

REPUBLIC OF KENYA



MINISTRY OF TRANSPORT, INFRASTRUCTURE, HOUSING AND URBAN  
DEVELOPMENT



**Kenya National Highways Authority**

*Quality Highways, Better Connections*

**REVIEW AND UPDATE OF THE ENVIRONMENTAL AND SOCIAL IMPACT  
ASSESSMENT (ESIA) FOR THE  
KENYA – SOUTH SUDAN LINK ROAD: ELDORET - KITALE – LODWAR -  
NADAPAL – KAPOETA - JUBA CORRIDOR**

**MORPUS – LOKICHAR ROAD SECTION (142KM) UPGRADING PROJECT**



**JUNE 2022**

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## List of acronyms and abbreviations

<b>AC</b>	Air Conditioner
<b>ACC</b>	Assistant County Commissioner
<b>AfDB</b>	African Development Bank
<b>AIDS</b>	Acquired Immunodeficiency Syndrome
<b>ALRMP</b>	Arid Lands Resource Management Plan
<b>ARV</b>	Antiretroviral
<b>ASAL</b>	Arid and Semi-arid Lands
<b>BOD</b>	Biochemical oxygen demand
<b>BOQ</b>	Bill of Quantities
<b>CBD</b>	Convention on Biological Diversity
<b>CBO</b>	Community Based Organization
<b>CC</b>	County Commissioner
<b>CDF</b>	Constituency Development Fund
<b>CEC</b>	County Executive Committee
<b>CECM</b>	County Executive Committee Member
<b>CEO</b>	Chief Executive Officer
<b>CIDP</b>	County Integrated Development Plan
<b>CO</b>	Carbon Monoxide
<b>COD</b>	Chemical Oxygen Demand
<b>CSO</b>	Civil Society Organization
<b>DCC</b>	Deputy County Commissioner
<b>DOSHS</b>	Directorate of Occupational Safety and Health Services
<b>EA</b>	Environmental Audit
<b>EHS</b>	Environmental Health and Safety
<b>EIA</b>	Environmental Impact Assessment
<b>EMCA</b>	Environmental Management and Coordination Act
<b>EPRA</b>	Energy and Petroleum Regulatory Authority
<b>ESF</b>	Environmental and Social Framework
<b>ESIA</b>	Environmental and Social Impact Assessment
<b>ESMMP</b>	Environmental and Social Management and Monitoring Plan
<b>ESMP</b>	Environmental and Social Management Plan
<b>FGD</b>	Focused Group Discussion
<b>FPR</b>	Footprints
<b>GBV</b>	Gender Based Violence
<b>GCM</b>	Global Climate Model
<b>GHG</b>	Greenhouse Gas
<b>GRC</b>	Grievance Redress Committee
<b>GRM</b>	Grievance Redress Mechanism
<b>HIV</b>	Human Immunodeficiency Virus
<b>IDA</b>	International Development Association

<b>IED</b>	Improvised Explosive Device
<b>IGO</b>	Intergovernmental Organization
<b>ILO</b>	International Labour Organization
<b>ISDS</b>	Integrated Safeguards Data Sheet
<b>IUCN</b>	International Union for Conservation of Nature
<b>IWRM</b>	Integrated Water Resource Management
<b>KFS</b>	Kenya Forest Service
<b>KII</b>	Key Informant Interviews
<b>KM</b>	Kilometer
<b>KMTC</b>	Kenya Medical Training College
<b>KNBS</b>	Kenya National Bureau of Statistics
<b>KPLC</b>	Kenya Power and Lighting Company
<b>KRB</b>	Kenya Roads Board
<b>KSHS</b>	Kenyan Shillings
<b>KURA</b>	Kenya Urban Roads Authority
<b>KWS</b>	Kenya Wildlife Service
<b>LAPSSET</b>	Lamu Port-South Sudan-Ethiopia-Transport
<b>LC</b>	Least Concern
<b>LHS</b>	Left Hand Side
<b>LPG</b>	Liquified Petroleum Gas
<b>MoTIHUD</b>	Ministry of Transport, Infrastructure, Housing and Urban Development
<b>NAP</b>	National Adaptation Plan
<b>NBSAP</b>	National Biodiversity Strategy and Action Plan
<b>NCA</b>	NATIONAL Construction Authority
<b>NCCRS</b>	National Climate Change Response Strategy
<b>NEMA</b>	National Environment Management Authority
<b>NGO</b>	Non-Governmental Organization
<b>NLC</b>	National Land Commission
<b>NMT</b>	Non-Motorized Transport
<b>NTSA</b>	National Transport and Safety Authority
<b>ODS</b>	Ozone Depleting Substances
<b>OS</b>	Occupational Safety
<b>OSH</b>	Occupational Safety and Health
<b>OSHA</b>	Occupational Health and Safety Act
<b>PAP</b>	Project Affected Person
<b>PLWD</b>	Persons Living With Disabilities
<b>PPE</b>	Personal Protective Equipment
<b>RAP</b>	Resettlement Action Plan
<b>RE</b>	Resident Engineer
<b>RHS</b>	Right Hand Side
<b>SEA</b>	Sexual Exploitation and Abuse
<b>SEP</b>	Stakeholder Engagement Plan

<b>SOP</b>	Standard Operating Procedures
<b>STD</b>	Sexually Transmitted Disease
<b>TRRL</b>	Transport and Road Research laboratory
<b>UNFCCC</b>	United Nations Convention on Climate Change
<b>UNICEF</b>	United Nations Children's Fund
<b>URTI</b>	Upper Respiratory Tract Infection
<b>VCT</b>	Voluntary Counseling and Testing
<b>VMG</b>	Vulnerable and Marginalized Groups
<b>VOC</b>	Volatile Organic Compounds
<b>WHO</b>	World Health Organization
<b>WIBA</b>	Work Injury Benefits Act
<b>WRA</b>	Water Resources Authority

**PROJECT SUMMARY DATA SHEET**

<b>Name of Contact of Project Proponent</b>	Director General Kenya National Highways Authority (KeNHA) P O Box 49712-00100 Nairobi
<b>Title of Project</b>	Environmental and Social Impact of <b>Morpus – Lokichar (A1)</b> Road (142 km)
<b>Objectives of Project</b>	This project will contribute to the principal Project Development Objective (PDO), which is to improve access to the North Western part of Kenya and between Kenya and South Sudan, through improving road infrastructure and ICT links, reducing transport and ICT costs, and facilitating the reduction of non-fiscal trade barriers, which help reduce the cost of doing business and development. The project also improves South Sudan's access to sea ports by improving the Lesseru – Lokichar road section, part of the Eldoret – Nadapal – Juba (Kenya - South Sudan regional link) corridor that connects to the Northern Corridor (A8 at Lesseru) serving the landlocked countries in the sub region to Mombasa Sea port. This section of the road project provides part of the most cost-efficient transit corridor for South Sudan that crosses only one border post.
<b>Scope of the ESIA project report</b>	<ul style="list-style-type: none"> <li>• To carry out site investigations to collect primary data and review available relevant secondary data to establish a comprehensive environmental and social baseline, indicators</li> <li>• To ensure that the stakeholder analysis and consultation are conducted as part of the ESIA review, and identify who among the affected population is particularly vulnerable to potential adverse impacts.</li> <li>• To review and identify all the potential significant positive and adverse environmental and social impacts, including direct, indirect and cumulative impacts associated with the project</li> <li>• To review proposed measures to avoid, reduce, mitigate, manage and/or compensate for such impacts, including the institutional arrangements and required capacity building to implement all such measures and monitor their effectiveness</li> <li>• To review and develop an Environmental and Social Management Plan (ESMP), detailing strategies for the implementation of environmental and social safeguards in the project</li> <li>• Preparation of an environmental and social impact study report, including a monitoring plan for the road project and seeking the necessary approval for the issuance of a license by NEMA</li> </ul>
<b>Location and Description of the Project</b>	The project road traverses two Counties in Kenya, namely West Pokot County (62Km) and Turkana County (80 Km). The road starts at Morpus (Km 0+00 - approximately 66.4km from Kitale town) and runs in a North-Easterly direction through the trading centres in West Pokot of Sebit (km 10), Ortum (km 16), Marich Pass (km 34), and trading centres in Turkana of Kainuk (km 62), Kakongu (km 96), Kalemngorok (km 110), before terminating at Lokichar, (Km142km), where it connects with the proposed LAPSSET Road A10 Corridor. The road from Lokichar to Nadapal has recently been upgraded by KeNHA through funding from the World Bank.
<b>Total Estimated Project budget (est)</b>	Approximately Kshs 16 Billion

## EXECUTIVE SUMMARY

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### Introduction

The Government of the Republic of Kenya (GoK) has earmarked funds through the Development Vote for use in engaging the services of a Consultancy Firm to undertake Design Review, Updating of Resettlement Action Plan, Review of ESIA and Economic Feasibility Study Reports and Updating of Tender Documents in readiness for procurement of works for Lesseru-Kitale (B2) and Morpus – Lokichar (A1) Roads. The road sections forms part of the of the Eldoret - Kitale – Lodwar -Nadapal – Kapoeta - Juba Corridor (945km) corridor interconnecting Kenya and South Sudan. The improvement of the roads will significantly enhance connectivity within the Eastern Africa Region, connecting the southern regions to the northern parts of Kenya linking landlocked South Sudan to Kenya.

The project road is part of the international trunk road connecting Southern Sudan, Kenya and Tanzania. The Biharamulo - Sirari - Lodwar - Lokichogio corridor (Corridor 3) is one of the five main corridors that the East African Community has identified, which constitute a strategic priority and require rehabilitation and upgrading. The section of this corridor that is within Kenyan is about 900 Km long starting at Isebania at the border with Tanzania and ending at Nakodok at the border with Southern Sudan. The road intersects with other critical international corridors including the Northern Corridor (Corridor 1) A8 Highway and the LAPSSSET Corridor A10 Highway at Webuye and Lokichar respectively.

The Government of Kenya, through its implementing agency, the Kenya National Highways Authority (KeNHA) has engaged **CGP Consulting Engineers** to render all technical support services relevant to this exercise towards the achievement of the project objectives. The design review included review and updating of the ESIA and RAP reports of the project to conform to African Development Bank (AfDB) Integrated Safeguards System (ISS).

