is to continue?

Environmental management to be taken care

8. What benefits do you think the proposed project will bring to the operations and environment of the project area?

- It will increase the power in the area (region)

- It will create chances for more factory to be established.

9. Any other relevant comments related to the proposed Project.

End - Thanks

ATHUMANI JTDI  
CHIEF, NG'OMBENI LOCATION  
P. O. Box 96113, LIKONI

**Environmental & Social Impact Assessment (ESIA) Questionnaire**

**Proposed Development of Power Infrastructure of Mombasa SEZ Development Project**

To be filled by Stakeholders likely to be affected (directly or indirectly) by the Proposed Development of Power Infrastructure of Mombasa SEZ Development Project.

**Description of Proposed Project:** Development of 220kV Transmission Line extending over a distance of 50km from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County and having the following components:

- Development of 220kV Transmission Line from Mariakani (400/220kV Sub-Station) to Mombasa SEZ.
- Development of 220/32kV Sub-Station inside Mombasa SEZ.
- Development of 32kV distribution line inside Mombasa SEZ from 220kV/32k Sub-Station.

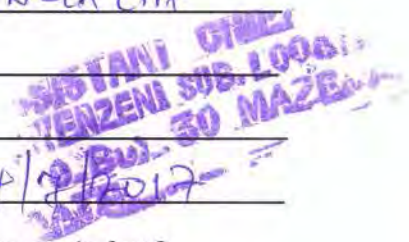
Location of Project: **The proposed Transmission Line will run from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 50km.**

Name of Stakeholder: NGALA MWAMULLA KIJANCAZIA

Organization: OOP

ID No./Rubber Stamp of Stakeholder: 5428479

Signature of Stakeholder NGALA Date: 14/2/2017



1. Has the Proposed Power Transmission Line Project been mentioned to you before? \_\_\_\_\_

yes

2. In your opinion should the proposed Power Transmission Line Project be allowed to continue?

Yes

No

3. If the answer above is No, Please explain? \_\_\_\_\_

N/A

4. What do you like about the Power Transmission Line Project? - It will better

the living standard of the people

5. What do you dislike about the Power Transmission Line Project? Please explain. \_\_\_\_\_

politics - It might not meet the  
target goal.

6. Do you think the proposed Power Transmission Line Project will affect the Environment? If so, which part of the environment? yes

Both the physical environment like forest and water

7. What improvements should the proposed Project include to reduce or minimize effect to the environment, if the development is to continue?

Where there is important ecosystem, proper mitigation measures should be done with

8. What benefits do you think the proposed project will bring to the operations and environment of the project area?

Development will be realised

9. Any other relevant comments related to the proposed Project.

Different stakeholders should be involved.

End - Thanks

**Environmental & Social Impact Assessment (ESIA) Questionnaire**

**Proposed Development of Power Infrastructure of Mombasa SEZ Development Project**

To be filled by Stakeholders likely to be affected by the Proposed Development of Power Infrastructure of Mombasa SEZ Development Project.

**Description of Proposed Project:** Development of 220kV Transmission Line extending over a distance of 50km from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County and having the following components:

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- Development of 220/32kV Sub-Station inside Mombasa SEZ.
- Development of 32kV distribution line inside Mombasa SEZ from 220kV/32k Sub-Station.

Location of Project: **The proposed Transmission Line will run from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 50km.**

Name of Stakeholder: Kathambi Jane

Organization: MINISTRY OF INTERIOR & CO-ORDINATION OF NATIONAL GOVT

ID No./Rubber Stamp of Stakeholder: MARIAKANI WARD

Signature of Stakeholder: Jane Date: \_\_\_\_\_

1. Has the Proposed Power Transmission Line Project been mentioned to you before? Yes

2. In your opinion should the proposed Power Transmission Line Project be allowed to continue?  
Yes  No

3. If the answer above is No, Please explain? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. What do you like about the Power Transmission Line Project? It's bound to lead to economic growth

5. What do you dislike about the Power Transmission Line Project? Please explain. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. Do you think the Proposed Power Transmission Line Project will affect the Environment? If so, which part of the environment? \_\_\_\_\_

Yes.

The cutting of trees that along the power line.

7. What improvements should the proposed Project include to reduce or minimize effect to the environment, if the development is to continue?

I Recommend that the community be given tree seedlings to plant to replace the cut trees.

8. What benefits do you think the proposed project will bring to the operations and environment of the project area?

Economic growth - coming up of industries.  
Creation of job opportunities

9. Any other relevant comments related to the proposed Project.

I recommend the involvement of the community / public participation in all stages of the project.

End - Thanks



**Environmental & Social Impact Assessment (ESIA) Questionnaire**

**Proposed Development of Power Infrastructure of Mombasa SEZ Development Project**

To be filled by Stakeholders likely to be affected by the Proposed Development of Power Infrastructure of Mombasa SEZ Development Project.

**Description of Proposed Project:** Development of 220kV Transmission Line extending over a distance of 50km from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County and having the following components:

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- Development of 220/32kV Sub-Station inside Mombasa SEZ.
- Development of 32kV distribution line inside Mombasa SEZ from 220kV/32k Sub-Station.

Location of Project: **The proposed Transmission Line will run from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 50km.**

Name of Stakeholder: Paul Rotich

Organization: INTERIOR - ADMINISTRATION

ID No./Rubber Stamp of Stakeholder: \_\_\_\_\_

Signature of Stakeholder: [Signature] Date: 6/7/2017

1. Has the Proposed Power Transmission Line Project been mentioned to you before? Yes

2. In your opinion should the proposed Power Transmission Line Project be allowed to continue?  
Yes  No

3. If the answer above is No, Please explain? \_\_\_\_\_

4. What do you like about the Power Transmission Line Project? It will power the local industrial & home hold need

5. What do you dislike about the Power Transmission Line Project? Please explain. \_\_\_\_\_

6. Do you think the Proposed Power Transmission Line Project will affect the Environment? If so, which part of the environment? Probably clearing of vegetation along the power line.

7. What improvements should the proposed Project include to reduce or minimize effect to the environment, if the development is to continue? Avoid areas which are forested and inhabited by big number of people.

8. What benefits do you think the proposed project will bring to the operations and environment of the project area? Communities are likely to benefit from the support services to the project e.g. basic infrastructure like roads, jobs to the locals

9. Any other relevant comments related to the proposed Project. Inclusive Community Participation is critical

End - Thanks

**Environmental & Social Impact Assessment (ESIA) Questionnaire**

**Proposed Development of Power Infrastructure of Mombasa SEZ Development Project**

To be filled by Stakeholders likely to be affected (directly or indirectly) by the Proposed Development of Power Infrastructure of Mombasa SEZ Development Project.

**Description of Proposed Project:** Development of 220kV Transmission Line extending over a distance of 50km from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County and having the following components:

- Development of 220kV Transmission Line from Mariakani (400/220kV Sub-Station) to Mombasa SEZ.
- Development of 220/32kV Sub-Station inside Mombasa SEZ.
- Development of 32kV distribution line inside Mombasa SEZ from 220kV/32k Sub-Station.

Location of Project: **The proposed Transmission Line will run from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 50km.**

Name of Stakeholder: Mhramwen B. Katana. - Kasemini ward Admin.

Organization: County Government of Kwale.

ID No./Rubber Stamp of Stakeholder: 9395386

Signature of Stakeholder: [Signature] Date: 14/07/2017

1. Has the Proposed Power Transmission Line Project been mentioned to you before? Yes.

2. In your opinion should the proposed Power Transmission Line Project be allowed to continue?  
 Yes  No

3. If the answer above is No, Please explain? N/A

4. What do you like about the Power Transmission Line Project? The distribution of electricity to the locals- at the grassroots level.

5. What do you dislike about the Power Transmission Line Project? Please explain. I dislike some corruption in the activity in terms of bidders, compensation and the entire workmanship in the construction of the project.

6. Do you think the proposed Power Transmission Line Project will affect the Environment? If so, which part of the environment? \_\_\_\_\_

It will especially the construction of the roads along the project line, trees will be cut down along the roadline, the line will be a very high power voltage which is dangerous.

7. What improvements should the proposed Project include to reduce or minimize effect to the environment, if the development is to continue?

Those trees which will be cut down, be replaced be planted in identified areas to recover. Soil erosion should be really minimized through proper intervention measures.

8. What benefits do you think the proposed project will bring to the operations and environment of the project area?

The roads constructed will enable and connect one end to another and communication be made easier.



9. Any other relevant comments related to the proposed Project.

I hope that the contracted company will eventually have a project that will benefit the locals eg construction of ~~eg~~ either classrooms to an identified school, dig some surface pan (dams) for water availability or so.

End - Thanks

**Environmental & Social Impact Assessment (ESIA) Questionnaire**

**Proposed Development of Power Infrastructure of Mombasa SEZ Development Project**

To be filled by Stakeholders likely to be affected (directly or indirectly) by the Proposed Development of Power Infrastructure of Mombasa SEZ Development Project.

**Description of Proposed Project:** Development of 220kV Transmission Line extending over a distance of 50km from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County and having the following components:

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- Development of 220/32kV Sub-Station inside Mombasa SEZ.
- Development of 32kV distribution line inside Mombasa SEZ from 220kV/32k Sub-Station.

Location of Project: **The proposed Transmission Line will run from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 50km.**

Name of Stakeholder: MAKANZO RAHMO MAKANZO

Organization: Kwale County Government (K-C.G)  
*village administration*

ID No./Rubber Stamp of Stakeholder: 26061399

Signature of Stakeholder: [Signature] Date: 14/7/2017

1. Has the Proposed Power Transmission Line Project been mentioned to you before? Yes

2. In your opinion should the proposed Power Transmission Line Project be allowed to continue?  
Yes  No

3. If the answer above is No, Please explain? N/A

4. What do you like about the Power Transmission Line Project? It will pave way for development

5. What do you dislike about the Power Transmission Line Project? Please explain. Politics - If politics are going to be tolerated in the project.

6. Do you think the proposed Power Transmission Line Project will affect the Environment? If so, which part of the environment? \_\_\_\_\_

yes - Both the four components of the environment, i.e. Biosphere, Hydrosphere, Lithosphere, Lithosphere

7. What improvements should the proposed Project include to reduce or minimize effect to the environment, if the development is to continue? \_\_\_\_\_

Proper mitigation measures should be put in place more especially to endangered species

8. What benefits do you think the proposed project will bring to the operations and environment of the project area? \_\_\_\_\_

It will spur development in the area.

9. Any other relevant comments related to the proposed Project. \_\_\_\_\_

Where DAPs have not been captured, such problems should be addressed fully.

End - Thanks

**Environmental & Social Impact Assessment (ESIA) Questionnaire**

**Proposed Development of Power Infrastructure of Mombasa SEZ Development Project**

To be filled by Stakeholders likely to be affected (directly or indirectly) by the Proposed Development of Power Infrastructure of Mombasa SEZ Development Project.

**Description of Proposed Project:** Development of 220kV Transmission Line extending over a distance of 50km from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County and having the following components:

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- Development of 220/32kV Sub-Station inside Mombasa SEZ.
- Development of 32kV distribution line inside Mombasa SEZ from 220kV/32k Sub-Station.

Location of Project: **The proposed Transmission Line will run from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 50km.**

Name of Stakeholder: TERESA NJOKI

Organization: Kenya Civil Aviation Authority  
P. O. Box 30163 - 00100  
NAIROBI

ID No./Rubber Stamp of Stakeholder: \_\_\_\_\_  
SIGNATURE: \_\_\_\_\_  
DATE: \_\_\_\_\_

Signature of Stakeholder: [Signature] Date: 30/4/2018

Tel No: 0206827470 Email Address: tnjoki@kcaa.or.ke

1. Has the Proposed Power Transmission Line Project been mentioned to you before? \_\_\_\_\_  
No

2. In your opinion should the proposed Power Transmission Line Project be allowed to continue?  
Yes  No

3. If the answer above is No, Please explain? \_\_\_\_\_  
\_\_\_\_\_

4. What do you like about the Power Transmission Line Project? The line will enhance development in the area.

5. What do you dislike about the Power Transmission Line Project? Please explain. N/A

6. Do you think the proposed Power Transmission Line Project will affect your operations and the Environment? If so, how?

*It might affect only as far as the line is near the airstrip around Muriakani and NAI International airport.*

7. What improvements should the proposed Project include to reduce or minimize impact to your operations or the environment, if the development is to continue?

*Before the line is constructed, the owner should procure approvals for height of power line.*

8. What benefits do you think the proposed project will bring to your operations and the environment of the project area?

*The enhanced development will open up the area.*

9. Any other relevant comments related to the proposed Project.

*NAI*

End - Thanks

For Director General  
**Kenya Civil Aviation Authority**  
P. O. Box 30163 - 00100  
NAIROBI  
SIGNATURE:.....  
DATE:.....



**Environmental & Social Impact Assessment (ESIA) Questionnaire**

**Proposed Development of Power Infrastructure of Mombasa SEZ Development Project**

To be filled by Stakeholders likely to be affected (directly or indirectly) by the Proposed Development of Power Infrastructure of Mombasa SEZ Development Project.

**Description of Proposed Project:** Development of 220kV Transmission Line extending over a distance of 50km from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County and having the following components:

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- Development of 32kV distribution line inside Mombasa SEZ from 220kV/32k Sub-Station.

Location of Project: **The proposed Transmission Line will run from Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 50km.**

Name of Stakeholder: MWAVUMBO GROUP RANCH

Organization: MWAVUMBO GROUP RANCH

ID No./Rubber Stamp of Stakeholder: MWAVUMBO GROUP RANCH BOX SIG

Signature of Stakeholder: [Signature] Date: 21/07/2017

1. Has the Proposed Power Transmission Line Project been mentioned to you before? YES

2. In your opinion should the proposed Power Transmission Line Project be allowed to continue?  
Yes  No

3. If the answer above is No, Please explain? N/A

4. What do you like about the Power Transmission Line Project? IT IS A DEVELOPMENT

5. What do you dislike about the Power Transmission Line Project? Please explain. N/A

6. Do you think the proposed Power Transmission Line Project will affect the Environment? If so, which part of the environment? YES, SINCE TREES AND PLANTS, AMONG OTHERS, WILL BE CUT DOWN, THE ENVIRONMENT WILL BE AFFECTED.

7. What improvements should the proposed Project include to reduce or minimize effect to the environment, if the development is to continue?

- ① TO OFFER COMPENSATION TO AFFECTED MEMBERS AND THE MWAJUMBO GROUP RANCH
- ② TO EDUCATE REPRESENTATIVES OF THE RANCH AND COMMUNITY MEMBERS.
- ③ TO COMPLY WITH ENVIRONMENTAL ASSESSMENT REPORT.

8. What benefits do you think the proposed project will bring to the operations and environment of the project area?

- ① EMPLOYMENT OPPORTUNITIES TO THE LOCAL COMMUNITY.
- ② COMPENSATION TO AFFECTED MEMBERS WILL POSITIVELY CHANGE THEIR LIVES.
- ③ MEMBERS SHOULD GET POWER SUPPLY FROM THE POWER TRANSMISSION LINE AT A MINIMAL COST.