### Project Location and Description

The project road traverses two Counties in Kenya, namely West Pokot County (62Km) and Turkana County (80 Km). The road starts at Morpus (Km 0+00 - approximately 66.4km from Kitale town) and runs in a North-Easterly direction through the trading centres in West Pokot of Sebit (km 10), Ortum (km 16), Marich Pass (km 34), and trading centres in Turkana of Kainuk (km 62), Kakongu (km 96), Kalemngorok (km 110), before terminating at Lokichar, (Km142km), where it connects with the proposed LAPSSSET Road A10 Corridor. The road from Lokichar to Nadapal has recently been upgraded by KeNHA through funding from the World Bank.

The entire road is in fair condition, having been rehabilitated to bitumen standards recently. However, the road is narrow and has no shoulders. The road traverse hilly terrain with long steep sections and sharp bends that are a safety hazard to motorist. Some sections of the road are overtopped by storm runoff. The last section of the road from Marich Pass to Lokichar has a generally flat terrain.

### Scope of works

The scope of services for this section will involve, inter-alia, improvement of road geometrics, design of road pavement layers to extend economic life of the road, widening of carriageway and shoulders to address highway safety concerns. The services will also involve, but not limited to the following enhancements to the road network, in line with the stated development objectives.

- Design of the highway to 7.0 m carriageway (2 lanes) with 2.0 m wide shoulders
- Design of NMT facilities through Townships enroute
- Design of Social amenities and Local Produce Markets at Ortum and other town as maybe identified

### Project Main Activities

The construction of the proposed road project is estimated to cost KES 16 billion, including the cost of ESMP implementation.

The proposed project main scope of works will include the upgrading and construction of approximately 142 km of single carriageway from Morpus Centre to Lokichar, two-lane 7.0 m wide, bitumen surfaced road with 2.0 m



shoulders on each side. Other works will include construction of NMT facilities at major centres comprising of 1.5 m footpaths, and 1.5m Cycle paths on each side of road.

The major items of Works to be executed under the construction contract will include but not limited to the following:

- Setting out, referencing and taking cross sections;
- Site clearance and removal of top soil;
- Earthworks;
- Constructing drainage structures (box and pipe culverts including protection works);
- Construction of pavement comprising bitumen surfacing, cement stabilised base and improved material subbase;
- Construction of other road facilities such as lay-bays, bus bays and widening at market centres along the road
- Works necessary to effect the safe and convenient passage of traffic through the Works;
- Construction of pedestrian crossings
- Provision of road furniture and ancillary services, e.g. signs, guardrails, marker posts, fencing, etc.;
- Operations ancillary to the main Works such as the construction of offices, diversion of services, the operations in quarries and borrow areas, the provision of water supply, the diversion of existing services, spoil areas for disposal of unsuitable or surplus materials, etc.
- Setting up and operation of construction camps, including accommodation of construction workers and Supervising Consultant staff
- Setting up and operation of equipment for materials production such as concrete products (eg pre-cast concrete, paving blocks, etc) and asphalt concrete batching plant. The camp will also be used for stockpiling necessary materials such as bitumen, gravel, sand, etc

Figure 0-1 Map showing location the project road

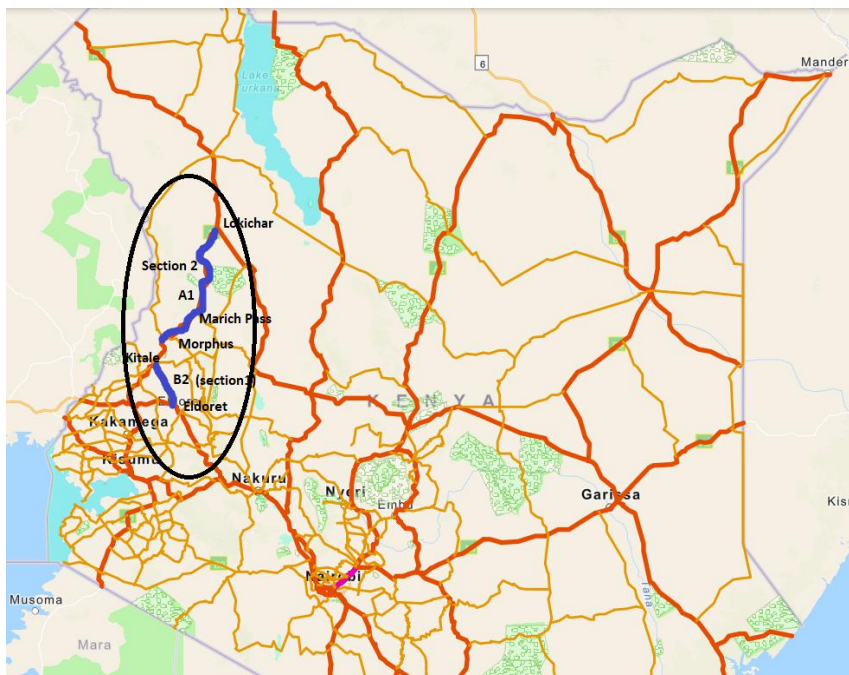
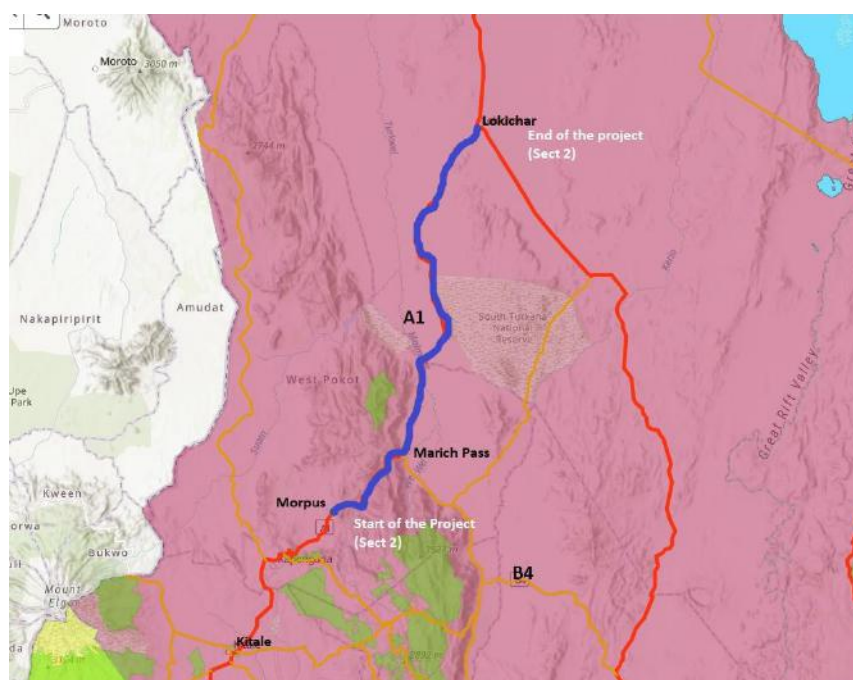


Figure 0-1– Mopus – Marich Pass – Lokichar (A1) – 142km



### Project Rationale

The Lesseru – Juba is a main corridor that provides the only road link to Turkana and West Pokot counties in Kenya, all the way to South Sudan, serving people living in extreme poverty. The improvement of the corridor will help reduce regional development imbalance in Kenya as well as improve the environment for stimulating economic development in the area, including attracting private investment. Further, the corridor traverses a region that is home to refugees. Its improvement will help in the reduction in time and transportation costs of humanitarian aid to the people of South Sudan, presently suffering from conflict.

The project road is part of the international trunk road connecting Southern Sudan, Kenya and Tanzania. The Biharamulo - Sirari - Lodwar - Lokichogio corridor (Corridor 3) is one of the five main corridors that the East African Community has identified, which constitute a strategic priority and require rehabilitation and upgrading. The section of this corridor that is within Kenyan is about 900 Km long starting at Isebania at the border with Tanzania and ending at Nakodok at the border with Southern Sudan. The road intersects with other critical international corridors including the Northern Corridor (Corridor 1) A8 Highway and the LAPSSSET Corridor A10 Highway at Webuye and Lokichar respectively.

The Kitale – Kapenguria – Mopus section is programmed for improvement through support from by KfW, while the Kainuk River Bridge which falls under the proposed Mopus – Lokichar Project has been reconstructed, as well as various road development projects between Lokichar and Nakodok now nearing completion under the IDA financed EARTTDFP project.

Furthermore, the Government recently procured contracts for the upgrading of sections of Nakuru – Marigat- Loruk – Barpelo – Marish Pass through local (GoK) financing. The 142 Km long Mopus – Lokichar section therefore constitutes a missing link yet to be financed to enable seamless connectivity between Kenya and EAC neighbours, and local communities in Northern Kenya.

### Project Objectives

This project will contribute to the principal Project Development Objective (PDO), which is to improve access to the North Western part of Kenya and between Kenya and South Sudan, through improving road infrastructure and ICT links, reducing transport and ICT costs, and facilitating the reduction of non-fiscal trade barriers, which help reduce the cost of doing business and development. The project also improves South Sudan's access to sea ports by improving the Lesseru – Lokichar road section, part of the Eldoret – Nadapal – Juba (Kenya - South Sudan regional link) corridor that connects to the Northern Corridor (A8 at Lesseru) serving the landlocked countries in

the sub region to Mombasa Sea port. This section of the road project provides part of the most cost-efficient transit corridor for South Sudan that crosses only one border post.

The overall Project objectives for construction of Morpus – Lokichar (A1) road project are to;

- Improve the efficiency of road transport along the project Corridor
- Spur economic activity along the project road and enhance social welfare
- Enhance security and promote peace along the project corridor
- Enhance regional integration
- Enhance road safety along the project road

### **Project Beneficiaries**

The beneficiaries of the project will include: pastoralist communities, farmers and businesses along the road corridor, tradable sectors of the economy, agriculture, and the extractive industry, as well as road users (passengers and transporters), consumers and producers both inside and outside the sub-region. Through the export processing facilities and pastoralist road-side markets, the project will offer new jobs and income earning opportunities to the people in Turkana and West Pokot in the Kenyan territory. Currently this region has not received adequate attention and exhibits very high levels of poverty. With the improvement of the whole road corridor to South Sudan, the occasional cut off from the rest of Kenya and South Sudan, particularly during the rainy season, will be reduced.

### **Need for the ESIA Review and Update**

An Environmental and Social Impact Assessment Study had been undertaken (February 2014 for Lesseru – Marich Pass Road updated in December 2014], and Marich Pass – Lodwar in February 2014, which was updated in January 2015) along the preliminary and detailed design process. The studies had been undertaken within the provisions of the established regulations under EMCA, 1999, and had to be updated to conform with the World Bank's Environmental and Social and safeguards Policies - the financier of the Feasibility, ESIA, RAP and Engineering Design Studies for Lesseru – Kitale (B8) and Kitale - Lokichar – Lodwar – Nadapal (A8) roads. This ESIA review is part of the design review process of the proposed Lesseru – Kitale (B8) and Morpus – Lokichar (A8) road project conducted by CGP Consulting Engineers.

The Government of Kenya, through its implementing agency, the Kenya National Highways Authority, commissioned KOCKS CONSULT GMBH in association with MAX & PARTNERS and SURTECH Ltd. in 2011 to undertake Consultancy Services for Feasibility Study, Environmental and Social Impact Assessment, Resettlement Action Plan, Detailed Design and Tender Document preparation of the Lesseru - Kitale - Marich Pass Road Rehabilitation Project. The design for Lesseru – Kitale – Marich Pass was completed in January 2015. Further, the design for the section between Marich Pass and Lokichar (A1) was completed in July 2014. The ESIA was further updated in December 2014.

The previous ESIA's were prepared under the World Bank guidelines at the design stage. However, a review and updating of the ESIA's is necessary due to delay in implementation of the 2 sections, and new information that may have risen since the ESIA's were conducted, including change in environmental and social setting of the area the roads transverses. The review and updating of the ESIA is also necessary to validate any design changes that may be necessary during the design review process. Further, the ESIA review and updating will also be revised to meet the African Development Bank (AfDB) Integrated Safeguards Standards (ISS).

### **Objective of ESIA**

The main objective of the ESIA review and updating study was to identify environmental and social impacts associated with the proposed construction of the proposed roads and to recommend an appropriate environmental and social management strategy for the project, which complies with EMCA requirements, AfDB Integrated Safeguards Standards, and Good International Industry Practices (GIIP) in Environmental, Health, and Safety General Guidelines related road construction. The core outcome of the Study is an Environmental and Social

Management Plan, to be carried out to enhance positive impacts and mitigate negative environmental and social impacts of the project.

### **ESIA Approach and Methodology**

The systematic investigative and reporting methodologies specified in the conduct of ESIA Studies (Legal Notice 101 of EMCA, 1999, amended 2015) and AfDB Operational Standards (OS) were applied in the ESIA Study. The process involved two stages of reconnaissance and detailed ESIA Study. The reconnaissance field visit was to appreciate the project and familiarize with the general site conditions. The detailed ESIA Study stage comprised of the following activities:

- Desktop studies of the available information for the project area;
- Documentation review for the baseline bio-physical environment;
- Baseline socio-economic survey through field observations (sampling households, focused group discussions, and key informant interviews);
- Public meetings with community members and institutional stakeholders;
- Impact analysis and assessment; and
- Preparation of ESMP;
- Developing a social and environmental monitoring plan including parameters, methodologies, sampling locations, frequency of measurements and timeframes .

### **Project Alternatives**

**Alternative Alignments:** The proposed project road will run along the existing alignment with exceptions of sections at townships where realignments will be effected as design speed could not be achieved and also due to road safety measures considerations. Minor realignments will be done at Ortum market in order to achieve the desired design speeds and necessary safety measures. Other alignment alternatives would be expensive because of the likelihood of physical and economic displacement of communities, which would make the project economically unfeasible.

**Strategic competing alternative routes:** There are no strategic competing alternative routes to the project road in the area which would contribute to significant diversion of traffic.

#### ***Alternative 1: No Project” Scenario***

Since the roads exists and are not meeting the minimum standards in terms of pavement conditions and safety, then there is no standard “no project” scenario if the strategic objectives of the GoK of connecting the North Western areas still exist. The “no project construction would mean that this area with great tourism and oil extraction potential will continue to be isolated. It would also mean that especially the government will continue to incur heavy maintenance costs due to tear, wear and breakdown of their vehicles. and continue to experience hampered delivery of essential services, especially security. The following benefits will also be forgone with the “No Action” alternative; (i) The development of economic and social exchanges between the neighbouring regions, (ii) Provision of access to the whole population, regional and national economic integration, (iii) Employment opportunities for local residents along the project road, and (iv) Reduction in travel time and cost.

#### ***Alternative 2: With Project Option***

**Upgrading the existing road without any changes in route alignment:** This option is highly favored to minimize any impacts on project affected persons (PAPs) through loss of property or loss of business due to demolition of buildings along the road corridor or shift of business activities due to the new road corridor. The final road design maintains the existing road corridor and reduces the Right of Way (RoW) to reduce physical and/or economic impacts hence fewer businesses will be relocated.

**Alternative construction materials and technology:** The proposed road projects will be constructed using modern, locally and internationally accepted materials to achieve public health, safety, security and environmental aesthetic requirements. The consultant evaluated recycling of existing pavement materials for subbase and base to reduce exploration of new materials for the road. Due to high cost of milling and recycling the pavement, and

lengthy procedures required to meet the required design standards, the Consultant has proposed use of new materials to manage cost of the project. However, the contractor will be given the option to mill and recycle the pavement provided the required subbase material standards are met, without incurring extra costs to the project. Equipment that saves energy and water will be given priority without compromising on cost or availability factors. On the alternative construction materials and technology, rainwater is proposed to be harvested and for supply at labour camps for flushing toilets and other non-domestic activities. Asphalt mixers, crushers and other construction equipment and machinery will be incorporated with pollution control devices like dust arrestors/precipitators, emission control, noise abatement devices and desulfurization devices.

### Policy, Legal, and Regulatory Framework

This ESIA Report has been developed to ensure that the proposed construction of the road conforms to national policy aspirations towards securing sustainable development. Specifically, this report has been developed to ensure compliance with requirements of the Environmental Management and Coordination Act (EMCA) 1999 CAP 387, amended 2015, which is Kenya's supreme environmental law, the Constitution and AfDB safeguard policies. Section 58 of EMCA requires that all proposed development in Kenya to be subjected to environmental impact assessment that should be carried out in line with the Second Schedule (of EMCA) and the Legal Notice 31 and 32 (Regulations for Environmental Assessment and Audit (Amendment) of 2019

### Policy Framework

The policy frameworks considered were but not limited to the following;

- Environment Policy, 2014
- Vision 2030
- National Land Policy, 2009
- Integrated National Transport Policy (INTP), 2009
- Draft Policy on Aligning the Roads Sub-Sector With the Constitution, 2012
- Guidelines for Prevention and Control of Soil Erosion in Road Works, 2010
- The National Biodiversity Strategy, 2007
- Gender Policy, July 2011
- The National Social Protection Policy (NSPP)
- African Development Bank Integrated Safeguard System
  - Environmental and Social Assessment (OS 1)
  - Involuntary Resettlement: Land Acquisition, Population Displacement and Compensation (OS 2)
  - Biodiversity and Ecosystem Services (OS 3)
  - Pollution Prevention and Control, Greenhouse Gases, Hazardous Materials and Resource Efficiency (OS4)
  - Labour Conditions, Health and Safety (OS 5)
- Other Best practices considered were
  - World Bank Group Environmental, Health, and Safety (EHS) General Guidelines.

### Legal and Regulatory Framework

The primary law governing environmental management in Kenya is the Environmental Management and Coordination Act (EMCA), 1999 as amended in 2015 and associated regulations. According to EMCA, the proposed project falls under high-risk category for which full ESIA study should be prepared. Other key legal provisions of relevance considered include:

- Constitution of Kenya, 2010;
- Water Act, 2016;
- Kenya Roads Act, 2007;
- Traffic Act, 2014;
- Occupational Health and Safety Act (OSHA), 2007;
  - Subsidiary Legislations under OSHA Chapter 514;
  - Employment Act, 2007;

- Work Injury Benefits Act (WIBA) Chapter 236;
  - The Factories and Other Places of Work (Hazardous substances) Rules 2007
  - The Factories and Other Places of Work (Noise Prevention and Control) Rules L.N 25 Of 2005
  - The Factories and Other Places of Work (Medical Examinations Rules) Rules L.N.24 of 2005
  - The Factories and Other Places of Work (Fire Risk Reduction) Rules L.N.59/2007
  - Incidence reporting and records maintenance
- 
- Wildlife Conservation and Management Act, 2013;
  - Public Health Act, Chapter 242;
    - The Public Health (Drainage and Latrine) Rules
- 
- HIV/AIDS Prevention and Control Act, 2006;
  - National Construction Authority Act, 2011;
  - Land Act (No.6 of 2012);
  - The National Lands Commission Act, 2012;
  - Community Land Act, 2016
  - The Prevention, Protection and Assistance to Internally Displaced Persons and Affected Communities Act, 2012;
  - Land Registration Act, 2012;
  - Land and Environment Court Act, 2012;
  - Land Laws (Amendment) Act, 2016;
  - National Sand Harvesting guidelines, 2007
  - Technical Guidance on Management of used oil and oil sludge in Kenya,2016
  - Physical Planning Act, 2019;
  - Climate Change Act, 2016;
  - Urban Areas and Cities Act, No. 13 of 2011;
  - The National Museums and Heritage Act (2006);
  - Energy Act, 2019;
  - Mining Act, 2016 and
  - Intergovernmental Relations Act.
  - Access to Information Act, 2016

### **International Treaties and Conventions**

Kenya has ratified the following Project-relevant international conventions:

- The 1985 Vienna Convention for the Protection of the Ozone Layer
- The 1987 Montreal Protocol on Substances that Deplete the Ozone Layer
- The United Nations Convention on Climate Change (“1992 UNFCCC”)
- The Kyoto Protocol
- Paris Agreement, 2015
- Convention on Biological Diversity
- The international convention on the protection of the rights of all migrant workers and members of their families ,December, 1990
- Convention on the Rights of Persons with Disabilities (ICRPD), 2006
- ILO Convention No. 182 Concerning the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labour, 1999.
- ILO Convention 138 on Employment Age, 1973
- CITES - the Convention on International Trade in Endangered Species of Wild Fauna and Flora

### **Institutional Framework**

The main administrative structures include:

- Ministry of Transport, Infrastructure, Housing and Urban Development
- Kenya National Highways Authority
- The National Environmental Management Authority

- Water Resources Authority (WRA)
- National Transport and Safety Authority
- Kenya Roads Board (KRB)
- Uasin Gishu and Trans Nzoia, and Kakamega County Governments
- Directorate of Occupational Safety and Health Services (DOSHS)
- Energy and Petroleum Regulatory Authority (EPRA)
- Kenya Railways Corporation (KRC)

## Baseline Environmental and Social Setting

### Physical Environment

**Climate:** The project road falls within 2 counties -West Pokot and Turkana County. West Pokot County experiences moderate climatic and weather patterns due to the average altitude of the county. In the lowlands temperatures rise up to a high of 30°C while the high regions experience 10°C during the cold months. Rainfall in West Pokot is bimodal with the long rains falling between March and June and the short rains occurring between September and November. Annual rainfall varies from less than 400 mm in the lower altitude areas (1,150-2,000 m altitude) to the north, to slightly over 1500 mm in the high-altitude areas (2,439-3,370 m altitude) to the south. Like Turkana, unreliability and variability are more considerable in the lower altitude drier areas. Deviation from the yearly and monthly means can be considerable. Turkana county on the other hand is hot and dry with high but fairly uniform temperatures throughout the year.