9. Any other relevant comments related to the proposed Project.

- ① MEMBERS SHOULD BE OFFERED EMPLOYMENT OPPORTUNITIES
- ② MEMBERS SHOULD BE ASSISTED IN GETTING POWER SUPPLY FROM THE LINE.
- ③ PROJECT DEVELOPER SHOULD CONSIDER EMBARKING ON CORPORATE RESPONSIBILITY.

End - Thanks

**Annex 14: Completed PCM Feedback Forms**

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**  
 Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: DANARIS KIMONDO  
 ID No: 20074017 Mobile No: 0735250526  
 Signature of Participant: [Signature] Date: 18/06/2018

1. Has the proposed Powerline Project been mentioned to you before?  
 Yes  No
2. How will the Proposed Powerline Project affect you or your daily activities? .....
3. What do you like about the Powerline Project? The intended outcome is beneficial to the country.
4. What do you dislike about the Powerline Project? Disruption of social and economic lifestyles/activities.
5. Do you think the proposed Project will negatively affect the Environment? .....
- Yes  No  If yes, how? The construction will definitely mean cutting down trees and destroying natural vegetation.
6. What should KETRACO do to reduce impact of the project on the Project Area Community?  
Ensure that every aspect highlighted and any other issues that arise are looked into in detail so that no one is left worse off.
7. How do you think Project developers should protect the environment:  
 (a) During Construction? Only do the necessary excavations and replant grass/vegetation.  
 (b) During Operation? Maintain the area properly to avoid erosion and other negative impacts.
8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project?  
 .....  
Ketraco to ensure all those affected are compensated accordingly.

End - Thanks

MARIAKANI LOCATION

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: **PETER KIRIGHA**

ID No: **9775973** Mobile No: **0795760871**

Signature of Participant: *[Signature]* Date: **18/6/2018**

- 1. Has the proposed Powerline Project been mentioned to you before?  
Yes  No
- 2. How will the Proposed Powerline Project affect you or your daily activities? .....
- 3. What do you like about the Powerline Project? ..... **GOOD**
- 4. What do you dislike about the Powerline Project? ..... **Loss of land.**
- 5. Do you think the proposed Project will negatively affect the Environment? .....
- Yes  No  If yes, how? .....
- 6. What should KETRACO do to reduce impact of the project on the Project Area Community?  
.....
- 7. How do you think Project developers should protect the environment:  
(a) During Construction? .....
- (b) During Operation? **To allow our community to participate fully.**
- 8. Do you support the project? Yes  No
- 9. Please give any other Concerns or comments related to the proposed Project?  
**People should be paid well.**

End - Thanks

**MARIAKANI LOCATION.**

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: **FRANCIS MAOTO**

ID No: **6550845** Mobile No: **0723069388**

Signature of Participant: *[Signature]* Date: **18/6/2018**

1. Has the proposed Powerline Project been mentioned to you before?  
Yes  No
2. How will the Proposed Powerline Project affect you or your daily activities?  
*Reduction in arable land hence reduced productivity*
3. What do you like about the Powerline Project?  
*it will enhance development to the beneficiaries targeted*
4. What do you dislike about the Powerline Project?  
*loss of arable land, the development structures thereon.*
5. Do you think the proposed Project will negatively affect the Environment?  
Yes  No  If yes, how? *The trees under the line will be cut hence leading to environmental degradation*
6. What should KETRACO do to reduce impact of the project on the Project Area Community?  
*- where possible to compensate the community with tree seedlings to be planted to replace the ones cut down*
7. How do you think Project developers should protect the environment:
  - (a) During Construction? *Adequately compensate the community with environmental protecting resources*
  - (b) During Operation? *To allow the community to plant low trees that will conserve the environment along the project route*
8. Do you support the project? Yes  No
9. Please give any other Concerns or comments related to the proposed Project?  
*The affected persons should be fairly compensated for in all cases.*

End - Thanks

**MARIAKANI LOCATION**

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: Joyce Kombe

ID No: 0916429 Mobile No: 0720202379

Signature of Participant: [Signature] Date: 18/6/2018

1. Has the proposed Powerline Project been mentioned to you before?  
Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? .....  
No effect.

3. What do you like about the Powerline Project? ..... Development

4. What do you dislike about the Powerline Project? .....  
nothing

5. Do you think the proposed Project will negatively affect the Environment? .....  
Yes  No  If yes, how? .....

6. What should KETRACO do to reduce impact of the project on the Project Area Community?  
compensation

7. How do you think Project developers should protect the environment:  
(a) During Construction? ..... take care of the environment  
(b) During Operation? ..... Rehabilitation

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project?  
should give priority to the community on employment

End - Thanks

MARIAKANI LOCATION

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**  
 Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: HARRISON KATANA KONDE  
 ID No: 9113726 Mobile No: 0733588123  
 Signature of Participant: [Signature] Date: 18-06-2018

1. Has the proposed Powerline Project been mentioned to you before?  
 Yes  No
2. How will the Proposed Powerline Project affect you or your daily activities? .....  
land and trees will be interfered
3. What do you like about the Powerline Project? .....  
For Development
4. What do you dislike about the Powerline Project? .....  
Passing through villages and they don't benefit from this powerline
5. Do you think the proposed Project will negatively affect the Environment? .....  
 Yes  No  If yes, how? the land will be cleared all the bush
6. What should KETRACO do to reduce impact of the project on the Project Area Community?  
By constructing rural road, schools and health centre - clean tap water / dams
7. How do you think Project developers should protect the environment:  
 (a) During Construction? the poles of powerline should be a protection for children not to climb the poles  
 (b) During Operation? during rain season
8. Do you support the project? Yes  No
9. Please give any other Concerns or comments related to the proposed Project?  
during the construction should employ the local community and be fully compensated

End - Thanks

MARIAKANI LOCATION



**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: JOHN NALLA Sagar Holdings Ltd

ID No: 8215821 Mobile No: 0722 754099

Signature of Participant [Signature] Date: 18-6-2018

1. Has the proposed Powerline Project been mentioned to you before?  
Yes  No
2. How will the Proposed Powerline Project affect you or your daily activities? .....  
The project has affected the intended program that we had on the land
3. What do you like about the Powerline Project? .....  
It will intensify growth in these areas that you intend to supply the power.
4. What do you dislike about the Powerline Project? .....  
None
5. Do you think the proposed Project will negatively affect the Environment? .....  
Yes  No  If yes, how? .....
6. What should KETRACO do to reduce impact of the project on the Project Area Community?  
Already they have taken measures to ensure that the impact does not harm the community.
7. How do you think Project developers should protect the environment:  
(a) During Construction? provide precaution against pollution, noise  
(b) During Operation? but all projects that will benefit the community
8. Do you support the project? Yes  No
9. Please give any other Concerns or comments related to the proposed Project?  
.....  
.....  
.....

End - Thanks

MARIAKANI LOCATION:

**UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONI**

Kujazwa Na: **Washika Dau Wakuu na Jamii ya eneo la mradi**

Mradi Unaopendekezwa: **Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa**

Eneo La Mradi: **Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu  
(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)**

Jina la Mshiriki: MWANJULIE N. NAORO  
 Nambari ya Kitambulisho: 114336196 Nambari ya Simu: 0723 853626  
 Sahihi ya Mshiriki: [Signature] Tarehe: 15/6/2018

1. Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La
2. Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? .....  
Malipo ya watakapo atinika itainua uchungu wao.
3. Ni nini kinachokupendeza kuhusu mradi huu? .....  
Kupitia maombi, umeme utainua uchungu na giza pia kwa vijaa  
- Kuna uwazi katika utekelezaji wa mipango.  
- Mradi utasaidia kuuimua au kuongeza mapato.
4. Ni nini ambacho hakikupendezi kuhusu mradi huu? .....  
N/A
5. Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? .....  
Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? .....  
Watu kuhamishwa kwa makao yao wanayoriki.
6. Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi? .....  
Kuwe na uwazi na hamasa kwa mipango na matumizi ya malipo yao.
7. Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:  
(a) Wakati wa ujenzi? .....  
Kuunda Kamati za mazingira. Utekelezaji wa miradi za kusaidia mazingira.  
(b) Wakati wa uendeshaji? .....  
Kubwera mazingira kwa kusaidia utekelezaji wa miradi.
8. Je unaunga mkono mradi huu? Ndio  La
9. Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu .....  
Kila jambo lilihusishwa mwananchi kwa njia ya uwazi.

Mwisho - Ahsante

Mwanjula N. Naoro

**UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONI**

Kujazwa Na: **Washika Dau Wakuu na Jamii ya eneo la mradi**

Mradi Unaopendekezwa: **Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa**

Eneo La Mradi: **Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu  
(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)**

Jina la Mshiriki: **STEPHEN - K. NZOMO**  
 Nambari ya Kitambulisho: **32498489** Nambari ya Simu: **0727163420**  
 Sahihi ya Mshiriki: **[Signature]** Tarehe: **June 18th 2018**

1. Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La
2. Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? .....
3. Ni nini kinachokupendeza kuhusu mradi huu? **Kwananchi wanashirikisha Viliyo katika kila hadia**
4. Ni nini ambacho hakikupendezi kuhusu mradi huu? .....
5. Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? .....
6. Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi? **Elimu kwananchi kadiri mipangilio ya mradi unaypendelea**
7. Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:
  - (a) Wakati wa ujenzi? **Kusaidia Makundi ya ufawa na miche nanchuu kuhusu ulimwengu wa mazingira**
  - (b) Wakati wa uendeshaji? .....
8. Je unaunga mkono mradi huu? Ndio  La
9. Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu. **Je, kama kaunti ya Kwale, wananchi watafadhika na mradi huu pendekezo huu au mifumo kwananchi iliyopo eneo hii kwananchi watapeleleza mradi.**

Mwisho - Ahsante

**MUHAMMAD LUCAWU**

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**  
 Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: Paulo Mumbo  
 ID No: 8401860 Mobile No: 0710318221  
 Signature of Participant: Mumbo Date: 18-6-09

1. Has the proposed Powerline Project been mentioned to you before?  
 Yes  No
2. How will the Proposed Powerline Project affect you or your daily activities? .....  
I'll get very active and as high power close to my home
3. What do you like about the Powerline Project? .....  
It will bring employment to all the youths within Mumbao location.
4. What do you dislike about the Powerline Project? .....  
A abrupt disconnection of the power wires.
5. Do you think the proposed Project will negatively affect the Environment? .....  
 Yes  No  If yes, how? .....
6. What should KETRACO do to reduce impact of the project on the Project Area Community?  
There should be regular services along the line being conducted by the engineers from the project
7. How do you think Project developers should protect the environment:  
 (a) During Construction? Proper measures be taken  
 (b) During Operation? Awareness to be laid to the community
8. Do you support the project? Yes  No
9. Please give any other Concerns or comments related to the proposed Project?  
The project will save the lives of the chaps/youths from Mumbao location. Some will get employed as well.

End - Thanks

MUMBAO LOCATION

**UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONI**

Kujazwa Na: **Washika Dau Wakuu na Jamii ya eneo la mradi**

Mradi Unaopendekezwa: **Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa**

Eneo La Mradi: **Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu  
(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)**

Jina la Mshiriki: **MR. WILSON JACKSON MWANGALE**

Nambari ya Kitambulisho: **2177800** Nambari ya Simu: **0702248411**

Sahihi ya Mshiriki: **[Signature]** Tarehe: **18.6.2018**

1. Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La
2. Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? .....
3. Ni nini kinachokupendeza kuhusu mradi huu? **DUJANILETEA MAENDELEO KWA KIJISI CHANGU HASA UMEME UPIITO VIKIJI NI SI PA MAJUMBA KAMA KUINUA UCHUMI WETU VIKIJI NI**
4. Ni nini ambacho hakikupendezi kuhusu mradi huu? **MIMI NI NIWA KU BALAZI NA MRADI HUU WALA SI PA TASWIWI TOTOTE KIJISI NI KWAKU**
5. Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? **MRADI HUU HAUNA MADHARA YOYOTE KWA MAZINGIRA**
6. Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi? **MIMI NINAENDEKEZA KWAMBA KETRACO IMETULEZEA KWA UTENGE UMBALI UFAO AMBAO UMEENDEKEZWA NA KETRACO**
7. Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:
  - (a) Wakati wa ujenzi? **WAKATI WA UTENZI UNADO ENDELEA LAZIMA MASI YAMWA YWENYUNIZIWA ILI KUZUIA VUMBI**
  - (b) Wakati wa uendeshaji? **WAKATI KATI ZA UTENZI ZIKIENDELEA UNAYIRAJI WA MASI UNDELEE WAKATI WOTE ULE ILI KUZUIA VUMBI KWABA AMBAO LITANDA WAA SEHEMU HITO**
8. Je unaunga mkono mradi huu? Ndio  La
9. Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu. **MRADI HUU HAUNA SHAUKU TOTOTE ILA TU TIFA PATA KWAMBA HALI YA UCHUMI VIKIJI NI MWETU ITAKUWA TUN ZARDI**

Mwisho - Ahsante ✓

**MAJUMBO LOCATION**

**UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONI**Kujazwa Na: **Washika Dau Wakuu na Jamii ya eneo la mradi**Mradi Unaopendekezwa: **Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa**Eneo La Mradi: **Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu  
(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)**Jina la Mshiriki: RUTH MBALA MTUACHA  
Nambari ya Kitambulisho 10754015 Nambari ya Simu 0728397783  
Sahihi ya Mshiriki [Signature] Tarehe: 18/06/08

1. Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La
2. Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? .....  
Kuanza maisha upya kwa maeneo mapya.
3. Ni nini kinachokupendeza kuhusu mradi huu? maendeleo katika eneo la Mwandani (Mwarumbo kwa jumla).
4. Ni nini ambacho hakikupendezi kuhusu mradi huu? nyaya za Aina n hatari, zinaweza kuathiri watoto wetu
5. Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? hauna madhara yoyote kwa mazingira.
6. Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi? kulipa watu wanaoathirika kwa njia nzuri, ili wajiimudu kimaisha.
7. Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:
  - (a) Wakati wa ujenzi? unyunguzi wa maji kupunguza vumbi ambayo huleta madhara katika agya zetu.
  - (b) Wakati wa uendeshaji? kuhakikisha kana ualams wa kutocha.
8. Je unaunga mkono mradi huu? Ndio  La
9. Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu. huu mradi ni mzuri kwa sababu ni njia moja ya kuendeleza maeneo yetu.

Mwisho - Ahsante

MWARUMBO LOCATION

**UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONI**

Kujazwa Na: **Washika Dau Wakuu na Jamii ya eneo la mradi**

Mradi Unaopendekezwa: **Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa**

Eneo La Mradi: **Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu  
(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)**

Jina la Mshiriki: Daniel Wanini Dalu  
 Nambari ya Kitambulisho 2213893 Nambari ya Simu 0720480828  
 Sahihi ya Mshiriki Dalu Tarehe: 18-06-2018

1. Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La
2. Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? Mradi huu utathiri kwa kupitia kwenye shamba langu.
3. Ni nini kinachokupendeza kuhusu mradi huu? Mradi huu utapendeza kwa kuwapatia vijana na wenyeji wengine kazi.
4. Ni nini ambacho hakikupendezi kuhusu mradi huu? Kite hakimpendezi ni kuanza kazi bila kufidia waathirwa.
5. Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? Italeta madhara ikiwa nyaya hazitajengwa kwa uangalifu.
6. Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi? Ili kupunguza madhara KETRACO iweke uzio utakowazunia jamii kwenye eneo la mradi.
7. Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:
  - (a) Wakati wa ujenzi? Wajiri waliozi, waweke uzio, waweke mabango.
  - (b) Wakati wa uendeshaji? Wajiri waliozi, waweke uzio, waweke mabango.
8. Je unaunga mkono mradi huu? Ndio  La
9. Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu. Maoni yangu kuhusu mradi huu ni kwamba wenyeji watapata ajira - Shauku kubwa ni usubufu.