**Temperature:** Temperatures range from a low of 24°C to a high of 38 °C with a mean of 30 °C. The low-lying plains in Turkana are hot and dry, and temperatures are high and are seldom lower even at night. During the day, the extremely high temperatures are accompanied by strong easterly winds sweeping across the largely barren countryside, carrying some quantities of sand.

**Topography:** The proposed project starts at Morpus (Km0+000) at approximate altitude of 1,622m a.s.l., then dropping to about 1,422 m at Ortum, and 953m at Marich Pass. From Marich Pass (elevation 953 m) to Kainuk, the road traverses flat and slightly rolling terrain. The road descends gradually to reach Kainuk (elevation 832 m). From Kainuk to Lokichar, the road follows a gradual rise in elevation to a point 10 km north of Kainuk (elevation 950 m) and then begins a gradual descend to Lokichar (elevation 768 m). The topography of the project area is described below.

**Soils:** The highlands south of the start of the project area in Pokot at Morpus are in the Modified Tropical Zone with soils that are generally well drained and fertile. This zone has high potential for agricultural and livestock development. The lowlands in a semi-arid climatic zone further north have complex soils with various textures and drainage conditions with deep alluvial deposits on the valley floors. Most of the soils in this zone are Saline, Sodic or Calcareous in nature.

In Turkana, soils are highly variable and are mostly shallow and generally of light and medium texture. There are either constraints of a chemical composition, or physical limitations such as rockiness, mantle, slope, and depth. The soils are not well developed due to aridity and constant erosion by water and wind and are often capped by stone mantles.

**Geology:** A vast majority of the project area between Morpus and Lokichar is occupied by rocks of the Basement System with intrusive rocks, believed to be of Precambrian age, Miocene sediments, Tertiary volcanic rocks, Pleistocene lacustrine sediments, and Pleistocene to Recent superficial deposits. At most of the existing drifts, the transported material is overwhelmingly sandy. However, some of the hilly areas are characterized by rocky impermeable surfaces.

**Drainage and Hydrology:** The road corridor falls into Lake Turkana Drainage Basin influenced by Muruny River and Turkwell River systems. The Muruny River, which drains into Turkwell river has a catchment area of about 2700 km<sup>2</sup>. The main flow direction of the rivers is from west to east. Majority of catchments for the tributaries joining Muruny river are under 20 km<sup>2</sup>. They are found on the Cherangani slopes, and are relatively steep.

**Water resources:** Water resources along the corridor include surface water sources and limited ground water sources. Endowment of water resources for the corridor varies on the basis of climatic and relative elevation. The project area road is endowed with a significant number of rivers such as Ortum River, Kapro /Wakor River, Saya river, Sebit river, Muruny River and Chepareria rivers. These rivers all are tributaries of Muruny river flowing westwards to constitute part of the Turkwell River Basin system in Turkana County. Muruny river flows almost parallel to the road corridor and generally defines the drainage characteristics of Marich Pass.

**Air Pollution:** Vast sections of the project road are in rural areas which are very sparsely settled and have no major anthropogenic activities that contribute to air pollution levels beyond the natural background levels. The current source of air pollution is thus limited to occasional dust generated by traffic on the gravel or earth roads. Occasional whirlwinds sweeping across bare land also contribute to intermittently elevated dust levels. In the town centres, the air pollution is limited to local vehicular movements, market activities, and winds sweeping across the bare land. The towns have no major industrial activities that constitute major point sources of air pollution. Random samples taken along the road indicates the particulate matter levels are below the occupational health standards.

**Noise Pollution:** Noise levels along the corridor is mainly ambient influenced by human settlement nature. Slight elevated levels are within markets and near urban centres where economic activities including workshops, commercial undertaking and entertainment points are located. The main noise pollution along the road corridor is from the vehicles along the road, motorcycles, prayers from the churches, and human noise from traders and consumers during normal business hours. However, the levels, are confined within the vicinity of the carriageway.

**Water Quality:** The main sources of water are rivers, natural springs, boreholes and earth dams for collection and storage of runoff water during the rainy season for both domestic and livestock use. During road construction, some of the identified sources may be affected due to their proximity to the road alignment or if utilised during construction.

## Biological Environment

**Vegetation:** The project road falls within agro-ecological zones IV- VI (that is transitional to arid zones). Therefore, vegetation cover provides browsing and grazing pasture for the pastoral community and resident wildlife. There is active competition for pasture between wildlife and pastoral livestock in the area. The distribution and status of vegetation in West Pokot and Turkana counties is determined mainly by water availability, but also by temperature and evaporation, topography, soils, and historical influences. The vegetation of the area is characterized by annual grasses and shrubs in the plains, and perennial grasses and large trees on the higher grounds. The main species along the road section consists of *Acacia reficiens*, *Commiphora* spp and *Sansevieria* spp with floodplains consisting of many species including *Salvadora persica*. There is notable threat to natural forests along the whole section of the road, especially in the mountainous parts of West Pokot, resulting from intensive charcoal burning, fire wood and timber among other uses. The situation is deteriorating considering that there are no notable efforts of replanting the trees.

The project area falls in an ecoregion that is essentially dominated by a mixture of highland (around Mopus and towards Marich Pass in West Pokot) and drought-adapted and tropical savanna species (from Marich Pass to Lokichar). The project area is dominated by wooded vegetation that host wildlife and livestock with one gazetted protected area - South Turkana National Reserve. The culture and way of life of the native people contributes immensely to persistence of these floral habitats and wildlife, therein. These vegetation types are influenced by altitude, amount of rainfall, temperature, soils and partly by human activities and settlements.

Floral characteristics of the wildlife habitats closely resemble the Somalia - Masai *Acacia* - *Commiphora* deciduous woodland / shrubland and thickets (White, 1983). Woody species are dominated by shrubs forming scrubland that rise to heights between 3m to 5m but are interrupted by scattered emergent trees of over 9m in the hills and along permanent and ephemeral rivers.



The vegetation cover in the project area is mainly wooded / shrubby grassland. 64% of these species are palatable. They are browsed by camels and goats and to some extent by grazers. Some species provide forage long into the dry season in form of fallen leaves and seed pods.

**Wildlife Resources:** The project area in West Pokot and Turkana counties has arid and semi-arid environment, in general with relatively few fauna outside the existing protected areas. The protected areas along the project road include: Nasolot National Reserve and South Turkana National Reserve. Wildlife crossing these two ecosystems sometimes cross the road in search of water and pasture. South Turkana National Reserve covers 1,091 km<sup>2</sup> and shares the same eco-system with Nasolot National Park. These harbours several species of wild game such as elephants, buffalo, oryx, bushbuck, lesser kudu, grant gazelle, leopard, cheetah, jackal, lion, giraffe, spotted hyena, jackal and birds.

### **Social and Economic Conditions**

**Administration:** The project road traverses through two counties- West Pokot and Turkana, and through the following constituencies; Pokot Central in West Pokot, Loima and Turkana South in Turkana County

**Population:** The Kenya Population and Housing Survey report (KPHC) 2019 showed that Turkana County had a population of 926,976 persons with an annual growth of 3.3%, while West Pokot County had a total population of 621,241 persons, with an annual growth of 1.9%. On average, 15% of the Turkana population lives in urban areas while 85% live in rural areas. On the other hand, 95% of the population in West Pokot live in rural areas.

**Settlement Pattern:** The Pokot population in Orwa sub location, where Marich Pass and Orwa Trading Centre are located, is divided between the Hill Pokots living in the rainy highlands and the Plains Pokots living in the dry plains. The two groups normally intermingle because trading is concentrated in Marich Pass and Orwa Trading Centre. Marich Pass and Orwa Trading Centre are developed with residential structures used primarily for commercial purposes. The most common businesses include retail shops for sale of food items such as sugar and tea along with imported cereals and fruits; eating establishments; and, locally produced charcoal. After leaving the Muruny River near both centres, settlements are virtually non-existent until the Kainuk forest is reached.

By tradition, the Turkana people are semi-nomadic pastoralists whose settlement patterns depend on availability of pasture for their animals and their land requirements are extensive. However, these patterns are gradually changing due to their exposure to other lifestyles. The Turkana have been influenced by the inescapable benefits of urbanisation. Their settlements are concentrated around trading centers such as Kainuk, Kaakong, Kalemng'orok, Katilu and Lokichar where they can, at minimum, find work. Moreover, some of these centres have become densely populated because of increased government led security

**Land Tenure and ownership:** All land in Turkana County is administered under the Community land Act (2016). Community land follows a tenure system that defines land owned by the traditional community, identified based on ethnicity, culture or similar community of interests. Because there have been no formal surveys or land adjudication, most of the land is still held communally by various communities under customary tenure, and is held under trust by the County Government on behalf of the communities. Formal allocations have been done at major centres like Marich Pass, Lokichar, Kainuk and Lodwar, and is still ongoing. Land tenure in West Pokot County is a mixture of trust land, mainly in the pastoralist areas in the north, while land has been adjudicated in the highland farming areas to the south and central Pokot.

**Livelihood Activities:** The main type of livelihood in Turkana County is pastoralism (60%), agro-pastoral (20%), formal and informal employment (8%) and fishing (12%). The Turkana people pursue irrigated farming, particularly around Kainuk and Katilu where food crops such as maize, sorghum, English /sweet potatoes, cow pea and green gram are raised along the riverine of R Muruny and Turkwell river. Horticultural crops-tomatoes, kale (sukuma wiki), spinach, pumpkins, bananas and other local vegetables are also grown.

In West Pokot, livelihoods take three forms namely; pastoral, agro-pastoral and mixed farming. The agricultural and livestock sector is the most important segment of the overall West Pokot's economy. On average, 65% of the entire farm produce is sold, and 83% of households derive at least part of their income from on-farm activities.

Mixed farming is largely practiced in West Pokot whereas Pokot Central (where the road pass) and Pokot North practice agro-pastoralism and pastoral respectively. For the most part, the Pokots are semi-nomadic, pastoralists (pipötich), keeping sizeable herds of cows, sheep, goats and donkeys, but they also cultivate (pipötich) growing subsistence crops—mostly maize—along riverbanks and hill slopes.

**Transport:** In both Turkana and Pokot Counties, the infrastructure is generally poor. The proposed project, A1 Road, is the only major road linking the counties. As described earlier, this road section between Kitale and Lokichar is the only section that has not been rehabilitated along A1, after the WB funded the Lokichar – Nadapal Section. Turkana is served by 8 airports and airstrips, with the main airports being Lodwar and Lokichogio. Turkana County has a total road network of approximately 9,000 km. Of these, about 905 km are bitumen (main one being A1 road - Kainuk Nadapal) and the rest are dirt or gravel roads. The road network in West Pokot County is predominantly earth and gravel surface which makes up 87 percent of the road network. The gravel surface roads cover a distance of 349 km while the earth surface roads cover 697 km. The total length of bitumen surface (tarmac) road is about 201 km. The general status of the road network in the county is poor. The tarmacked road is poorly maintained while the earth and gravelled roads become impassable during the rainy seasons.

**Education:** School enrolment within the Counties has seen an improvement in the years due to improvement of infrastructure. The counties also have good number of institutions- from primary to tertiary level which has seen literacy levels of 14-24 years averaging over 46% in these counties. The pupil teacher ratio in Turkana is about 40%, while in Pokot is 48.5%.

Despite this improved performance, primary education continues to experience a number of challenges such as overstretched facilities, overcrowding in schools, low teacher- pupil ratio, retrogressive cultures, nomadic lifestyle and inaccessibility of education facilities. The literacy levels in the county stands at 40% and 20% for West Pokot and Turkana Counties, compared to 85% nationally. The low literacy rates are due to various factors such as nomadic lifestyles, negative cultural practices, inaccessibility and inadequate education facilities.

**Health:** The health sector plays a critical supportive role in maintaining a healthy, working population, which is necessary for increased labour productivity. Most health services in the counties of West Pokot and Turkana remain inaccessible both in terms of personnel as well as physical distance. Along the road project, the public hospitals include 2 Sub-County hospitals at Lokichar and Sebit, with other centres served by health centres, dispensaries. The Sebit hospital does not have maternity ward, and the women tend to prefer going to Chepareria Hospital if they can, give birth at home, or use the mission hospital at Ortum - Ortum Mission Hospital. The Doctor to patient ratio is 1:63,747 with the average distance to the nearest health facility being 25 Km, this makes the health services in the county inaccessible to the population. According to CIDPs of the countries the road serves, the five most common diseases in the Counties in order of prevalence are: Upper Respiratory Tract Infections (URTI), skin diseases, other diseases of the respiratory system, diarrhea and pneumonia.

**Energy:** The main source of energy in the counties where the road transverse is fuel wood, which accounts to more than 90 per cent of the energy needs of the counties' population. Petroleum energy is another source accounting for 5 per cent energy needs. Despite the presence of Turkwel Dam, which generates electricity, connection is still low with only 2 per cent of the population accessing electricity and only the main trading centres are connected with power, with rural areas not connected. Other sources of energy in the county include charcoal and solar. The county has a high potential for solar energy, which remains untapped.

**Waste Management:** There is a problem of waste management noted at all major centres along the road, with counties indicating they only collect less than 1% of the community waste. This contributes to water, soil and air pollution and poses a health threat to communities. A sustainable waste management strategy is urgently needed in Turkana especially in line with rapid population growth and expansion of urban centres. and expansion of urban centres.

**Tourism:** Tourism sites in the counties served by the road have largely remained unexploited. Key attractions in the area include Lake Turkana and Sibiloi National Park. Other attractions include: Nasolot Game reserve, South Turkana Game Reserve in the far south of the county; Lotikipi National Game Reserve in the west; the dry, desolate beauty of the Suguta valley south of Lake Turkana; archaeological sites like the Namorutunga standing stones in

Kalokol; Lotubae in Lokori, Turkana East; Turkana Boy Monument in Nariokotome; and the science park still under construction in Turkana North.

Other tourist attraction sites in West Pokot County include scenic sites and escarpments (Marich escarpment, Kaisagat viewpoint, Mtelo and Koh hills), ecotourism and Turkwel Dam which remain untapped. Other tourism attractions include the rich Pokot Culture and artefacts in Kapenguria museum, curio shops and wildlife. Apart from these, the County is a proud home of the infamous “Kapenguria Six” Cells that is found in Kapenguria Museum.

### **Cross-Cutting Issues**

**Poverty Analysis:** Poverty is widespread in the project counties. The major causes of poverty are unemployment, lack of markets for the farm produce, high cost of inputs, insecurity and poor food storage facilities. Poverty stands at 79.4% and 57.3% in Turkana and West Pokot respectively. The counties of West Pokot and Turkana are some of the poorest in Kenya, according to the Kenya Integrated Household Budget Survey 2015/16 Basic Report. They are constrained by an arid environment, remoteness from the capital and poor access to services, in addition to the underlying causes of poverty experienced elsewhere in Kenya.

**Gender Issues:** The main gender issues are contained under the customary practices where the male vests ownership and control of productive assets. Women in the counties are faced with a number of challenges including inadequate access to credit, lack of technical skills, multiplicity of roles for women and inadequate access to education and training. The tradition delineation of labour persists with women assuming the entire responsibility for childcare, provision of food, water and firewood collection and the general maintenance of the homestead among others. Other forms of gender issues that are rampant in these counties include but not limited to; discrimination against women and girls, harmful practices such as child abuse, early and forced marriages and Female Genital Mutilation (FGM).

**Gender Based Violence:** Although not well documented, Gender Based Violence (GBV) is rampant in the project corridor and in some cases normalized. Normalization of GBV and stigma influenced by cultural norms prevents GBV survivors from speaking openly about their experiences and often keeps them from reporting their cases to the local administration or the police. The Kenya’s Sexual Offenses Act provides for the prevention and protection of all persons from harm from sexual acts including sexual assault, rape, defilement, sexual harassment and child prostitution. It also provides for access to justice and psychosocial support.

**Conflict and Security Situation:** Frequent spells of drought force the pastoralists to migrate constantly in search of water and pasture across the region, sometimes even across the national borders, thus often leading to wars and conflicts over the scarce resources. Though most of the conflicts are local in nature, inter-ethnic conflicts arising from persistent droughts, food scarcity and changes in lifestyles are evident amongst the different nomadic groups. Other causes include traditional culture of cattle rustling, ethnocentrism, poverty, marginalization and proliferation of illicit arms.

**Vulnerable and Marginalized Groups:** The project area is inhabited by the Pokot and Turkana community who are considered vulnerable and marginalized as per the criteria of the AfDB Safeguards Policies and by the Constitution of Kenya (CoK) 2010. The Pokot and Turkana communities; ( a) have self-identity as members of a distinct indigenous social and (b) are a cultural group and have collective attachment to geographically distinct habitats and ancestral territories in the project area and to the natural resources in these habitats and territories; (c) have distinct customary cultural, economic, social, or political institutions that are separate from those of the dominant society and culture and; (d) have their own distinct language, different from the official language .

### **Stakeholder Engagement and consultations**

The public consultation and participation were conducted through the use of Household socio-economic survey; key stakeholder interviews; Key informant interviews; Public Meetings and Focused Group Discussions.

The key stakeholders consulted included but not limited to; National government officials at the county levels, County government officials including the Governors or their representatives, project affected persons (PAPs), traders/business people, boda boda riders, matatu drivers, women, youths, and persons with disability.

The public meetings and consultations were carried out as follows;

- By Design consultant in February 2014
  - Sebit, Ortum; and Marich Pass
- By Independent Consultant in December 2014 and January 2015- Consultations were held at eight locations, namely
  - Marich-Pass, Kainuk, Kaakong'u, Kalemng'orok', Lokichar, Kasuroi, Lochaang'ikamatak, Lodwar
- Additional Consultations were held by the Design Review Consultant during the review and updating of the ESIA at all key centres along the road.

**Free prior and informed Consent (FPIC) framework during consultations for vulnerable and Marginalized groups**

The road traverses through an area where the local communities (Pokot and Turkana) are recognized as Vulnerable and Marginalized groups by AfDB Safeguards Policies<sup>1</sup>. Therefore, the principle of Free, Prior and Informed Consultation (FPIC) had to be used during consultations with these communities.

The objectives of free, prior and informed consultations was to: (i) inform affected vulnerable indigenous peoples about the proposed project; (ii) assess in a participatory manner the possible project benefits and adverse impacts; and (iii) agree on measures to enhance benefits or mitigate adverse impacts that will be incorporated into the project's design.

The methodology used to ensure FPIC principles were followed were;

- Information about the project, information on public meetings and consultations were disseminated in advance to the vulnerable groups before consultations;
- Information included the objective of the meetings or discussions, the agenda and venue/locations, the time among others;
- Consultations were held in a language the communities could understand - local Pokot and Turkana language and/or in formats decided by the participants

Consultations with stakeholders is a continuous process throughout the project cycle, and the Design review consultant will continue to hold further consultations during design review process to collect more stakeholder comments/views, and validate comments received, and including them to enhance the design and mitigate any impacts that may arise as a result to the project.

The stakeholder consultations highlighted the following positive and negative environmental and social impacts of the proposed project.