Mwisho - Ahsante

MWATUMBO LOCATION

**UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONI**

Kujazwa Na: **Washika Dau Wakuu na Jamii ya eneo la mradi**

Mradi Unaopendekezwa: **Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa**

Eneo La Mradi: **Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu  
(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)**

Jina la Mshiriki: **AMOS MBOVU KATEMBE**  
 Nambari ya Kitambulisho: **8395529** Nambari ya Simu: **0715632861**  
 Sahihi ya Mshiriki: **Amos Mbovu** Tarehe: **18-6-2018**

1. Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La
2. Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? .....
3. Ni nini kinachokupendeza kuhusu mradi huu? **MAENDELEO**
4. Ni nini ambacho hakikupendezi kuhusu mradi huu? **NIMRADI MZERI  
KWA KUENDELEZA KENYA MBELE**
5. Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? .....
- Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? .....
6. Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi? **MRADI - VIHAMISHA WAJU, KWA ENEO LI**
7. Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:
  - (a) Wakati wa ujenzi? **WAKATI WA UJENZI: MASHAMBA MENGI  
YA TAFIRIKA SANA, NA PIA KIATU.**
  - (b) Wakati wa uendeshaji? **KWA MRADI HUU, WENJEJI WATAKATA  
MAKAZI, PIA WAKENYA WATAENDELEA.**
8. Je unaunga mkono mradi huu? Ndio  La
9. Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu **MAONE  
YANGU YIKWAMBA, ITAATHIRI MASHAMBA NA  
MIIKI KATIKA WATAHAMA KWA INEO.**

Mwisho - Ahsante

**MWARUMBO LOCATION**



**UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONI**

Kujazwa Na: **Washika Dau Wakuu na Jamii ya eneo la mradi**

Mradi Unaopendekezwa: **Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa**

Eneo La Mradi: **Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu  
(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)**

Jina la Mshiriki: RANA KARANI MARI

Nambari ya Kitambulisho 20897013 Nambari ya Simu 0715037402

Sahihi ya Mshiriki [Signature] Tarehe: 18<sup>th</sup> JUNE 2018

1. Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La
2. Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? .....  
Sehemu iliyoguswa sitaitumia ninavyotaka.
3. Ni nini kinachokupendeza kuhusu mradi huu? Mwango, Stimu ni maendeleo, pila fidia nitakayolipwa nitajiendeleza kuraisha.
4. Ni nini ambacho hakikupendezi kuhusu mradi huu? Usimamizi mbaya wa viungozi wetu, sifendi malipo yapitie kwao.
5. Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? .....  
Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? .....
6. Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi? Watu walipwe ridhaa ili kumidisha maisha yao ya kawaida kama kupenga nyumba mjingiriekando ya njia.
7. Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:  
(a) Wakati wa ujenzi? Nasichapue mazingira kama mafuta ya gari kuingi kwenye mita.  
(b) Wakati wa uendeshaji? Kama kuna vumbi wame wanaomaga maji katika huo bara bara.
8. Je unaunga mkono mradi huu? Ndio  La
9. Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu.....  
Naomba haki itendele kwa kila njia.

Mwisho - Ahsante

MWAZUMBO HOCAFIN

**UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONI**

Kujazwa Na: **Washika Dau Wakuu na Jamii ya eneo la mradi**

Mradi Unaopendekezwa: **Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa**

Eneo La Mradi: **Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu  
(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)**

Jina la Mshiriki: GWAMA NG'ALLA MBOU.

Nambari ya Kitambulisho 24698861 Nambari ya Simu 0728689759

Sahihi ya Mshiriki [Signature] Tarehe: 18/06/2018.

1. Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La
2. Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? Mradi utambadilisha mbinu za ufefuaji wa kila siku
3. Ni nini kinachokupendeza kuhusu mradi huu? Mradi utaleta maendeleo ya kibiasara katika eneo zima la mradi.
4. Ni nini ambacho hakikupendezi kuhusu mradi huu? —
5. Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? —
6. Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi? KETRACO iwaelimishe wama jamii jinsi wanavyoweza kujiendeleza kutomia malipo watakatyo pewa
7. Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:
  - (a) Wakati wa ujenzi? Wanaweza kulinda mazingira kwa kutomia njia zifuatazo katika ujenzi usao na vifaa vinalakika.
  - (b) Wakati wa uendeshaji? Wanendeshaji wa mradi wanaweza kubuni njia za kutifadhi mazingira kama ipanuzi wa miti n.k.
8. Je unaunga mkono mradi huu? Ndio  La
9. Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu. Mradi utaleta nguvu yako mkubwa wa kifamilia na kijamii kwa ujumla.

Mwisho - Ahsante

MWANAMBO LOCATION

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**  
Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: **SOLOMON KUPHENTIA DALLU**

ID No: **11244813** Mobile No: **0715280800**

Signature of Participant:  Date: **18-06-2018**

1. Has the proposed Powerline Project been mentioned to you before?

Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? .....

**NO EFFECTS**

3. What do you like about the Powerline Project? .....

**IT WILL OPEN DEVELOPMENT IN MY AREA OF JURISDICTION**

4. What do you dislike about the Powerline Project? .....

**POOR CONNECTION**

5. Do you think the proposed Project will negatively affect the Environment? .....

Yes  No  If yes, how? .....

6. What should KETRACO do to reduce impact of the project on the Project Area Community?

**EMPLOY ENOUGH SUPERVISORS ON THE LINE**

7. How do you think Project developers should protect the environment:

(a) During Construction? **THROUGH CONSULTATIVE AND CO-OPERATION WITH THE COMMUNITY.**

(b) During Operation? **THOROUGH MAINTENANCE**

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project?

**ON THE START OF THE PROJECTS OUR COMMUNITY MUST BE CONSIDERED AS PART OF THE WORKERS.**

End - Thanks

**MWANUMBO LOCATION.**

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: JOSEPHINE CHAM

ID No: 27647396 Mobile No: 0700245445

Signature of Participant [Signature] Date: .....

1. Has the proposed Powerline Project been mentioned to you before?

Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? .....

The project will have no effects to our daily activities

3. What do you like about the Powerline Project? .....

The community was fully sensitized on the importance of the proposed project

4. What do you dislike about the Powerline Project? .....

Poor connections during the project

5. Do you think the proposed Project will negatively affect the Environment? .....

Yes  No  If yes, how? .....

6. What should KETRACO do to reduce impact of the project on the Project Area Community?

Employ many supervisors on the line during the project construction

7. How do you think Project developers should protect the environment:

(a) During Construction? By not cutting down trees  
arbitrarily.

(b) During Operation? Through maintenance.

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project?

Our youths to be given the first priority special the jobs concerning employment issues.

End - Thanks

MWAVUMBO LOCATION

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location MWATATE

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: MOHAMED LUYI MWERO

ID No: 12902565 Mobile No. 0724 228 075

Signature of Participant Mwero Date: 19.06.2018

1. Has the proposed Powerline Project been mentioned to you before?

Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? .....

PERMANENT DISPLACEMENT TO ALL AGRICULTURAL ACTIVITIES

3. What do you like about the Powerline Project? .....

A WELCOME TO INVESTORS; AND EMPLOYMENT OPPORTUNITIES.

4. What do you dislike about the Powerline Project? .....

SOME RESIDENTS WILL BE DISPLACED

5. Do you think the proposed Project will negatively affect the Environment? .....

Yes  No  If yes, how? .....

6. What should KETRACO do to reduce impact of the project on the Project Area Community? .....

REASONABLE COMPENSATION

7. How do you think Project developers should protect the environment:

(a) During Construction? AVOIDING OF DUSTY ENVIRONMENT

(b) During Operation? AFFORESTATION AROUND THE WAY LEAVE.

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project? NO

CONSIDER A GIVE BACK TO THE COMMUNITY ON A PROJECT LIKE A MODERN SCHOOL, DISPENSARY AND ETC

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location MWAGATE

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: P. MWANJWE N. NABORO

ID No: 14436196 Mobile No: 0723 853626

Signature of Participant ..... Date: 19/06/2018

1. Has the proposed Powerline Project been mentioned to you before?

Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? .....

- Disturb daily activities especial the affected people -  
- Improve power supply to residents.

3. What do you like about the Powerline Project? .....

- Officers approach to Community, Improve economy.

4. What do you dislike about the Powerline Project? .....

5. Do you think the proposed Project will negatively affect the Environment? .....

Yes  No  If yes, how? .....

6. What should KETRACO do to reduce impact of the project on the Project Area Community? .....

- Support projects improving economy.

7. How do you think Project developers should protect the environment:

(a) During Construction? - Support environmental projects -  
- Supply power to community (target) -

(b) During Operation? .....

- Engage residents in employment opportunities.

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project? .....

- Encourage community participation.

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location MWAFATE

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: NARSIB CHIRIMA MWUNGO

ID No: 22536547 Mobile No: 0728213305

Signature of Participant [Signature] Date: 19/6/2018

1. Has the proposed Powerline Project been mentioned to you before?

Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? .....

It will affect me positively.

3. What do you like about the Powerline Project? .....

Power Accessibility, Industrialisation and development.

4. What do you dislike about the Powerline Project? .....

That it can not be directly used by the PAs and neighbours.

5. Do you think the proposed Project will negatively affect the Environment? .....

Yes  No  If yes, how? .....

6. What should KETRACO do to reduce impact of the project on the Project Area Community?

Assist to ensure power installation and use to the Community.

7. How do you think Project developers should protect the environment:

(a) During Construction? Total Co-operation.

(b) During Operation? Community & Stakeholder involvement

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project? .....

Let the project create the employment for the Community members.

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location MWATAIE

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: SAMSON CHALE JOHO

ID No: 14695485 Mobile No: 0721520009

Signature of Participant [Signature] Date: 19<sup>th</sup> JUNE 2018

1. Has the proposed Powerline Project been mentioned to you before?  
 Yes  No
2. How will the Proposed Powerline Project affect you or your daily activities? It does not affect my daily activities.
3. What do you like about the Powerline Project? It will avail power for industrialisation in the area.
4. What do you dislike about the Powerline Project? Displacement of home-stand along the power line.
5. Do you think the proposed Project will negatively affect the Environment?  
 Yes  No  If yes, how? .....
6. What should KETRACO do to reduce impact of the project on the Project Area Community?  
Should avoid public institutions and should supply power to the people for domestic use.
7. How do you think Project developers should protect the environment:  
 (a) During Construction? Should buy seedling and provide money for tree planting along the power area.  
 (b) During Operation? tree planting.
8. Do you support the project? Yes  No
9. Please give any other Concerns or comments related to the proposed Project? They should build the Chief's Office for their remembrance to the community

End - Thanks



**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location MWATATE

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: AMOS NYAWA

ID No: 20570284 Mobile No: 0727619241

Signature of Participant Amos Date: 19/6/2018

1. Has the proposed Powerline Project been mentioned to you before?

Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? Project will affect our land, like Shambas will no be used any more

3. What do you like about the Powerline Project? Will provide jobs for the community

4. What do you dislike about the Powerline Project? Noise and dust during construction

5. Do you think the proposed Project will negatively affect the Environment?

Yes  No  If yes, how? Dust, Noise, Water, Toilets

6. What should KETRACO do to reduce impact of the project on the Project Area Community?

It provide adequate power to the community.

7. How do you think Project developers should protect the environment:

(a) During Construction? .....

(b) During Operation? It will provide greates noise to the community

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project? .....

1. Comments the project to take over.

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location MWATAI F

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: WATSMUS CHIBOKO Mhambisi

ID No: 11600273 Mobile No: 0711941648

Signature of Participant [Signature] Date: 18/06/2018

1. Has the proposed Powerline Project been mentioned to you before?

Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? Because will not be able to cultivate the land.

3. What do you like about the Powerline Project? Because it will provide much power to the community.

4. What do you dislike about the Powerline Project? because some houses will be demolished and the land of the people will be taken

5. Do you think the proposed Project will negatively affect the Environment?

Yes  No  If yes, how? because some of the people will be removed from one place to the other.

6. What should KETRACO do to reduce impact of the project on the Project Area Community?

to provide adequate power to the community

7. How do you think Project developers should protect the environment:

(a) During Construction? especially in the places called KATI to the people and ground levels.

(b) During Operation? It will provide good noise to the community and out of (storm).

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project? they should

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location MWAIKAI

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: HASSANI MBOGA WANI

ID No: 5473186 Mobile No: 0712863804

Signature of Participant ..... Date: 19/06/2018

1. Has the proposed Powerline Project been mentioned to you before?  
 Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? Project will affect our Shambas

3. What do you like about the Powerline Project? It will provide jobs

4. What do you dislike about the Powerline Project? Noise and Dust, and water

5. Do you think the proposed Project will negatively affect the Environment?  
 Yes  No  If yes, how? Dust Health

6. What should KETRACO do to reduce impact of the project on the Project Area Community?  
It will provide power to the Community

7. How do you think Project developers should protect the environment:  
 (a) During Construction?

(b) During Operation?  
It provide Noise and sickness to the Community

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project?  
My Commenc is that project to take place.

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location MWAFATIF

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**  
Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: ALIA RAN

ID No: 13143779 Mobile No: 0925946490

Signature of Participant [Signature] Date: 19/06/2018

1. Has the proposed Powerline Project been mentioned to you before?  
Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? .....  
NO

3. What do you like about the Powerline Project? .....  
VE

4. What do you dislike about the Powerline Project? .....  
NO

5. Do you think the proposed Project will negatively affect the Environment? .....  
Yes  No  If yes, how? .....

6. What should KETRACO do to reduce impact of the project on the Project Area Community?  
TO PAY THE AFFECTED COMMUNITIES AND MONEY

7. How do you think Project developers should protect the environment:  
(a) During Construction? PLANTING TREES AND WATERING OF THE ROAD CONSTRUCTED  
(b) During Operation? PLANTING TREES AND MAINTAIN ALL THE LINE

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project? .....  
GIVE RELATION WITH THE AREAS AFFECTED

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location MIAA

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: SAMMY BIDU SHADRACK

ID No: 30209768 Mobile No: 0700871817

Signature of Participant [Signature] Date: 19-06-2018

1. Has the proposed Powerline Project been mentioned to you before?  
 Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities?  
and Trees along the line the project will ~~pass~~ <sup>Houses</sup> across.

3. What do you like about the Powerline Project? It will enable Kwale county to develop

4. What do you dislike about the Powerline Project? Its a very good project.

5. Do you think the proposed Project will negatively affect the Environment?  
 Yes  No  If yes, how? .....

6. What should KETRACO do to reduce impact of the project on the Project Area Community?  
KETRACO should be very open to the community during payment time.