Positive Impacts	Negative Impacts
<ul style="list-style-type: none"> <li>● Creation of employment opportunities</li> <li>● Increased business opportunities:</li> <li>● Improved social infrastructure</li> <li>● Faster means of transport:</li> <li>● Cheap / affordable fares</li> <li>● Easy and fast movement of goods and people</li> <li>● Easy and fast movement of goods</li> <li>● Interaction of people from different communities</li> </ul>	<ul style="list-style-type: none"> <li>● Dust generation</li> <li>● Noise pollution</li> <li>● Increased Accidents – human and wildlife</li> <li>● Impact on water resources</li> <li>● Waste disposal and spoils</li> <li>● Loss of vegetation cover</li> <li>● Road accidents</li> </ul>

<sup>1</sup> AfDB Safeguards and Sustainability Series, V2,issue 2, Aug 2016 -Development and Indigenous Peoples in Africa, p10

Positive Impacts	Negative Impacts
<ul style="list-style-type: none"> <li>● Growth of towns</li> <li>● Potential for increased economic activities</li> <li>● Transfer of skills</li> <li>● Improved security</li> <li>● Reduction in vehicle maintenance costs</li> </ul>	<ul style="list-style-type: none"> <li>● Displacement of local communities and loss of property and assets (including graves)</li> <li>● Disruption and loss of businesses</li> <li>● Cultural erosion</li> <li>● Increase in the spread of STD, HIV and AIDS</li> </ul>

The following proposals came out of the various institutional stakeholders and public meetings during the recent consultations.

- Compensation of PAPs due to land-take to pave the way for the road construction should be done before commencement of the civil works;
- Adequate notice (time and resources) for PAPs should be given in preparation for the resettlement;
- Prioritize locals for the employment opportunities arising from the project,
- Recruitment of the work should also be done fairly and advertised at all centres;
- Women should also be given opportunities to participate during construction works by giving them easier manual work that will allow them to work, eg cooking, cleaning, and others getting training to operate equipment;
- Participatory/Engage the local community and other relevant institutional agencies throughout project implementation;
- Importance of timing and duration of construction of the project road, to ensure the project proponent select a good contractor to finish the works on time and within the budget;
- The contractor should ensure they adhere to the proposed mitigation measures on environmental, social health safety of the project;
- Livelihood restoration during resettlement should be considered;
- The project should consider investing in projects that will benefit the local population in the areas of water, livestock, markets (the location, type and capacity of each market will be determined at a latter stage), education, and training the youths and women

## Environmental and Social Impact Assessment

### *Preliminary Identification of VECs*

The Table below provides an overview of the key Valued Ecosystem Components (VECs) that are potential receptors expected to be affected during the implementation of proposed project.

### Potential environmental and social receptors during the Implementation of proposed project

Project activities	Impact	VECs
Project construction activities typically including: <ul style="list-style-type: none"> <li>• Access road construction or upgrade</li> <li>• Site preparation and development</li> <li>• Removal of select vegetation</li> <li>• Grading and excavation of soils</li> <li>• Land clearing for projects rights-of way</li> <li>• Dismantling of damaged equipment</li> <li>• Equipment staging areas</li> <li>• Trenching and excavation works</li> <li>• Storage of materials and</li> </ul>	Air Quality degradation and pollution	Public institutions, community members
	Noise pollution	Public institutions, community members
	Soil contamination and erosion	Soils, water resources, local communities, livestock
	Loss of land	PAPs
	Generation of Solid and hazardous waste as well liquid waste	Local communities, water sources, soil
	Water pollution	Water resources eg

Project activities	Impact	VECs
Chemical / oil • Vehicle and equipment operation and maintenance. • Land Use & Land Acquisition • Demolition, lifting and transporting of debris and rubbles • Repair, reconstruction and rehabilitation of damaged infrastructure/buildings; • Drilling activities, eg for Water		Rivers Muruny, Turkwell local communities
	Vegetation clearance Disturbance and/or displacement of wildlife	Flora, Fauna, and Sensitive (critical, natural etc.) habitats
	Increase in Traffic Congestion and Detours	Local communities, institutions
	Impact on socio-economic activities of the area, such as impact on business, change in pricing of commodities etc	Local communities, institutions
	Health and safety	Workers, local communities, livestock

A summary of the main potential environmental and social impacts associated with the construction and operation of the proposed road upgrade project is presented below.

### Construction Phase

#### *Positive Impacts*

**Employment Opportunities:** Construction activities will create employment opportunities for workers at international, national and local community level. This is a significant impact more so for the locals who are marginalised and rarely have job opportunities.

**Business Opportunities for Local Suppliers and Service Providers:** The road construction activities involve a capital expenditure that requires a range of inputs comprising of machinery/plant and spares for plant and machinery, tyres for plant and machinery, gabions, concrete additives, reinforcement bars, posts and other consumables (wood formwork, bricks, cement, sand, aggregate, oils and lubricants) among others. The locals are optimistic that there will be business opportunities such as food vending and supply of firewood in the in the construction sites. They also requested that the vehicles for transport services be hired from the locals.

**Knowledge and skills transfer:** Through staff interaction, the locals employed in the project will have an opportunity to learn from some of the specialised skilled and semi-skilled personnel that will be involved during the project construction. This may enhance their knowledge in construction of bitumen standard roads and associated facilities and their ability to access similar opportunities in future even beyond the county. The works will also invoke interest in youngsters to participate in such project in future and their career goals.

#### *Negative Impacts During The Pre-Construction /Construction Phase*

**Vegetation Loss:** The project road will be confined to the existing road reserve. However, it is anticipated there will be some form of vegetation clearance to pave way for diversions, near drainage sites, and clearing vegetation that might be on the way leave. Some vegetation might also be lost in areas while establishing camp sites, borrow sites, quarry sites, construction sites and associated plants.

**Habitat Loss and Disturbance:** Construction activities such as vegetation clearing, access to/operation of material sites and excavations along the road corridor will lead to wildlife displacement from their natural habitat. Some of the wildlife such as birds with territory and home ranges will have to abandon the disturbed habitats and re-establish elsewhere leading to increased inter and intra-species competition for preferred sites.

**Workmen's and Storage Camp:** Camps for this type of road would generally require approximately 5 to 10 acres of land, with offices for contractor and resident engineer, housing for migrant workers, area for materials storage, garage and service bays, parking for staff and construction vehicles, materials laboratory, among others. Construction camps may put pressure on fuel sources such as kerosene or gas to be used for heating and cooking purposes. Strain on major utilities like water can also cause social unrest along the road project. Sewage, solid and oil/petroleum wastes also produced at the camps could also pollute sources of water, land and soil. Sanitation and hygiene in the workmen's camp are also issues of concern, and if not properly addressed may lead to outbreaks of illnesses such as cholera, hepatitis, typhoid etc

**Excessive Noise and vibration:** Construction activities generate noise from vehicles used for transportation of material and workers to site, earthworks using heavy equipment and machinery for site preparation and facility erection and diesel generators used for on-site power generation. Workers at construction site are likely to be exposed to increased noise levels as they operate the noisy equipment or work close to the noise sources.

**Construction dust and air quality:** The construction dust may cause reduced visibility, respiratory problems to exposed workers and community members and discolouration of adjacent vegetation and buildings. In addition, construction machinery will emit exhaust fumes contributing to air pollution. Because of the settlement patterns, the most likely receptors of dust pollution are located in the urban and town centres along the road, with the other receptors being roadside vegetation and wildlife

**Generation of Solid Wastes:** A range of solid waste, both hazardous and non-hazardous, are likely to be generated during road project implementation. Wastes emanating from construction phase will mainly come from: Site clearance (vegetation) and excavation works (cut-to-spoil); Construction support activities and machinery maintenance and repair works such as used lubricant cans, packaging wrapper, worn-out tyres, and replaced equipment parts; Consumables (such as wood formwork, metal cuttings); Material testing and trial laboratories such as lab material rejects, test specimens for disposal, excess lab sample materials and grounded equipment or spares; Discarded material from handling losses; Residential camp sites wastes such as leftovers/food scraps, bottles, cans, clothing, food packaging, newspapers and magazines. Improper waste disposal is likely to affect the aesthetic value of the surrounding as well as the local community. The waste may attract scavengers and breeding pests, informal recycling or pollution of sensitive resources (such as water sources) triggering community health and safety issues.

**Increased Soil Erosion incidences:** Project implementation activities such as material borrowing and earthworks (surface scarring) will loosen soil material, which will expose to agents of soil erosion, especially in sloppy and bare areas. Active construction sites may have piled batches from borrow areas as fill material.

**Contamination by liquid waste and hydrocarbon spills:** Routine cleaning will generate washdown water containing sediment (soil, clay, gravel and sand), detergents and automotive fluids, all of which are pollutants. This may contaminate the receiving soils and surface water environment if not managed properly. Other sources of liquid contamination include release of untreated camps' sewer or grey water, leaks and spills from hydrocarbon containments including stored bitumen. Given scarcity of water resources in the area, any minor pollution of existing surface water can be seriously detrimental to both wildlife, livestock and local communities.

**Impacts of Materials Borrow Sites:** During the construction phase, the contractor will have to source construction materials from various material sources. While potential material sites have been identified in the project design report, the actual sites to be exploited will be decided by the appointed contractor. Cases of over extracting these materials from few sites beyond their regenerative capacity may arise if not done in a sustainable manner. The contractor will thus be expected to undertake detailed environmental and social impact assessment before commissioning the selected individual material sites.

**Increased incidences of poaching and human wildlife conflicts:** With presence of wildlife in areas along the project road, the following activities will increase human - wildlife interaction: Construction vehicles knocking wild animals; Wildlife poaching or collection of trophies by construction staff. The target prey may also retaliate injuring or killing the poacher; Construction staff working at night in areas with poor visibility may be accosted by nocturnal

wildlife especially predators (lions, hyaenas); and Some of the wildlife may be attracted to the contractor's camp (staff quarters) as prey and forage availability are on the decline. In the event the animal may leave behind a trail of destruction or may be hurt (entangled, electrocuted, poisoned, human persecuted, vehicle run-over) as they forage within the human environment.

**Spread of invasive species:** Small pockets of invasive and alien floral species are established along the project road and pose a threat of colonizing native species leading to vegetation succession. The spread of novel habitats along the project habitats may be as a result of ongoing road maintenance and rehabilitation, drainage flows leading to dispersal of seeds or endozoochory by livestock or wildlife.

**Increased water demand:** Due to high water demand for construction works, sometimes it is difficult to meet the water demand for construction works, local community domestic uses and for livestock from the existing resources. Without participatory exploitation of alternative sources of construction water, conflicts may emerge between the contractor and the local communities.

**Impacts on Traffic and associated accidents:** Much of the design road has been aligned within the existing road reserve. The section from Morpus Centre to Kainuk Centre has settlement and centres next to the road. Of importance to note is that livestock (goats, sheep and cows) are grazed freely (untethered) along the road reserve or areas just abutting the road reserve. Accesses to centres, homes and other facilities abutting the road will be temporarily interrupted within the settlement areas, leading to traffic inconveniences and interference with normal operations. During construction, the dust from construction activities can hamper visibility for oncoming traffic and other road users and potentially lead to accidents. Further untethered grazing livestock crossing the road could also lead to accidents and conflict with the locals (given the high value attached to livestock by the locals).