7. How do you think Project developers should protect the environment:  
 (a) During Construction? Yes of course they should protect the environment.  
 (b) During Operation? Indeed during the operation the project developers should protect the environment.

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project? I think KETRACO should be able to pay the victims before starting the project.

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location MIAA

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**  
 Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: JUMA MWAMDZOMBA  
 ID No: 28752217 Mobile No: 0728835131  
 Signature of Participant [Signature] Date: 19/06/2018

1. Has the proposed Powerline Project been mentioned to you before?  
 Yes  No
2. How will the Proposed Powerline Project affect you or your daily activities? .....  
The area of the land it crosses, is our source of daily bread.
3. What do you like about the Powerline Project? .....  
Creation of job opportunities.
4. What do you dislike about the Powerline Project? .....  
Emergencies and disasters that may arise.
5. Do you think the proposed Project will negatively affect the Environment? .....  
 Yes  No  If yes, how? .....
6. What should KETRACO do to reduce impact of the project on the Project Area Community?  
By: i) Compensating the affected residents  
ii) Giving them priorities for the jobs created.
7. How do you think Project developers should protect the environment:  
 (a) During Construction? By identifying the affected residents and come up with defined solution.  
 (b) During Operation? Every affected resident will have to take the responsibilities positively.
8. Do you support the project? Yes  No
9. Please give any other Concerns or comments related to the proposed Project? .....  
Lets all join hands together and build our Nation.

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location MIAA

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**  
 Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: MUSENA BEJA NGOA  
 ID No: 12897987 Mobile No: 0716434167  
 Signature of Participant [Signature] Date: 19-06-2018

1. Has the proposed Powerline Project been mentioned to you before?  
 Yes  No
2. How will the Proposed Powerline Project affect you or your daily activities? As an Asst. chief of Bija Sub-location, My people from Nungui village shall be displaced.
3. What do you like about the Powerline Project? It will improve the livelihood of the families along the 40M corridor.
4. What do you dislike about the Powerline Project? High radiation power might be harmful to the residents around.
5. Do you think the proposed Project will negatively affect the Environment?  
 Yes  No  If yes, how? .....
6. What should KETRACO do to reduce impact of the project on the Project Area Community?  
Try as much as possible not to reduce displacement by changing the direction of the 40M corridor.
7. How do you think Project developers should protect the environment:  
 (a) During Construction? Not to block rivers, Not to dump waste on water sources. Make sure payment is done pre-construction  
 (b) During Operation? Make sure the project benefit the residents to bring more development than harm.
8. Do you support the project? Yes  No
9. Please give any other Concerns or comments related to the proposed Project?  
Let's hope anything on the process shall be well - Corruption free

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location MIAA

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: IBRAHIM NZIRA CHARO

ID No: 11367639 Mobile No: 0711 2677 53

Signature of Participant [Signature] Date: 19/06/2018

1. Has the proposed Powerline Project been mentioned to you before?

Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? It's crossing my shamba, that means, it will affect my shamba

3. What do you like about the Powerline Project? I would like the powerline project plus the owners to give the affected ones enough money

4. What do you dislike about the Powerline Project? I don't want corruptions and some conflicts.

5. Do you think the proposed Project will negatively affect the Environment?

Yes  No  If yes, how? .....

6. What should KETRACO do to reduce impact of the project on the Project Area Community?

The thing to do is, they should at list employ some of the affected ones.

7. How do you think Project developers should protect the environment:

(a) During Construction? on my behalf I don't know how they will protect coz I have never see before

(b) During Operation? Also I can't define it well because it's my first term or new thing to me I had never seen before

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project? I would like the project owners not only to construct the powerline but also to produce some companies

End - Thanks



**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location MIAA

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: RODGERS NYAWA NGUMUTA

ID No: 10.12.538 Mobile No. 0726572908

Signature of Participant [Signature] Date: 19/06/2018

1. Has the proposed Powerline Project been mentioned to you before?

Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? .....

It will give us income and service.

3. What do you like about the Powerline Project? .....

It will add value to service and development.

4. What do you dislike about the Powerline Project? .....

To put lines through residents plot without permission.

5. Do you think the proposed Project will negatively affect the Environment? .....

Yes  No  If yes, how? .....

6. What should KETRACO do to reduce impact of the project on the Project Area Community?

1. To co-operate with community.

2. To pay or compensate for every damage.

7. How do you think Project developers should protect the environment:

(a) During Construction? Safety measures.

(b) During Operation? Same.

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project? .....

The area will be productive in terms of creating jobs.

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location MIAA

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: JAMES MWAMONGO DENA

ID No: 8656782 Mobile No: 0722799083

Signature of Participant [Signature] Date: 19/6/2018

1. Has the proposed Powerline Project been mentioned to you before?

Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? .....

N/A

3. What do you like about the Powerline Project? .....

Development aspect.

4. What do you dislike about the Powerline Project? .....

N/A

5. Do you think the proposed Project will negatively affect the Environment? .....

Yes  No  If yes, how? Trees under the power line will be cleared.

6. What should KETRACO do to reduce impact of the project on the Project Area Community? .....

Business should not be cleared;

7. How do you think Project developers should protect the environment:

(a) During Construction? Encourage local community to start tree nursery or seedlings in schools & women groups.

(b) During Operation? Should hire local as labourers.

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project? .....

Compensation to PAPs must be paid promptly. CSR project within the location be done.

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location MIAA -

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**  
 Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: BAYA SHOKOA GUSIDI

ID No: 2210031 Mobile No: 0721627619

Signature of Participant [Signature] Date: 19.06.2018

1. Has the proposed Powerline Project been mentioned to you before?

Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? .....

PROVISION OF POWER

3. What do you like about the Powerline Project? .....

WILL ENHANCE PROGRESS

4. What do you dislike about the Powerline Project? .....

DISPLACEMENT OF PEOPLE

5. Do you think the proposed Project will negatively affect the Environment? .....

Yes  No  If yes, how? IN CASE A TRANSFORMER

BURSTS

6. What should KETRACO do to reduce impact of the project on the Project Area Community? .....

FULLY INVOLVEMENT OF THE COMMUNITY

7. How do you think Project developers should protect the environment:

(a) During Construction? HAVE A SPECIAL DUMPING PLACE

(b) During Operation? THOROUGH INSPECTION BY KETRACO OFFICIALS

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project? .....

PAY THE AFFECTED BENEFICIARIES DIRECT DO NOT USE GOVERNMENT OFFICERS

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location MIAA

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: Joseph N. Nyge

ID No: 9881277 Mobile No: 0728340015

Signature of Participant [Signature] Date: 19.6.2018

- 1. Has the proposed Powerline Project been mentioned to you before?  
Yes  No
- 2. How will the Proposed Powerline Project affect you or your daily activities?  
The powerline will affect by displacement of individuals
- 3. What do you like about the Powerline Project?  
It will increase power supply to the inter-district industrial and other areas.
- 4. What do you dislike about the Powerline Project?  
Any impact to the residents will harm the living of individuals, houses/chambas
- 5. Do you think the proposed Project will negatively affect the Environment?  
Yes  No  If yes, how? No person will be allowed to do activities along the inter-district line
- 6. What should KETRACO do to reduce impact of the project on the Project Area Community?  
Sensitize the public the negative and positive effects of the project to the community.
- 7. How do you think Project developers should protect the environment:  
(a) During Construction? yes  
(b) During Operation? yes
- 8. Do you support the project? Yes  No
- 9. Please give any other Concerns or comments related to the proposed Project?  
It will create employment opportunities and increase the economy to the community/public

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location MIAA

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: MWAMUWERO BAYA KATANA

ID No: 9395386 Mobile No: 0721787563

Signature of Participant [Signature] Date: 19/06/2018

1. Has the proposed Powerline Project been mentioned to you before?

Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? .....

3. What do you like about the Powerline Project? .....

increase of Energy in terms of industrialization.

4. What do you dislike about the Powerline Project? .....

It's dangerous since it a powerline of high power voltage.

5. Do you think the proposed Project will negatively affect the Environment? .....

Yes  No  If yes, how? Disturb the normal family set up and activities - ongoing.

6. What should KETRACO do to reduce impact of the project on the Project Area Community?

Sensitize the people properly. Compensate the affected persons adequately.

7. How do you think Project developers should protect the environment:

(a) During Construction? Try it's level best to minimally disturb the normal living (life) of the affected persons.

(b) During Operation? .....

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project? .....

Transparency and Justice should prevail from the beginning to the end of the entire project period.

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location MIAA

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: Tunde K. BEUCHI

ID No: 8421957 Mobile No: 0726529923

Signature of Participant Tunde Date: 19/6/2018

1. Has the proposed Powerline Project been mentioned to you before?

Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? May be

in many areas e.g. reduce my land

3. What do you like about the Powerline Project? It is productive to

my area - light, giving enabling me do alot

4. What do you dislike about the Powerline Project? I dislike corruption

and a lot of delay when we need have service

5. Do you think the proposed Project will negatively affect the Environment?

Yes  No  If yes, how? Reducing our land, but

6. What should KETRACO do to reduce impact of the project on the Project Area Community?

Raising the residence

7. How do you think Project developers should protect the environment:

(a) During Construction? Alert the residence

(b) During Operation?

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project? I do support

this project because we have been neglected

by the Kenya power

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location KASIMUNI

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: SARAH WAWERY

ID No: 8744010 Mobile No: 0721 979086

Signature of Participant [Signature] Date: 20/6/18

1. Has the proposed Powerline Project been mentioned to you before?

Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? improve on infrastructure

3. What do you like about the Powerline Project? Open up opportunities to improve the area

4. What do you dislike about the Powerline Project? nothing

5. Do you think the proposed Project will negatively affect the Environment?

Yes  No  If yes, how? .....

6. What should KETRACO do to reduce impact of the project on the Project Area Community?

not to be tribal

7. How do you think Project developers should protect the environment:

(a) During Construction? Ensure the workers are well informed

(b) During Operation? Take the shortest time possible

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project? Should start ASAP

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location KASIMETHI

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**  
 Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: BENSON KALIMBO KOKOI

ID No: 2216831 Mobile No: 0724 024 180

Signature of Participant [Signature] Date: 20-6-2018

1. Has the proposed Powerline Project been mentioned to you before?  
 Yes  No
2. How will the Proposed Powerline Project affect you or your daily activities? As the Area Chief the Project will affect my people.
3. What do you like about the Powerline Project? It will boost the life status of the affected people.
4. What do you dislike about the Powerline Project? Under Paying the affected people.
5. Do you think the proposed Project will negatively affect the Environment?  
 Yes  No  If yes, how? There will be alot of dust during Scooping in erection of Powerline Pillars.
6. What should KETRACO do to reduce impact of the project on the Project Area Community?  
-Use modern gadgets in the works.  
-Sprinkle water where there is alot of dust.
7. How do you think Project developers should protect the environment:  
 (a) During Construction? Plant grass in the scooped area and Sprinkle water  
 (b) During Operation? -Use modern Machine Machines.  
-Use low power explosives when splitting rocks.
8. Do you support the project? Yes  No
9. Please give any other Concerns or comments related to the proposed Project? I fully support this project because it will boost the country's economic status.

End - Thanks



**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location KASIMBANI

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**  
 Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: MAKANZO RASHID MAKANZO

ID No: 26061399 Mobile No: 0710701696

Signature of Participant MA Date: 20/6/2018

1. Has the proposed Powerline Project been mentioned to you before?  
 Yes  No
2. How will the Proposed Powerline Project affect you or your daily activities? .....  
Foster development in the area
3. What do you like about the Powerline Project? .....  
It negatively affect less to the environment.
4. What do you dislike about the Powerline Project? .....  
Displacement of biodiversity
5. Do you think the proposed Project will negatively affect the Environment? .....  
 Yes  No  If yes, how? loss of biodiversity
6. What should KETRACO do to reduce impact of the project on the Project Area Community?  
Carry out Environmental Impact Assessment
7. How do you think Project developers should protect the environment:  
 (a) During Construction? knows and areas which is rich in biodiversity  
 (b) During Operation? Maintain the powerline
8. Do you support the project? Yes  No
9. Please give any other Concerns or comments related to the proposed Project? .....  
I highly appreciate the project, since its of great significance to the area.

End - Thanks

**UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONI**

Kata: KASEMENI

Kujazwa Na: **Washika Dau Wakuu na Jamii ya eneo la mradi**

Mradi Unaopendekezwa: **Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa**

Eneo La Mradi: **Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu  
(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)**

Jina la Mshiriki: JOSEPH SHUMBA TSOCHIRI

Nambari ya Kitambulisho 11496599 Nambari ya Simu 0214924931

Sahihi ya Mshiriki Joseph Tarehe: 20/06/2018

1. Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La
2. Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? SEHEMU YA ARIDHI SITAMILIKI
3. Ni nini kinachokupendeza kuhusu mradi huu? VIWANDA VITAJENQUA UTIRA UTAPATIKANA
4. Ni nini ambacho hakikupendezi kuhusu mradi huu? MITI MIKUBWA ITAKATWA NA NDEGE WA ANGANI WATAANGAIKA
5. Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? Baadhi ya miti fulani itakakwa na ndege wa angani wataangaika
6. Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi? Itae pesa ya kutosha ili mwathirika atafutie eneo lipya
7. Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:
  - (a) Wakati wa ujenzi? Lazima watae vipimo kutoka kwa mradi hadi sehemu nyingine yamwisho
  - (b) Wakati wa uendeshaji? Naona ni mihimu kwa mwathirika adimishwe kwa utumiaji wa aridhi
8. Je unaunga mkono mradi huu? Ndio  La
9. Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu. Pesa tutapata na kulimweli kinaisha kwa eneo lingine

Mwisho - Ahsante

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location KASIMBI

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: TUNWA Mwanne A

ID No: 22537584 Mobile No: 0723708580

Signature of Participant [Signature] Date: 20/02/2018

1. Has the proposed Powerline Project been mentioned to you before?

Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? It will not affect my daily activities if the right procedure followed

3. What do you like about the Powerline Project? Job creation, Improvement of livelihood

4. What do you dislike about the Powerline Project? Pollution of the Environment

5. Do you think the proposed Project will negatively affect the Environment?

Yes  No  If yes, how? .....

6. What should KETRACO do to reduce impact of the project on the Project Area Community?

Create More awareness in the Community project area

7. How do you think Project developers should protect the environment:

(a) During Construction? Planting of trees

(b) During Operation? Building Fences and should not explosive materials during construction

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project? .....

End - Thanks

**UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONI**

Kata: GANDINI

Kujazwa Na: **Washika Dau Wakuu na Jamii ya eneo la mradi**

Mradi Unaopendekezwa: **Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa**

Eneo La Mradi: **Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu  
(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)**

Jina la Mshiriki: Said Mwaitemo Ngao

Nambari ya Kitambulisho: 5395233 Nambari ya Simu: 0716581127

Sahihi ya Mshiriki: [Signature] Tarehe: 20.6.2018

1. Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La
2. Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? Nama kwa ms. mamea jengu kama mmea itakata ili isiguse nyuma za simu.
3. Ni nini kinachokupendeza kuhusu mradi huu? Mradi huu utaleta maendeleo kwetu au katika sehemu yetu.
4. Ni nini ambacho hakikupendezi kuhusu mradi huu? Atekaye nyimbo fidia na shirika hili sitapendeza kuhusu mradi huu.
5. Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? kuna miti au mmea itakata na kuharibu mazingira.
6. Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi? Ketraco iwaelimishe wamachi kama wamefidia wapewe elimu ya kupanda miti na bisshara.
7. Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:
  - (a) Wakati wa ujenzi? Kuepukana kukata kwa miti mikubwa na kupanda miti kwa mwingi.
  - (b) Wakati wa uendeshaji? Wahapeshe magari ili yasiharibu mmea auyo auyo.
8. Je unaunga mkono mradi huu? Ndio  La
9. Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu. Mimi mradi huu niridhika na el naridhika nao kwa sababu atakao fidia wata somesha watoto wao.

Mwisho - Ahsante

**UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONI**

Kata: GAMBIRI

Kujazwa Na: **Washika Dau Wakuu na Jamii ya eneo la mradi**

Mradi Unaopendekezwa: **Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa**

Eneo La Mradi: **Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu  
(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)**

Jina la Mshiriki: KE TRACO

Nambari ya Kitambulisho: 8411226 Nambari ya Simu: 0700561052

Sahihi ya Mshiriki: [Signature] Tarehe: 20/06/2018

1. Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La

2. Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? Mradi huu utathiri kwa kupitia shamba langu.

3. Ni nini kinachokupendeza kuhusu mradi huu? Kijana wetu watafata viba wa 8 pia maendeleo ya kazi.

4. Ni nini ambacho hakikupendezi kuhusu mradi huu? Kisicho mpendeza nikukosa ushirikiano baina ya wanachi na Shirika.

5. Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? Tata habia miji na makao yetu.

6. Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi? Ketraco iube ridhaa ya kutosha hata wakitoe kwa hii lami aende akajenge vizuri.

7. Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:  
(a) Wakati wa ujenzi? Wakati wa ujenzi walipe kwanza kabla ya mradi.

(b) Wakati wa uendeshaji? .....

8. Je unaunga mkono mradi huu? Ndio  La

9. Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu. Jee wakikosa kulipa vidia ya kutosha sisi tufanayeje kwa Shirika.

Mwisho - Ahsante

UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONIKata: GARDINIKujazwa Na: *Washika Dau Wakuu na Jamii ya eneo la mradi*Mradi Unaopendekezwa: *Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa*Eneo La Mradi: *Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu  
(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)*Jina la Mshiriki: MBARUKU Juma BAUSHINambari ya Kitambulisho: 3162759 Nambari ya Simu: 0726573807Sahihi ya Mshiriki: MBaushi Tarehe: 20-06-2018

1. Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La
2. Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? .....  
Haitaniathiri Kazi yangu.
3. Ni nini kinachokupendeza kuhusu mradi huu? .....  
Ni huo mojo lakada mbeleni tutafandi kuhusu vitu vya maendeleo.
4. Ni nini ambacho hakikupendezi kuhusu mradi huu? .....  
Hakuna.
5. Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? .....  
Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? .....  
Tetemeko, Cracks za nyumba.
6. Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi? .....  
Kufunga hospitali Nzuri kwa hili eneo langu.
7. Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:
  - (a) Wakati wa ujenzi? .....  
Kuhusisha wamanda na kupanda miti kwa kulinda mazingira.
  - (b) Wakati wa uendeshaji? .....  
Vijana wa location wapatwa Alira. Mradi unapita. Kama moja unastahili pia ungre vijini. kwa manufaa zaidi.
8. Je unaunga mkono mradi huu? Ndio  La
9. Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu. ....  
watu walipwe kupitia Bank. kwa usalama zaidi ya wakaaji. Na walipwe vizuri.

Mwisho - Ahsante

**UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONI**

Kata: GANDINI LOCATION

Kujazwa Na: **Washika Dau Wakuu na Jamii ya eneo la mradi**

Mradi Unaopendekezwa: **Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa**

Eneo La Mradi: **Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu  
(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)**

Jina la Mshiriki: LUBANKO KAJIMBA BHERI

Nambari ya Kitambulisho 2252583 Nambari ya Simu 0791557485

Sahihi ya Mshiriki [Signature] Tarehe: 20/06/2018

1. Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La
2. Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? Kutakuako na ugumu, Sehemu yangu makazi
3. Ni nini kinachokupendeza kuhusu mradi huu? mabadiliko na maendeleo na nyuma wa kisasa
4. Ni nini ambacho hakikupendezi kuhusu mradi huu? Kuondolewa kwa mikazi wa sehemu inayopitia mradi huu
5. Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? Utakuwa na utata kama vijana wa hapa hawatakuwa kazi
6. Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi? Hawa watu wanaoishi katika sehemu mara yangu kazi walipoe ridha watu hao, hao
7. Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:
  - (a) Wakati wa ujenzi? Njia mwafaka hawa watu wa KETRACO wanayo jafunzi kuhusu ulinzi
  - (b) Wakati wa uendeshaji? Kunao wafibu ya watu hawa kwa ulinzi bora, maana sikuli ntu kama mimi ni wazazi (security) itakuwa vipi
8. Je unaunga mkono mradi huu? Ndio  La
9. Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu. Ntu mimi ni wazazi kuandaa kugawa mradi huu nikawese kuwakilisha kwa njia bora

Mwisho - Ahsante

**UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONI**Kata: GARDINIKujazwa Na: **Washika Dau Wakuu na Jamii ya eneo la mradi**Mradi Unaopendekezwa: **Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa**Eneo La Mradi: **Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu  
(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)**Jina la Mshiriki: UMAZI MUKANGALONambari ya Kitambulisho: 24697177 Nambari ya Simu: 0717077624Sahihi ya Mshiriki: [Signature] Tarehe: 20/6/2018

- Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La
- Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? Itapunguza matumizi la eneo litakalotumiwa na mradi
- Ni nini kinachokupendeza kuhusu mradi huu? Kutakuwa na ajira kwa wakazi wa kata ya gardini
- Ni nini ambacho hakikupendezi kuhusu mradi huu? Uhamibifu wa mazingira katika eneo la mradi
- Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? mita itakafuwa na pia sehemu ya maambi itathirika kwa gardini
- Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi?
- Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:
  - Wakati wa ujenzi? Watumie teknolojia ya kisasa ili kupesha mawe ili isipaswe nyumba
  - Wakati wa uendeshaji? wamwagilie maji ili kupunguza vumbi linaloleta madhara
- Je unaunga mkono mradi huu? Ndio  La
- Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu. Utafungua biashara kubwa kubwa ambazo zitaleta ajira kwa watu wengi katika eneo hili

Mwisho - Ahsante



UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONI

Kata:

GANDINIKujazwa Na: *Washika Dau Wakuu na Jamii ya eneo la mradi*Mradi Unaopendekezwa: *Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa*Eneo La Mradi: *Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu  
(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)*

Jina la Mshiriki:

MUNGA NDEGWA

Nambari ya Kitambulisho:

23988522

Nambari ya Simu:

0705811862

Sahihi ya Mshiriki:

[Signature]

Tarehe:

20/6/2018

- Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La
- Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? .....  
Kupunguza Mshumizi wa Shamba, kuathiri Mazingira.
- Ni nini kinachokupendeza kuhusu mradi huu? Kuleta Maendeleo.
- Ni nini ambacho hakikupendezi kuhusu mradi huu? Kuto shughulikwa  
waathiriwa.
- Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? .....  
Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? Mih. itakafua.
- Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi? Walipe na waceede kupanda mih.
- Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:  
(a) Wakati wa ujenzi? Kutata mih. medogoboa.  
(b) Wakati wa uendeshaji? Kupanda mih. zaidi.
- Je unaunga mkono mradi huu? Ndio  La
- Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu.....  
Mradi ni mzuri kwa lingo naipasa. Naathiriwa  
walipwe wakati ufaao.

Mwisho - Ahsante

**UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONI**

Kata: GARDINI

Kujazwa Na: **Washika Dau Wakuu na Jamii ya eneo la mradi**

Mradi Unaopendekezwa: **Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa**

Eneo La Mradi: **Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu**

**(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)**

Jina la Mshiriki: ANDERSON BESA BARAZA

Nambari ya Kitambulisho: 8427549 Nambari ya Simu: 0726506550

Sahihi ya Mshiriki: Besa Tarehe: 20.6.2018

1. Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La
2. Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? KETRACO itaniadhiini kwa upanda wa kutiika kila wakati
3. Ni nini kinachokupendeza kuhusu mradi huu? Mradi huu unani pendeza sana kwa kulota maendeleo mozuri sana hasa kwa usafiri
4. Ni nini ambacho hakikupendezi kuhusu mradi huu? Mradi unani pendeza sana.
5. Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? ndio utaleta itakotwa na miti ya mbo pia mimea ya kiji kula pia.
6. Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi? KETRACO tafadhali ilipe fidia kwa wakoaji ndi po wahamie katika sekem zao zameshamb.
7. Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:
  - (a) Wakati wa ujenzi? watawale mahali pa kukuwaga uli chaji mbali sana na kalya
  - (b) Wakati wa uendeshaji? Tafadhali wakate miti kulingana na miti zinazo fika na KETRACO wasi piti she kutiiani isiyokwa na hatia.
8. Je unaunga mkono mradi huu? Ndio  La
9. Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu. Maoni yangu Naomdaa KETRACO wakati wakifunga wafunga kukaga sana ilinxaya isizuru binadamu

Mwisho - Ahsante

**UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONI**Kata: GARDINIKujazwa Na: **Washika Dau Wakuu na Jamii ya eneo la mradi**Mradi Unaopendekezwa: **Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa**Eneo La Mradi: **Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu  
(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)**Jina la Mshiriki: MWANAMWENGA CHAGAMBA NYANJENambari ya Kitambulisho: 6729419 Nambari ya Simu: 0721928601Sahihi ya Mshiriki: Haggamba Tarehe: 20/6/2018

- Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La
- Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? MRADI HUU HUNA MADHARA YOYOTE KWANU KWA SHUGHULI ZAKO ZA KILA SIKU
- Ni nini kinachokupendeza kuhusu mradi huu? NIMEPEZWA NA MRADI HUU KUHUSU MOTO
- Ni nini ambacho hakikupendezi kuhusu mradi huu? KINACHO AMBACHO HAKINIPEWDEZI NI KU HARIBU MAZINGIRA
- Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? KWA KU HARIBU MITI SEHEMU AMBAYO ITAPIA NYAYA ZA MOTO
- Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi? MIMI NINGEPENDA MRADI VPITE NA SEHEMU AMBAYO IMEPIMWA LAKINI WASIHARIBU SEHEMU ZINGINE
- Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:
  - Wakati wa ujenzi? KETRACO MRADI UNAPO PITA WASIHARIBU MAZINGIRA SEHEMU ZINGINE
  - Wakati wa uendeshaji? MIMI NINGEPENDA MRADI VENDESHE BILA SHIDA NA SEHEMU ILE WAMECHUKWA KWA SABABU YA MAZINGIRA
- Je unaunga mkono mradi huu? Ndio  La
- Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu. MIMI NIMEPEZWA NA MRADI KWA SABABU MOTO UKPITA NA SEHEMU HI YETU TUNAFAJIKANA NA MRADI

Mwisho - Ahsante

**UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONI**

Kata: GARBINI

Kujazwa Na: **Washika Dau Wakuu na Jamii ya eneo la mradi**

Mradi Unaopendekezwa: **Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa**

Eneo La Mradi: **Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu  
(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)**

Jina la Mshiriki: D. KWAMWENGA KARIMBO MAZERA  
 Nambari ya Kitambulisho: 2217646 Nambari ya Simu: 0723694462  
 Sahihi ya Mshiriki: [Signature] Tarehe: 20/6/2018

1. Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La
2. Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? KELELE NA MITIHRISHIKO
3. Ni nini kinachokupendeza kuhusu mradi huu? KWANZA HI MADUKO KUHUSU MAENDELEO NA KUPATA MOTO WA KATAMBA
4. Ni nini ambacho hakikupendezi kuhusu mradi huu? KELELE NA UHARIBIU WA MINEA
5. Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? KUNA WAKATI BINGI HUSHIKA MOTO NA KUSABABISHA NYAYA KWA NGUVA
6. Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi? HAKIKISHE HAIMDHARU MWANANCHI ALIYE BINGI KATIKA MRADI ILI AWEZE KUTIPANGA
7. Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:
  - (a) Wakati wa ujenzi? WAHAKIKISHE WANACHUWA RASIDALI WAKATI WA KUPITISHA VIFAA VYA UJENZI
  - (b) Wakati wa uendeshaji? WAHAKIKISHE WANATUMIA BVIFAA YA KWEMU NA IKIWEZEKANA KWE NA MATAA
8. Je unaunga mkono mradi huu? Ndio  La
9. Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu. OMBINI KWAMBA, KAMA ITAWEZEKANA, WALIO KARIBU WAPATE MOTO BWA GARAMA ILA WASARAMIE MAFUANO

Mwisho - Ahsante

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location MBUNGUNI

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: ROBERT SHUNET

ID No: 24508481 Mobile No: 0722899845

Signature of Participant [Signature] Date: 21/06/2018

1. Has the proposed Powerline Project been mentioned to you before?

Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? Displacement, Risks of accidents,

3. What do you like about the Powerline Project? It is a door to development and opening up the area.

4. What do you dislike about the Powerline Project? The way leave is taking a very wide path.

5. Do you think the proposed Project will negatively affect the Environment? .....

Yes  No  If yes, how? .....

6. What should KETRACO do to reduce impact of the project on the Project Area Community?

They should innovate a way that will reduce the wayleave path and use a minimum space.

7. How do you think Project developers should protect the environment:

(a) During Construction? Ensure minimal exploitation of the environment & natural resources

(b) During Operation? Ensure that the natural resources in the way leave are preserved, and plant trees.

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project? .....

Ensure you give back gratitude to the community by CSR.

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location MBUNGUNI

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**  
 Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: SUADI MOHAMED VIKO

ID No: 9470158 Mobile No: 0799067261

Signature of Participant [Signature] Date: 21/06/2018

1. Has the proposed Powerline Project been mentioned to you before?

Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? .....

There will be no affection

3. What do you like about the Powerline Project? .....

if it will help create job and development in the Area

4. What do you dislike about the Powerline Project? .....

There are no problems at the project

5. Do you think the proposed Project will negatively affect the Environment? .....

Yes  No  If yes, how? .....

6. What should KETRACO do to reduce impact of the project on the Project Area Community? .....

7. How do you think Project developers should protect the environment:

(a) During Construction? So as not to Plucking

of trees to Cover the lost

(b) During Operation? .....

Owner

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project? .....

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location MBUNGUNI

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: Juma MAFANO

ID No: 10226122 Mobile No: 0724 22 57 93

Signature of Participant Juma M. Date: 21/06/2018

1. Has the proposed Powerline Project been mentioned to you before?

Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? .....

UNAPO ATHIRI MIMI AU SEHEMU ALIPE.

3. What do you like about the Powerline Project? .....

TUPATE AJIRA.

4. What do you dislike about the Powerline Project? .....

UHARIBI. BILA MALIPO.