**Disruption of Public Utilities:** There will be requirements for relocation of public utilities such as water, electricity, and sewer lines in some sections of the road away from the road reserve, thereby affecting supply for the local residents, especially at major towns. In addition, construction activities might interfere with the underground fibre optic cables running along the road which could disrupt communication networks. Trucks with heavy loads of construction materials may also damage roads and footpaths, and other public utilities during the construction process.

**Spread of Communicable Diseases:** The road construction activities are likely to cause particulate emissions (PM<sub>2.5</sub>, PM<sub>10</sub>) such as dust leading to Upper Respiratory Tract Infections (URTI) complications among local community and workers if not well managed. Particles less than 10microns (PM<sub>10</sub>) and finer ones PM<sub>2.5</sub> in diameter bypass body's usual defenses against dust, penetrating and lodging deep in the respiratory system (WHO, 2011). These infections occur within the upper respiratory tract (nose, throat, ears and sinuses) leading to common colds, influenza and respiratory distress syndromes. The infections are mainly caused by airborne agents or contaminated surfaces

**Spread of HIV/AIDS and other STDs:** During project road construction, it is likely that a significant increase in population along the project area as they are attracted to the project activities. The influx is likely to include people from outside the areas of counties served by the road. Construction workers could increase or create the demand for casual sex with local residents leading to the emergence or increase in sex work near the construction sites.

**Workers welfare:** Project workers such as construction workers face the risk of exploitation, discrimination and other forms of unfair treatment by employers/contractors, eg. exposure to poor health and living conditions, poor sanitation, being overworked with no compensation, low wages, improper provision of proper PPEs and equipment for the works assigned, among others.

**Community Health and Safety:** During road construction, the general public may be exposed to injuries from various construction activities like accidents involving construction trucks or other mobile equipment, falls or slips into unprotected trenches/ditches etc. Children have low conscience of the inherent risks present at construction projects such as abuse, accidents and exploitation. Children are easily attracted around active construction sites to watch ongoing activities obliviously.



**Conflicts between construction workers and local communities:** While employment opportunities from construction is a positive impact, consultation feedback pointed out that there is a very high expectation on employment opportunities and supply of materials for local people during project implementation. Coupled with existing inter-clan conflicts, labour imbalance can create conflicts between the contractor and local communities if not well managed

**Labour influx and Social Change:** Influx of workers triggers the mushrooming of slums as workers opt for low-cost accommodation. Construction camps are set up by the contractor to provide living and eating areas for workers and also have separate areas for storing equipment and stockpiling material. Interaction with the project staff can lead to positive influences in the form of promotion of diversity in ways of thinking, experience of new cultures and exposure to new expectations in goals and achievements. On a higher level, these influences can result in adoption of new trends in social interaction, modes of dressing, leisure time activities and spending habits.

**Child Protection, Sexual exploitation and abuse (SEA) of under-age girls:** There is potential of the contractor employing children who have not reached the employment age, therefore violating the child labour laws of the borrower. The laws of Kenya prohibit contractors from “employing children in a manner that is economically exploitative, hazardous, detrimental to the child’s education, harmful to the child’s health or physical, mental, spiritual, moral, or social development. In addition, there is a potential risk of project workers engaging in illegal sexual relations with minor girls, leading to HIV infection, teenage pregnancy, early child marriage, illegal and risky abortions, school dropout, etc.

**Gender Equity and Mainstreaming in employment:** There is potential that gender inequality might occur during project construction through unequal distribution of work, discrimination against women, and unequal pay for women, lack of provision of separate facilities for women, among others. Sexual harassment against women or men might also happen for those seeking employment through for example sexual favours for exchange of employment.

Turkana and Pokot culture requires women to head house chores and be home early to take care of the family, such as cooking and carrying out other household chores, failure to which may cause social tension within the families. Women therefore finds it difficult sometimes to seek work that will not enable them to carry out cultural mandates to avoid conflict with their husbands. In addition, many new mothers may not seek employment outside their homes because they cannot afford to employ a househelp, and therefore might not participate and benefit in the road construction works.

**Gender Based Violence (GBV), Rape and Sexual harassment:** Due to labour influx for some project activities such as construction works, the project could exacerbate GBV, sexual harassment and other sexual offenses such as rape. Construction workers may engage in sexual fraternization with locals. In addition to this being a driver of HIV infection, it will lead to domestic conflicts, GBV and domestic violence at household level. Women who seek employment may also face demands for sexual favors before being employed which amounts to sexual harassment. Even when employed, women may face continuous and unwanted demands for sex and risk losing their jobs if they do not give in.

**Alcohol and drug abuse:** The presence of migrant construction and other project workers in the community may lead to the emergence of small business hubs with kiosks for selling foodstuffs, cigarettes, alcohol, e.t.c to serve the workers and other members of the community. These business hubs may also engage in selling illegal drugs to project workers and other members of the community. The overall effect may be an increase in consumption of alcohol and illegal drugs in the community

**Complaints and Grievances / Social Conflicts:** There is also potential for social unrest among the local population if they are not considered for employment. This can bring negative publicity during construction including stoppage of work and can delay the projects progress. Against the background of this knowledge and expectation, there is a risk of dissatisfaction if procedures of allocation of workforce are not adequately applied, or if they are seen to be applied in an inequitable manner, especially due to local clan political dynamics.

**Occupational Safety and Health Hazards:** Construction activities will expose staff to risks of accidents and incidents while undertaking excavations and trenching, installation of contractor facilities, operating mobile machinery, electrically powered equipment and materials delivery vehicles.

### **Security challenges**

The general project area experiences security challenges with sporadic incidents of attacks by armed gunmen due to regular cattle rustling and tribal warfare. Security incidences may pose challenges to contractors' workforce, discourage potential workers from working in the area and also risk of loss of construction equipment like vehicles and other valuable inputs. These may affect overall project delivery and also subject affected workers or their relative to psychological stress.

**Social Change:** During construction phase it is expected that there will be an influx of workers from various cultures and social practices. The project area on the other hand can be categorised into rural, peri-urban and urban settlements hence resulting in a range of cultures from homogenous conservative communities to metropolitan/cosmopolitan communities in the major towns. There shall be an influx of people in the project area in search of employment, most of whom shall be unskilled and semi-skilled.

### **Construction works induced traffic and inconveniences**

During the road construction works, it will be necessary to have some deviations in order to allow uninterrupted traffic flow. The road corridor is wide enough, and deviations shall remain within the road reserve. However, deviations if not well maintained have negative environmental and social impacts such as generating dust, blockage of accesses, increase in soil erosion, and potential to damage vehicles, thereby increasing maintenance costs to the users of the road.

Much of the road design has been aligned along the existing road reserve. Accesses to facilities abutting the road will be temporarily interrupted within the settlement areas, especially in centres along the road leading to traffic inconveniences and interference with normal operations. In many of these centres, access to the market place and other businesses may be interrupted during construction affecting business operators and their patrons.

**Spread of Covid 19 among workers and community members:** Project Construction will attract various categories of workers drawn from local, national and international markets. If occurring within the COVID-19 pandemic period, this may pose risk of spread of COVID-19 which is a highly infectious disease.

**Crime management:** The influx of labour a specific project area or site especially during construction, and the settlement changes due to economic development of the area after project completion has the potential to lead to a number of negative socio-economic impacts, including increased insecurity and community conflicts, increased incidences of diseases (as mentioned above); increased risk of accidents and occupational hazards. Crimes might occur in the project area during the construction and operation such as stealing of construction materials or individual property, fighting, petty crimes such as pick pocketing, drug abuse and alcoholism among others.

**Absenteeism in schools:** School children who live near construction sites are likely to be absent from school many times or will perpetually report late to school because of engaging in petty business activities of vending eats and other items to construction workers, or being lured by workers into sexual relationships that would encourage dropping out or being absent from school.

**Increase in the prices of goods and services in the community:** Increased demand by migrant labor may affect the local economy positively for producers and providers of some goods and services. This may lead to prices of rent, food and other commodities to rise. This may negatively affect other households who have a fixed income or those who are already barely managing to survive.

## **Operation Phase Impacts**

### **Positive impacts**

**Spurred Economic Development:** The project road will also improve connectivity between other parts of Kenya, and as far as South Sudan. Improved road connectivity will spur economic development as creation of opportunities to invest and spend increase with the volume of goods and services accessible to local population and on transit. In addition, the upgraded road will provide faster movement of people, goods and services in the area, which will likely stimulate more public and private investments such as facilities which include but not limited to schools, health centres, water, energy, and sanitation mainly in the urban centres. This growth means the social and economic conditions of these people will grow, improving and uplifting the standards of living along the proposed road project.

**Reduced travel time and cost:** The development of the project road will reduce travel time and cost associated with the current poor road conditions. Paving the project road will improve travel experience by reducing the travel time for users. The cost of travel is deemed to decline with reduced wear and tear due to the paved conditions. This will trickle down to reduced cost of living (access to social and economic services) within the project area.

**Improved health benefits:** The health benefits associated with the proposed road at operation phase include: improved access to health facilities and health services especially for pregnant women during labour; improved traveling experience especially for the aged who previously suffered joint, back and head injuries when traveling on the rough roads; and Improved access by health specialists who are willing to give service but are currently hindered by the poor road network. The challenges they currently face include time wastage on the road, the stress of traveling, loss of productive time and inconsistent transport.

**Cultural integration due to influx of people:** The improvement of the project road will improve connectivity of counties to the rest of the country. The number of people from other parts of the country willing to exploit opportunities due to the connectivity will increase. As people of different cultural background, lifestyles and ethnicities stream-in along the project road it will enhance the cultural integration and coexistence within the local communities. However, this may be a gradual process

**Reduced Vehicle Operational costs:** The reduced vehicle operating and maintenance costs due to improvement of the riding quality and surface of the road compared to the current road situation greatly enhances accessibility to basic facilities, for the local communities and others served the road corridor. Therefore, the development of the road will also be an opportunity for the area to be opened up for other opportunities and development in other commercial sectors by outside investors, since more investors will deploy their vehicles along the road due to reduced costs of maintenance and operations.