5. Do you think the proposed Project will negatively affect the Environment? .....

Yes  No  If yes, how? KWA SABABU YA KUKATKA MITI

NA MIMBA SHAMBANI, NUNBI KUENGA.

6. What should KETRACO do to reduce impact of the project on the Project Area Community? .....

7. How do you think Project developers should protect the environment:

(a) During Construction? KULELEKA KA MARETO TAO INAKOZEKANA

(b) During Operation? NDILO HASA IKOZEKANA.

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project? .....

HII PROJECT ITASHIDIA KULETA MAFANDELO,  
NA AJIRA KUSA WATU MARIKANI, DONDO KUNAO

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location MBUNGUHI

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: EVANS M. MURISG

ID No: 11601372 Mobile No: 0717082455

Signature of Participant Evans Date: 21-06-2018

1. Has the proposed Powerline Project been mentioned to you before?

Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities?

Reduce a change on the farm, dust

3. What do you like about the Powerline Project?

Working about modern Industries, employment

4. What do you dislike about the Powerline Project?

Displacement of wild animals especially in Idupa  
and some birds, dust

5. Do you think the proposed Project will negatively affect the Environment?

Yes  No  If yes, how? .....

6. What should KETRACO do to reduce impact of the project on the Project Area Community?

Compensate the community handsomely on  
the land or trees affected

7. How do you think Project developers should protect the environment:

(a) During Construction? Watering on daily basis

Planting trees in some areas

(b) During Operation? Sound proof objects/ dust control

measures, continuous support on the people near  
the industries or factories

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project?

(1) I propose the project managers to  
consider the community members in employ-  
ment of youth of both gender,  
(2) Put up a modern learning  
institution in the area

End - Thanks



**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location MBUNGUHI

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: JESPHAT M. MURASA

ID No: 8427437 Mobile No: 0722935366

Signature of Participant [Signature] Date: 21-6-2018

1. Has the proposed Powerline Project been mentioned to you before?  
 Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? .....

3. What do you like about the Powerline Project? it will empower the locals to uplift their living standards.

4. What do you dislike about the Powerline Project? N/A

5. Do you think the proposed Project will negatively affect the Environment?  
 Yes  No  If yes, how? .....

6. What should KETRACO do to reduce impact of the project on the Project Area Community?  
Ketraco should adequately pay the affected people also those who are close due dust.

7. How do you think Project developers should protect the environment:  
 (a) During Construction? They should make sure the affected people to avoid dust, explosives.  
 (b) During Operation? During the operation residents affected should be compensated and given protective garments

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project? If Ketraco can assist the locals in building the toilets in some house holds.

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location N/GOM BSW 1

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: KHALID HADI AWADH SAID BAADEL

ID No: 22593061 Mobile No: 0722999088

Signature of Participant [Signature] Date: 21/6/018

1. Has the proposed Powerline Project been mentioned to you before?

Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? Many people will be disrupted from their daily chores.

3. What do you like about the Powerline Project? It will uplift the communities within economically.

4. What do you dislike about the Powerline Project? People will be affected as many will loose their land and structures to give way for the project.

5. Do you think the proposed Project will negatively affect the Environment?

Yes  No  If yes, how? .....

6. What should KETRACO do to reduce impact of the project on the Project Area Community?

To compensate the affected people so that they look for an alternative place.

7. How do you think Project developers should protect the environment:

(a) During Construction? .....

(b) During Operation? BSU .....

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project? It is a good project as it will ensure a 24hours economy. Only that - considerations should be put in place to reduce risk and affection - to the communities within the project.  
End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location NGUMBERTI

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: AHMAD HAMISI MACHIRO

ID No: 8421940 Mobile No: 0727240855

Signature of Participant [Signature] Date: 21-06-2018

1. Has the proposed Powerline Project been mentioned to you before?

Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? It will take a our land which I could built house.

3. What do you like about the Powerline Project? I liked powerline that it will expand the area on development.

4. What do you dislike about the Powerline Project? The area will remain undevelopment.

5. Do you think the proposed Project will negatively affect the Environment?

Yes  No  If yes, how? By cutting down trees, heavy truck when go down - done, dust.

6. What should KETRACO do to reduce impact of the project on the Project Area Community?

By the creating awareness to the Community around the area of project.

7. How do you think Project developers should protect the environment:

(a) During Construction? To minimize the cutting of trees.

(b) During Operation? To carry out environment management.

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project? Job

Creation will be high, and life of community will changed at large.

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location NGOMBINI

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: Mohamed Saidi

ID No: 3167798 Mobile No: 0724691885

Signature of Participant [Signature] Date: 21-06-2018

1. Has the proposed Powerline Project been mentioned to you before?  
 Yes  No
2. How will the Proposed Powerline Project affect you or your daily activities? .....  
IT WILL EFFECT ONE WAY OR ANOTHER.
3. What do you like about the Powerline Project? WE LIKE THE PROJECT  
BECAUSE WE ARE GOING TO HAVE STREET LIGHTS
4. What do you dislike about the Powerline Project? WE DONT DISLIKE THE  
PROJECT, BUT WE LIKE IT.
5. Do you think the proposed Project will negatively affect the Environment? .....  
 Yes  No  If yes, how? .....
6. What should KETRACO do to reduce impact of the project on the Project Area Community?  
KETRACO SHOULD GIVE COMMUNITY RESOURCE TO HELP  
SO THAT IMPROVEMENT TO REACH.
7. How do you think Project developers should protect the environment:  
 (a) During Construction? DUSTY, FUEL FULLY, EAR, EYES.  
DIESELS WILL EFFECT.  
 (b) During Operation? PROJECT SHOULD LOCAL COMMUNITY  
IN MEDICINE, OR IN TIDA IN GENERAL.
8. Do you support the project? Yes  No
9. Please give any other Concerns or comments related to the proposed Project? .....  
DIESELS WILL COMMON OR AVAILABLE TO THE  
COMMUNITY.

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location NGOMBEZI

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: KISITOMBO SITEE HAMISH

ID No: 21104732 Mobile No: 0723525900

Signature of Participant [Signature] Date: 21<sup>st</sup> JUNE 2018

1. Has the proposed Powerline Project been mentioned to you before?  
 Yes  No
2. How will the Proposed Powerline Project affect you or your daily activities?  
GENERALLY it will uplift livelihoods
3. What do you like about the Powerline Project?  
Transformation of the area in terms of development
4. What do you dislike about the Powerline Project?  
Dislocation of residents since it would take time to settle
5. Do you think the proposed Project will negatively affect the Environment?  
 Yes  No  If yes, how? N/A
6. What should KETRACO do to reduce impact of the project on the Project Area Community?  
Awareness programmes should be enhance to enable community involvement and participation
7. How do you think Project developers should protect the environment:  
 (a) During Construction? Construction of water catchment areas, tree planting, soil conservation, health facilities, etc  
 (b) During Operation? Construction of schools, toilets, sports fields and recreation areas, special program for youth, women, vulnerable and PWDs.
8. Do you support the project? Yes  No
9. Please give any other Concerns or comments related to the proposed Project?  
Project should consider on both stages that is during construction and operation an Occupational Health and safety procedures. (OSHA)

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location NGOMBENI

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: Mohamed Ali Sibabu

ID No: 0308496 Mobile No: 070675863

Signature of Participant MES Date: 21/4/2018

1. Has the proposed Powerline Project been mentioned to you before?  
Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities?  
THERE IS NO AFFECTATION WILL BE DISTURB

3. What do you like about the Powerline Project? ACTUALLY I LIKE WE PEOPLE TO BENEFIT FROM THE PROJECT

4. What do you dislike about the Powerline Project? I LIKE BECAUSE ITS A PART OF PROGRESS.

5. Do you think the proposed Project will negatively affect the Environment?  
Yes  No  If yes, how? TO DISTURBANCE OF PLAIN SHORTAGE OF PLAIN AND FRESH AIR.

6. What should KETRACO do to reduce impact of the project on the Project Area Community?  
KETRACO SHOULD BE CAREFULLY TO THE PROJECT DURING OPERATION.

7. How do you think Project developers should protect the environment:  
(a) During Construction? INST. - STORAGE OF PLAIN TO BE PROTECTED  
(b) During Operation? PROJECT SHOULD PREVENTION OF WIRES AS FAR AS POLES TO BE FARM.

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project?  
IT IS A GOOD PROJECT AND WE HOPE TO SUCCESS OR BENEFIT THEN OUR LAND WILL BE MORE EXPENSIVE.

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location NGOMBENI

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: SALAMA MUSA SULAIMAN

ID No: 13417784 Mobile No: 0716922182

Signature of Participant [Signature] Date: 21/06/2018

1. Has the proposed Powerline Project been mentioned to you before?

Yes  No

2. How will the Proposed Powerline Project affect you or your daily activities? It will

force the affected people to transfer from where they are

3. What do you like about the Powerline Project? Our Area will

be developed in one way or the other

4. What do you dislike about the Powerline Project? Some of the people

affected will get money but they might misuse the cash

5. Do you think the proposed Project will negatively affect the Environment?

Yes  No  If yes, how? .....

6. What should KETRACO do to reduce impact of the project on the Project Area Community?

To the people affected they should be given enough money  
to develop their

7. How do you think Project developers should protect the environment:

(a) During Construction? Save the village on road

(b) During Operation? give exacty what they  
deserve

8. Do you support the project? Yes  No

9. Please give any other Concerns or comments related to the proposed Project? .....

Give better Payment to the the victims  
Provide community support or giving jobs to the youth

End - Thanks

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) – FEEDBACK FORM**

Location NGOMBATI

To be filled by: **Key Stakeholders and Project Area Community**

Proposed Project: **Power Supply Component of the Mombasa SEZ Development Project**

Location of Project Site: **Mariakani (Kilifi County) to Mombasa SEZ (Mombasa County) via Kwale County covering a total distance of 53km**

Name of Participant: Atthuman, Jiri Mwatsege

ID No: 13417887 Mobile No: 0723029497

Signature of Participant [Signature] Date: 21/6/18

1. Has the proposed Powerline Project been mentioned to you before?  
Yes  No
2. How will the Proposed Powerline Project affect you or your daily activities? it will occupy our land which can be used to build houses
3. What do you like about the Powerline Project? Will reduce the power shortage
4. What do you dislike about the Powerline Project? power risk
5. Do you think the proposed Project will negatively affect the Environment?  
Yes  No  If yes, how? Deforestation will take place to give space for line to pass through
6. What should KETRACO do to reduce impact of the project on the Project Area Community?  
- By giving people support to replant new trees  
- Drilling boreholes to support deforestation
7. How do you think Project developers should protect the environment:  
(a) During Construction? minimize deforestation.  
(b) During Operation? - Drill Boreholes to Community
8. Do you support the project? Yes  No
9. Please give any other Concerns or comments related to the proposed Project? - Give better payment to victims,  
- provide community support by drilling boreholes in the affected areas to provide use

End - Thanks



**UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONI**

Kata: MIONGWE

Kujazwa Na: **Washika Dau Wakuu na Jamii ya eneo la mradi**

Mradi Unaopendekezwa: **Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa**

Eneo La Mradi: **Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu  
(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)**

Jina la Mshiriki: RASHED ABDALLA

Nambari ya Kitambulisho 22640595 Nambari ya Simu 0724664023

Sahihi ya Mshiriki RL Tarehe: 22/06/2018

1. Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La
2. Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? Hapana.
3. Ni nini kinachokupendeza kuhusu mradi huu? Maendeleo kwa jamii
4. Ni nini ambacho hakikupendezi kuhusu mradi huu? Kuhimishwa binafsi ya wakazi wa watu.
5. Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? .....
6. Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi? Ja
7. Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:
  - (a) Wakati wa ujenzi? Kubwa na kumfedha za wanyama
  - (b) Wakati wa uendeshaji? Kubwa mizakati maalum.
8. Je unaunga mkono mradi huu? Ndio  La
9. Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu. Mahipo ya sanaa kwa wazathirwa.

Mwisho - Ahsante

**UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONI**

Kata: MTONGWE

Kujazwa Na: **Washika Dau Wakuu na Jamii ya eneo la mradi**

Mradi Unaopendekezwa: **Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa**

Eneo La Mradi: **Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu  
(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)**

Jina la Mshiriki: SHAKE LWASON SHAKE

Nambari ya Kitambulisho 13456558 Nambari ya Simu 0721552648

Sahihi ya Mshiriki [Signature] Tarehe: 22/06/2018

1. Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La
2. Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? Htani athiri Sababu umepitia kwa Shambulangu-shambulangu lote
3. Ni nini kinachokupendeza kuhusu mradi huu? Mradi huu unampendeza Sababu utaleta Maendeleo kwetu na kanga kwa jumla
4. Ni nini ambacho hakikupendezi kuhusu mradi huu? .....
5. Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? .....
6. Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi? Ikusanye Maoni yetu na tashirikiane ili tulipwe tulioathirika kuanze Mashamba kwingine
7. Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:
  - (a) Wakati wa ujenzi? Kwa kuajiri vijana wetu na pia tulipwe kuli tunanze Mashamba kwingine bila tatizo
  - (b) Wakati wa uendeshaji? Kuwe na ushirikiano wa Mawasiliana kwani shida ya ajira iko hapa kwetu na sisi ambao tunafuga na kulima tusionewe. tuna jamii watufugue
8. Je unaunga mkono mradi huu? Ndio  La
9. Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu. ni kawamba tunaoishi hapa ambao tumeathirika tupewe njia m'badala ili tuwe na Mashamba kwingine na Mradi jendelea

Mwisho - Ahsante

**UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONI**

Kata: MTONGWE

Kujazwa Na: **Washika Dau Wakuu na Jamii ya eneo la mradi**

Mradi Unaopendekezwa: **Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa**

Eneo La Mradi: **Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu  
(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)**

Jina la Mshiriki: WALTER KURTIS  
 Nambari ya Kitambulisho: 10749219 Nambari ya Simu: 0722725755  
 Sahihi ya Mshiriki: [Signature] Tarehe: 22/6/2018

1. Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La
2. Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? .....  
KULINGANA NA MIKAKATI KILA KITU NI SHARJI.
3. Ni nini kinachokupendeza kuhusu mradi huu? .....  
MAENDELEO
4. Ni nini ambacho hakikupendezi kuhusu mradi huu? .....  
KILA KITU SHARJI
5. Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? .....  
Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? .....
6. Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi? .....  
PUBLIC PARTICIPATION SO THAT ITS PEOPLE OWNED.
7. Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:  
 (a) Wakati wa ujenzi? .....  
PROPER MITIGATION EFFORTS ENHANCING  
 (b) Wakati wa uendeshaji? .....  
ANY UNDESIRABLE EFFECT DEAL WITH.
8. Je unaunga mkono mradi huu? Ndio  La
9. Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu.....  
ANSWER ALL QUESTIONS BY THE PUBLIC ANSWER IN AN UNDERSTANDABLE LANGUAGE

Mwisho - Ahsante

**UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONI**

Kata: MATONGWE

Kujazwa Na: **Washika Dau Wakuu na Jamii ya eneo la mradi**

Mradi Unaopendekezwa: **Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa**

Eneo La Mradi: **Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu  
(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)**

Jina la Mshiriki: Pastor Eliatha mate nthige

Nambari ya Kitambulisho: 377607 Nambari ya Simu: 0711519200

Sahihi ya Mshiriki: E. Mate Tarehe: 22-6-2018

1. Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La
2. Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? .....
3. Ni nini kinachokupendeza kuhusu mradi huu? Kulima kwa wakati wote maana tuko na kichina
4. Ni nini ambacho hakikupendezi kuhusu mradi huu? kama kugeuka magano juu ya wakati maripo
5. Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? kama nyaya kukekika  
Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? .....
6. Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi? ni jambo nzuri wafanya kazi wawe karibu
7. Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:  
(a) Wakati wa ujenzi? kumeba kumchiza jamii kwa kazi  
(b) Wakati wa uendeshaji? ndio veleweke na kujulisha wakajiji
8. Je unaunga mkono mradi huu? Ndio  La
9. Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu. ni mpa mpa mzungu walakini jamii hii ni hasinimia gapi jamii watapele, kama maji

Mwisho - Ahsante

**UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONI**

Kata: MTONGWE

Kujazwa Na: **Washika Dau Wakuu na Jamii ya eneo la mradi**

Mradi Unaopendekezwa: **Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa**

Eneo La Mradi: **Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu  
(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)**

Jina la Mshiriki: Abi SASABU AHMED

Nambari ya Kitambulisho 8534052 Nambari ya Simu 0715720336

Sahihi ya Mshiriki Abi Tarehe: 22/6/2018

1. Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La
2. Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? Utathiri jama katika makulima
3. Ni nini kinachokupendeza kuhusu mradi huu? utaleta maendeleo katika eneo letu
4. Ni nini ambacho hakikupendezi kuhusu mradi huu? Hakuna
5. Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? .....
6. Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi? I uhusishe zaidi jama katika kilo process
7. Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:
  - (a) Wakati wa ujenzi? Kueleza jama na kutengya sensitization
  - (b) Wakati wa uendeshaji? The same as above
8. Je unaunga mkono mradi huu? Ndio  La
9. Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu. Kuchelewa kwa Malipo au Fidia

Mwisho - Ahsante

**UTAFITI WA MAZINGIRA NA MASWALA YA KIJAMII – FOMU YA MAONI**

Kata: MTONGWE

Kujazwa Na: **Washika Dau Wakuu na Jamii ya eneo la mradi**

Mradi Unaopendekezwa: **Kijenzi Cha Usambazaji wa Nguvu Za Umeme Eneo la Kiuchumi  
Maalum Dongo Kundu, jimbo la Mombasa**

Eneo La Mradi: **Mariakani (Jimbo la Kilifi) hadi eneo la kiuchumi maalum Dongo Kundu  
(Jimbo la Mombasa) Kupitia jimbo la Kwale (umbali wa kilomita 53)**

Jina la Mshiriki: J.F. MACHARA

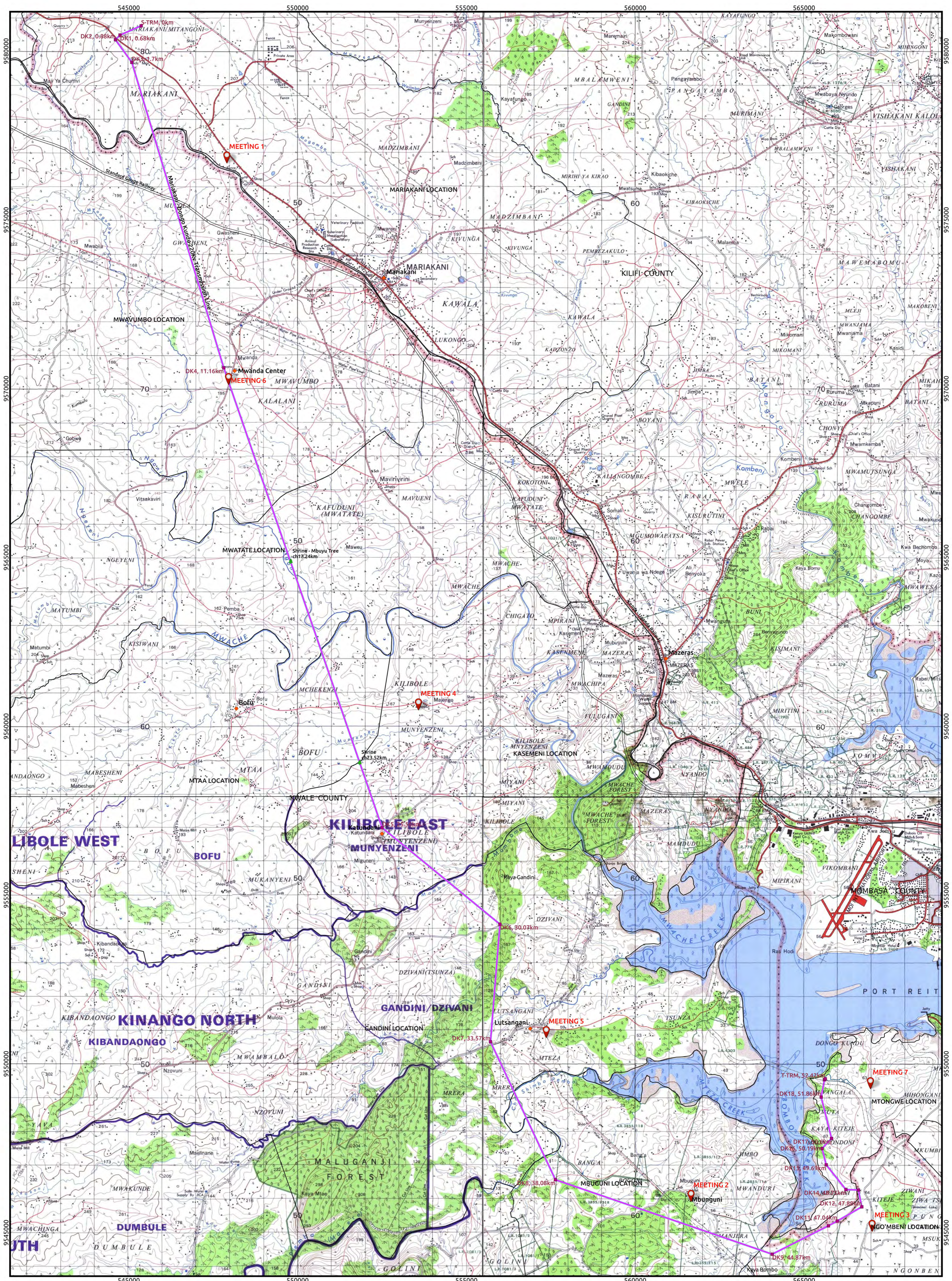
Nambari ya Kitambulisho 12543219 Nambari ya Simu 0720696991

Sahihi ya Mshiriki J. Machara Tarehe: 22/06/2018

1. Umewahi kujulishwa hapo awali kuhusu mradi huu wa kusambaza nguvu za umeme kutoka Mariakani hadi Dongo Kundu? Ndio  La
2. Kwa maoni yako, mradi huu utakuathiri kwa njia gani katika shughuli zako za kila siku? Kwa sasa hakuna
3. Ni nini kinachokupendeza kuhusu mradi huu? Itafungua eneo na kulete Maendeleo na ajira zitaatikana
4. Ni nini ambacho hakikupendezi kuhusu mradi huu? ---
5. Kwa maoni yako, je mradi huu utaleta madhara yoyote kwa mazingira? Ndiyo  La  Ikiwa jibu lako ni ndio, kwa njia gani? ---
6. Kwa maoni yako, KETRACO ifanye nini ili kupunguza madhara kwa jamii inayoishi katika eneo la mradi? Isikize wahusika na wawashughulikia Heshima Mira (culture) ya Jamii
7. Kwa maoni yako, watekelezaji wa mradi huu wanaweza kulinda mazingira kwa njia gani:
  - (a) Wakati wa ujenzi? Wazingatia safety precautions za construction
  - (b) Wakati wa uendeshaji? ---
8. Je unaunga mkono mradi huu? Ndio  La
9. Tafadhali toa maoni yako au shauku yoyote uliyo nayo kuhusiana na mradi huu. ---

Mwisho - Ahsante

**Annex 15: Map Showing the Location of Sensitization Meetings**



ESIA/RAP STUDY FOR THE POWER SUPPLY COMPONENT OF THE MOMBASA SEZ DEVELOPMENT PROJECT  
 MAP SHEET NO. 1 OF 1 : ESIA PUBLIC CONSULTATION MEETING



#	CODE	Venue	Date	Time	County	Sub-County	Location
1	MEETING 1	Baraza Meeting Area, Near EMACO Hotel, Mitangoni	Wednesday, 12 July 2017	10.00am	Kilifi	Kaloleni	Mariakani
2	MEETING 2	Mbunguni Chief's Camp Grounds	Thursday, 13 July 2017	10.00am	Kwale	matuga	Mbunguni
3	MEETING 3	Kiteje Assistant Chief's Office Grounds	Thursday, 13 July 2017	02.00pm	Kwale	Matuga	Ng'ombeni
4	MEETING 4	Mnyenzi Assistant Chief's Office Grounds	Friday, 14 July 2017	10.00am	Kwale	Kinango	Kasemeni
5	MEETING 5	Lutsangani AP Camp Grounds	Friday, 14 July 2017	02.00pm	Kwale	Kinango	Gandini
6	MEETING 6	Baraza Meeting Area, Near Mwanda Dispensary	Tuesday, 18 July 2017	02.00pm	Kwale	Kinango	Mwawumbo & Mwatate
7	MEETING 7	The Dongo Kundu AP Camp	Tuesday, 20 March 2018	10.00am	Mombasa	Mtongwe	Mtongwe

**Legend**

- Angle Point, Chainage
- Public Sensitization Meeting
- Transmission Line

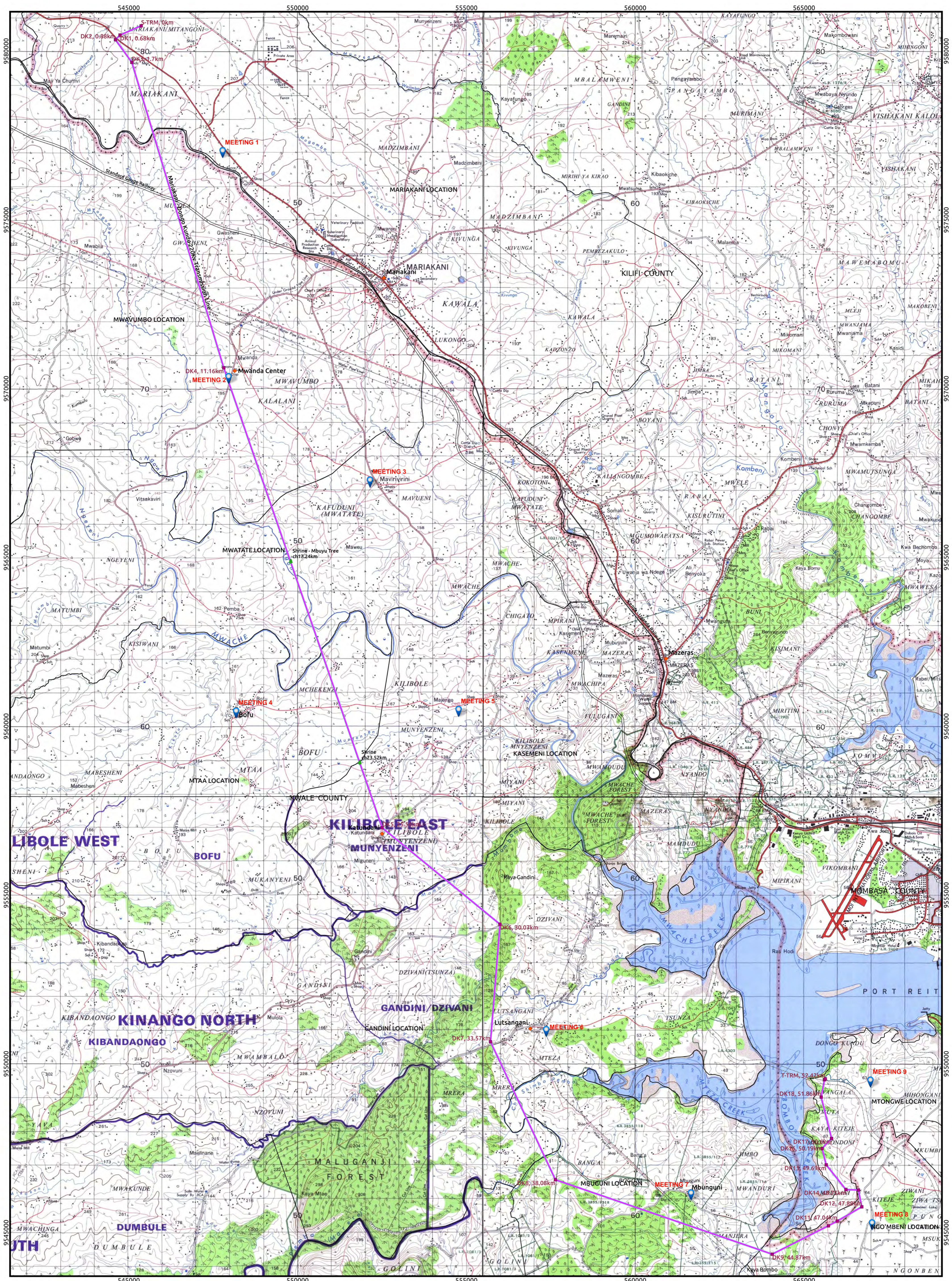
**Grid:**  
 Projection: UTM  
 Spheroid: Clarke 1866 (Modified)  
 Reference Meridian: 0  
 Coordinates of Origin: 500000m Easting, 1000000m Northing  
 Datum: Arc 1960 (Modified)  
 Units of Measurement: Meters (m)

UTM ZONE 37S  
 Traverse Mercator  
 Clarke 1866 (Modified)  
 Equator  
 500000m Easting  
 1000000m Northing  
 Arc 1960 (Modified)  
 Meters (m)





**Annex 16: Map Showing the Location of Public Consultation Meetings**



ESIA/RAP STUDY FOR THE POWER SUPPLY COMPONENT OF THE MOMBASA SEZ DEVELOPMENT PROJECT  
 MAP SHEET NO. 1 OF 1 : ESIA PUBLIC CONSULTATION MEETING

#	Code	Location	Date	Time	Venue
1	MEETING 1	Mariakani	Monday June 18, 2018	9:00 AM	Baraza Field near Tiba Petrol Station
2	MEETING 2	Mwawumbo	Monday June 18, 2018	2:00 PM	Mwanda Dispensary
3	MEETING 3	Mwate	Tuesday June 19, 2018	9:00 AM	Mazirizini Police Station
4	MEETING 4	Mtaa	Tuesday June 19, 2018	2:00 PM	Bofu Chief's Camp
5	MEETING 5	Kasemeri	Wednesday June 20, 2018	9:00 AM	Mnyenzi Health Centre
6	MEETING 6	Gandini	Wednesday June 20, 2018	2:00 PM	AP Camp Lutsangani
7	MEETING 7	Mbunguni	Thursday June 21, 2018	9:00 AM	Mbunguni Chief's Camp Ground
8	MEETING 8	Ngombeni	Thursday June 21, 2018	2:00 PM	Kiteje Assistant Chief's Camp
9	MEETING 9	Mtongwe	Friday June 22, 2018	9:00 AM	Dongo Kundu AP Camp



**Legend**

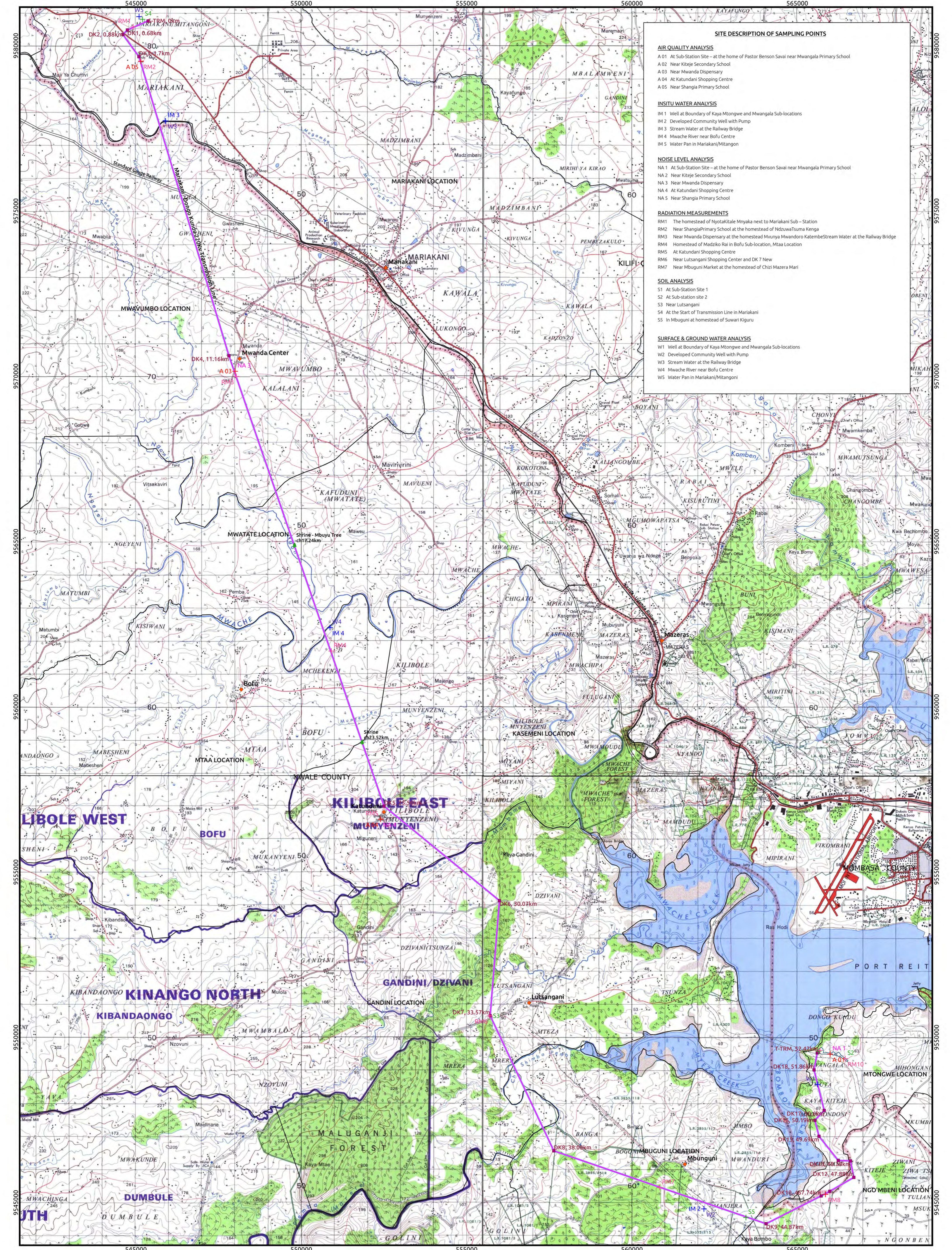
- Angle Point, Chainage
- Public Consultation Meeting
- Transmission Line



Grid:  
 Projection: UTM  
 Spheroid: Clarke 1880 (Modified)  
 Reference Meridian: 0  
 Reference Latitude: 0  
 Coordinates of Origin: 500000m Easting, 1000000m Northing  
 Datum: Arc 1960 (Modified)  
 Units of Measurement: Meters (m)



**Annex 17: Map Showing the Location of Sampling Points**



### SITE DESCRIPTION OF SAMPLING POINTS

AIR QUALITY ANALYSIS	
A 01	At Sub-Station Site – at the home of Pastor Benson Savai near Mwanga Primary School
A 02	Near Kiteje Secondary School
A 03	Near Mwanga Dispensary
A 04	At Katundani Shopping Centre
A 05	Near Shangia Primary School
INSITU WATER ANALYSIS	
IM 1	Well at Boundary of Kaya Mtongwe and Mwanga Sub-locations
IM 2	Developed Community Well with Pump
IM 3	Stream Water at the Railway Bridge
IM 4	Mwache River near Bofu Centre
IM 5	Water Pan in Mariakani/Mitangoni
NOISE LEVEL ANALYSIS	
NA 1	At Sub-Station Site – at the home of Pastor Benson Savai near Mwanga Primary School
NA 2	Near Kiteje Secondary School
NA 3	Near Mwanga Dispensary
NA 4	At Katundani Shopping Centre
NA 5	Near Shangia Primary School
RADIATION MEASUREMENTS	
RM 1	The homestead of Nyotakale Mnyaka next to Mariakani Sub - Station
RM 2	Near Shangia Primary School at the homestead of Nduwa Tsuma Kenga
RM 3	Near Mwanga Dispensary at the homestead Mvunya Mwandoor Katembe Stream Water at the Railway Bridge
RM 4	Homestead of Madziko Rai in Bofu Sub-location, Mtaa Location
RM 5	At Katundani Shopping Centre
RM 6	Near Lutsangani Shopping Center and DK 7 New
RM 7	Near Mbuguni Market at the homestead of Chizi Mazeru Mari
SOIL ANALYSIS	
S 1	At Sub-Station Site 1
S 2	At Sub-station site 2
S 3	Near Lutsangani
S 4	At the Start of Transmission Line in Mariakani
S 5	In Mbuguni at homestead of Suwari Kiguru
SURFACE & GROUND WATER ANALYSIS	
W 1	Well at Boundary of Kaya Mtongwe and Mwanga Sub-locations
W 2	Developed Community Well with Pump
W 3	Stream Water at the Railway Bridge
W 4	Mwache River near Bofu Centre
W 5	Water Pan in Mariakani/Mitangoni

ESIA/RAP STUDY FOR THE POWER SUPPLY COMPONENT OF THE MOMBASA SEZ DEVELOPMENT PROJECT  
MAP SHEET NO. 1 OF 1 : SAMPLING POINTS

**Legend**

- Angle Point, Chainage
- Air Quality Analysis
- Insitu Water Measurements
- ▲ Noise Measurements
- ◆ Radiation Measurement
- ◇ Soil Analysis
- Surface & Ground Water
- Transmission Line

ABBREV.

- A - Air Quality
- IM - Insitu Water
- N - Noise Level
- RM - Radiation
- S - Soil Analysis
- W - Surface and Ground Water

Grid:  
Projection: UTM  
Spheroid: Clarke 1880 (Modified)  
Reference Meridian: 39° 00' 00" E  
Coordinates of Origin: 500000m Easting, 10000000m Northing, Arc 1960 (Modified)  
Datum: UTM  
Units of Measurement: Meters (m)

**Annex 18: Analysis of Stakeholder Feedback**

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#	Stakeholder Name	Department or Organization	ID No.	Telephone	Involvement or Role in Project	Support for the Project	Stakeholder Interest, Goals, and Concerns
1.	Abdalla Salim	Ministry of Interior and Coordination of National Government	13419800	0726480864	Chief	Yes	<p><b>Positive aspects</b></p> <ul style="list-style-type: none"> <li>• Compensation of the affected members</li> <li>• Community will have access to power</li> </ul> <p><b>Concerns</b></p> <ul style="list-style-type: none"> <li>• None</li> </ul> <p><b>Suggestions</b></p> <ul style="list-style-type: none"> <li>• Contractor should maintain construction along the marked area</li> <li>• Employ local labour during the construction</li> </ul>
2.	Athumani Jiti Mwatsenga	Ministry of Interior and Coordination of National Government	13417887	0723029497 PO Box 96113 Likoni	Chief Ng'ombeni Location	Yes	<p><b>Positive aspects</b></p> <ul style="list-style-type: none"> <li>• Increase of power in the region</li> <li>• It will create chances for more factories to be established</li> </ul> <p><b>Concerns</b></p> <ul style="list-style-type: none"> <li>• Destruction of trees will affect rainfall</li> </ul> <p><b>Suggestions</b></p> <ul style="list-style-type: none"> <li>• Incorporate environmental management</li> </ul>
3.	Ngala Mwamvula Kitangalia	Ministry of Interior and Coordination of National Government	5428479	0707256946	Representative	Yes	<p><b>Positive aspects</b></p> <ul style="list-style-type: none"> <li>• Improve the standard of living of the people</li> <li>• Realization of development</li> </ul> <p><b>Concerns</b></p> <ul style="list-style-type: none"> <li>• The project might not meet the target goal</li> <li>• The physical environment like forest and water will be affected</li> </ul> <p><b>Suggestions</b></p> <ul style="list-style-type: none"> <li>• Where there are ecosystems, proper mitigation measures should be taken</li> <li>• Different stakeholders should be involved</li> </ul>
4.	Makanzu Rashid Makanzu	Ministry of Interior and Coordination of National Government	26061399	0710701696	Village Administrator	Yes	<p><b>Positive aspects</b></p> <ul style="list-style-type: none"> <li>• Pave way for development</li> <li>• Reduction in poverty levels</li> </ul>

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#	Stakeholder Name	Department or Organization	ID No.	Telephone	Involvement or Role in Project	Support for the Project	Stakeholder Interest, Goals, and Concerns
							<p><b>Concerns</b></p> <ul style="list-style-type: none"> <li>• Politics involved in the project</li> <li>• Affecting the environment</li> </ul> <p><b>Suggestions</b></p> <ul style="list-style-type: none"> <li>• Proper mitigation measures should be put in place more so to the endangered species</li> <li>• Where PAPS have not been captured such problems should be addressed fully</li> </ul>
5.	Mwamwero Katana B	Ministry of Interior and Coordination of National Government	9395386	0721787563	Ward Administrator	<b>Yes</b>	<p><b>Positive aspects</b></p> <ul style="list-style-type: none"> <li>• Distribution of electricity to the locals at the grass root level</li> <li>• Road construction will ease transportation and communication</li> </ul> <p><b>Concerns</b></p> <ul style="list-style-type: none"> <li>• Clearing of vegetation along the power line</li> <li>• Road construction along the project line will be affected</li> <li>• Trees will be cut down along the road line</li> <li>• Power transmission line will have a very high voltage which is dangerous</li> </ul> <p><b>Suggestions</b></p> <ul style="list-style-type: none"> <li>• Replanting of trees that will be cut down to be done in identified areas</li> <li>• Proper intervention measures to minimize soil erosion</li> <li>• Hopes that the contracted company will eventually construct projects that will be beneficial to the locals like schools or dams</li> </ul>
6.	Paul Rotich	Ministry of Interior and Coordination of National Government	10744551	0722425605	Representative	<b>Yes</b>	<p><b>Positive aspects</b></p> <ul style="list-style-type: none"> <li>• The project will power both industrial and commercial enterprises</li> <li>• Communities are likely to benefit from the support services to the project such as basic infrastructure like roads and jobs</li> </ul>

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#	Stakeholder Name	Department or Organization	ID No.	Telephone	Involvement or Role in Project	Support for the Project	Stakeholder Interest, Goals, and Concerns
							<p><b>Concerns</b></p> <ul style="list-style-type: none"> <li>• Corruption in the project in terms of the labourers, compensation and entire workmanship</li> </ul> <p><b>Suggestions</b></p> <ul style="list-style-type: none"> <li>• Avoid areas that are forested and inhabited by a number of people</li> </ul>
7.	Kathambi Jane	Ministry of Interior & Coordination of National Government	22961775	0727476647	Representative	<b>Yes</b>	<p><b>Positive aspects</b></p> <ul style="list-style-type: none"> <li>• Bound to lead to economic growth</li> <li>• Creation of job opportunities</li> </ul> <p><b>Concerns</b></p> <ul style="list-style-type: none"> <li>• Cutting of trees along the power lines</li> </ul> <p><b>Suggestions</b></p> <ul style="list-style-type: none"> <li>• Recommend the involvement of the community /public participation in all stages of the project</li> <li>• Recommend that the community be given tree seedlings to plant to replace the cut trees</li> </ul>
8	Mwavumbo Group Ranch - Chairman	Mwavumbo Group Ranch	-	0724239533	Representative - Chairman	<b>Yes</b>	<p><b>Positive aspects</b></p> <ul style="list-style-type: none"> <li>• Positive development</li> <li>• Creation of job opportunities</li> <li>• PAP Compensation</li> </ul> <p><b>Concerns</b></p> <ul style="list-style-type: none"> <li>• Cutting of trees along the power line corridor</li> <li>• Environment will be affected</li> </ul> <p><b>Suggestions</b></p> <ul style="list-style-type: none"> <li>• Community should be assisted to get power connection</li> <li>• Local Community should be given priority on job opportunities</li> <li>• Proponent to consider implementing CSR within the project area</li> </ul>
9	Ms Teresa Njoki	Kenya Civil Aviation Authority (KCAA)	-	0206827470	Representative	<b>Yes</b>	<p><b>Positive aspects</b></p> <ul style="list-style-type: none"> <li>• Powerline Project will enhance development in the project area</li> </ul>



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#	Stakeholder Name	Department or Organization	ID No.	Telephone	Involvement or Role in Project	Support for the Project	Stakeholder Interest, Goals, and Concerns
							<p><b>Concerns</b></p> <ul style="list-style-type: none"> <li>• Transmission line should be away from Mariakani and Moi International Airport</li> </ul> <p><b>Suggestions</b></p> <ul style="list-style-type: none"> <li>• Approvals for tower heights should be obtained before construction</li> </ul> <p><b>Concerns</b></p> <ul style="list-style-type: none"> <li>• The line should be constructed away from the flight path of Moi International Airport.</li> <li>• Approval of the Tower height should be obtained before construction commences</li> </ul>

**Annex 19: Photographic Plates**



**Photo 1: Inspection of Affected Structure in Progress - July 2017**



**Photo 2: Panafcon Survey Team Consulting Community Members along TL – July 2017**



**Photo 3: Assistant County Commissioner Addressing Mwatate PCM – June 2018**



**Photo 4: Participant Asking a Question at Mariakani PCM – June 2018**