**Improved Travel Comfort and Response:** The road project will generally increase travel safety and comfort. With the improvement of the road, public transport business will be more competitive, and it is likely that transporters may opt for better and bigger public transport buses. In addition, an improved road will allow quicker response by medical and security personnel to the areas served by the road, thereby improving service delivery of the area.

#### ***Negative Impacts during Operation***

**Increased Vehicle Accidents:** Improved road conditions will attract more traffic volume and increase incidences of vehicle over speeding considering the road has a maximum design speed of 120km/hr. Under these circumstances, a combination of reckless driving and ignorance of local communities of road safety requirements and basic rules may result in accidents.

**Increased Wildlife and Livestock Accidents:** Over 90 percent of the project road traverse areas of natural vegetation that are important foraging ground for local livestock and wildlife. The animals also cross the road from time to time especially when moving to the forage sites or the water access points and, in the process, may get into conflict with motor vehicles.

**Increased Deadwood Collection and Charcoal:** Increase in road connectivity will lead to more access to areas previously considered remote along the project road that have intact and close stands of tall naturally occurring trees (such as *Acacia*, *Balanites*, *Commiphora*, *Maerua*, *Grewia*, *Combretum*, *Delonix* and *Boswellia*). These may

be a target for charcoal burners and timber dealers causing accelerated loss of vegetation cover critical for wildlife browsing and livestock herding.

**Human Encroachment along the Project Roads:** After construction of the project road is complete and operational, there is the possibility of encroachment of various informal businesses along the project roads due to the increase in traffic and improved business opportunities. The encroachment increases the possibility of road side accidents and makes road maintenance difficult and an expensive activity due to the compensation demands from destruction of properties and disruption of livelihoods for the encroachers.

**Road Maintenance Impacts:** During road maintenance, solid waste generation may include road resurfacing waste (removal of the old road surface material), road litter, illegally dumped waste, or general solid waste from rest areas, vegetation waste from right-of-way maintenance; and sediment and sludge from storm water drainage system maintenance. Paint waste may also be generated from road and bridge maintenance (due to removal of old paint from road stripping and bridges prior to re-painting).

**Increase in Communicable Diseases:** Once operational, the project road will experience increase in vehicle traffic, including long-distance drivers who will be making stop-overs in different towns along the road. Areas where truck drivers usually stop have been known to have high number of sex workers, who are likely to include those from outside the project areas. Truck drivers could increase or create the demand for casual sex leading to the emergence or increase in sex work at the centres along the road. With increased vehicle traffic, there will be a proportionate rise in emission levels. Human exposure to these emissions has health impacts. Health problems associated with the vehicle related pollutants include cardiovascular and respiratory diseases and cancer.

**Drainage and Storm water Management:** During the operation of the road, storm water will be generated as a result of an increase in paved sections of the roads, meaning that there will be more runoff than normal, which will affect the drainage systems, hydrological regimes and storm drains of the project area.

**Spread of Invasive species:** *Prosopis juliflora* and *Calotropis procera* are some of the invasive species recorded along the proposed road alignment. They are gap colonizers widely associated with ecosystem disturbances.

**Solid Waste:** During operation period, road users spilling materials (oils, foodstuffs, plastic materials, and other wastes), tends to leave pollutants on the road reserve, bus stops and the adjacent lands compromising the natural resources and people's health.

### **Cumulative impacts of the Project Road**

Cumulative impacts are impacts which result from the incremental impact of a proposed activity on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities. As a result, cumulative impacts such as impacts on resources such as water, energy and road construction materials within the region might arise due to the needs for the simultaneous construction of the roads. Lesseru – Kitale (B2) and Morpus– Lokichar (A1) project roads will be developed concurrently with other roads in the Western and North Western region including Marich Pass – Loruk (B4), Lokichar – Nginyang (C113), Kitale – Endebess- Suam (B2), Kitale – Kapenguria – Morpus (A1), among others. If well implemented, the proposed measures are expected to minimize the overall cumulative impacts from these projects in the region. Other road projects include those along or near the road corridor undertaken by other road agencies such as KURA, KeRRA, the county Governments and the Constituencies through Constituency Development Fund (CDF).

Cumulative impacts such as impacts on resources such as strain in water, energy and road construction materials within the region might arise due to the needs for the simultaneous construction of the roads, other initiatives in the project road corridor (e.g. water and sanitation projects), degradation of environment due vegetation clearance, an increase in soil erosion, impacts of wildlife such as potential poaching in the region due to better access, solid waste generation, among others. Furthermore, the project can also contribute negatively from a social perspective such as changes in cultural practices for the local communities due to influx of people looking for business opportunities, increase in tourism in the area, security challenges, changes in traffic patterns, housing availability, and employment, considering that there are a number of proposed projects along or near the road corridor.

### Summary of the Likely Potential Cumulative Impacts

Environmental and Social Item	Potential Cumulative Impacts	
	Construction Phase	Operation Phase
Soil Degradation, site related oil spills	Although not so significant, risks of oil spills increase as more projects are being undertaken in the region.	Increase in vehicles and potential accidents, and improper servicing of vehicles increase chances of soil and water sources degradation from poor management of oil wastes
Loss of flora, proliferation of invasive species	This may happen during the construction phase if the construction of other nearby projects coincides with that of the proposed project.	Vehicles and passengers plying along the roads may carry invasive species that may spread in the region Proposed measures include monitoring composition of species regenerating along road reserves and taking prompt actions in case of emergence of invasive species.
Solid waste	There will be a large amount of solid waste generated by all projects from various sources during construction such as at camp sites, soil spoil, cement bags, among others	Regional growth and increase in population as a result of easy access to the North Western region will increase solid waste generated in towns and centres. Passengers and travelers using the roads also tend to throw waste on the roads which increase the amount of waste generated in the region.
Air Quality	There is potential for degradation of during construction if not mitigated only if the construction of other nearby projects coincides with that of the proposed project	The impacts of the proposed road on regional air quality and greenhouse gases are currently negligible since the road is in poor condition and thus minimal traffic is experienced in the area. However, this is expected to change in future with improvement of various corridors in the area. It is recommended that monitoring of air quality in the region during operational stages should be conducted to devise methods of controlling greenhouse gases
Noise and Vibration	There is the potential for cumulative noise impacts of the proposed development in conjunction with other concurrent projects in the vicinity arising from simultaneous demolition and construction works.	Increase in traffic in the region, and higher speeds as a result of a good road will translate to increase in noise levels as more traffic use the roads.
Increased Traffic	There will be increased traffic in the region from construction activities of all the projects. The potential risks include cumulative increase in traffic accidents.  Mitigation measures have been proposed to be implemented during construction	Traffic volumes will increase in the project area due to improved road conditions. More vigilance needed with installation of speed measure in high risk areas along the projects. However, the proposed mitigations need to be strictly adhered to.
Strain in water resources	There is potential strain of water resources in the area during the construction phase if the construction of other nearby projects coincides with that of the proposed project.	Social unrest due to usage of water resources may occur as a result of easier access by other communities.

Environmental and Social Item	Potential Cumulative Impacts	
	Construction Phase	Operation Phase
Social Impacts including: Labour influx, Crime, disruption of services, increased conflicts, impacts on children, GBV sexual exploitation and abuse	Influx of immigrant workers will impact the region through increase of local population. The Cumulative impacts will only occur during the construction phase if the construction of other nearby projects coincides with that of the proposed project. The proposed mitigations need to be strictly adhered to.	Given that traffic volumes will increase in the project area due to improved road conditions, changes in social setting of the communities in the region is bound to change in one way or another which could bring negative impacts such as social conflicts, intermarriages, prostitution, child abuse and sexual exploitation of underage girls.  Continuous community awareness and sensitization of such negative issues will need to be done continuously using Community-Based Organizations (CBOs) and NGOs operating in the region with the support of the local county governments
Increased demand for firewood.	The major source of energy in the region for domestic use is firewood. The contractors of the road may also use firewood to heat up bitumen for the construction. This increased demand strains the forest resources and increases the level of carbon dioxide in the atmosphere	With an improved transport system in the region, access of firewood to larger markets is increased which will lead to unsustainable use of forest resources
Strain on Natural resources due to construction materials requirements - sand, stone and gravel.	With the concurrent implementation of development projects in the region, sand and gravel demand is on the rise. The sources of such resources face habitat disturbances, deformation and unsustainability	The road project will induce economic growth in the region leading to physical developments that will demand the use of sand, stone and gravel for construction

To mitigate against cumulative impacts, the project implementers have or will carry out ESIA studies that propose mitigation measures to be implemented during construction and operation phases of the projects. It is also proposed that the project implementers in the region should have a collaborative engagement with each other to develop a common cumulative impact management strategy to minimize cumulative impacts of their projects. If well implemented, the proposed measures are expected to minimize the overall cumulative impacts from these projects in the region.

### Potential Impact during Decommissioning

#### *Positive Impacts*

**Reuse of Contractor's Facilities:** Some of the contractor's camps and other facilities erected during project construction can be handed over to the local government for convenient utilisation as local administration offices or social halls instead of demolition. Boreholes can also be handed over to the community to improve their access.

#### *Negative Impacts*

**Community Safety:** Abandoned and improperly rehabilitated material borrow sites and quarries can present a great safety and health hazard to adjoining communities due to water ponding, deep cliffs and being inhabited by or providing hideout for problem wildlife.

**Loss of Income:** Staff working at the contractor's camp will lose income sources as their services will be terminated. Without prior awareness of contract conditions, abrupt loss of income source may psychologically impact the affected workers and even their families.

**Noise pollution:** Decommissioning of construction structures involve noisy activities originating from movement of heavy ground vehicles, disassembling all the prefabricated structures, disconnection of services, breaking down concrete foundations and handling of debris from sites.

**Dust and Fumes:** Decommissioning activities likely to cause dust and fumes include: Excavation and loading of spoil debris for disposal; Decommissioning of septic facilities; and Removal of fuel holding tanks and dispensers. These will be a nuisance mainly to demolition workers but may also affect nearby communities.

**Waste Accumulation:** Decommissioning of construction camps will generate waste some of which may not be reused or recycled. Spillages during handling substances may also occur contaminating surfaces. Removal and reinstatement of sites may accumulate debris that require proper handling and disposal.

### Resettlement Impacts

The proposed project road will have a width of 60 m as is the standard requirement for a Class A road. . The project road will mainly follow the existing alignment and to avoid or minimize impacts related to involuntary resettlement., (effort have been made to ensure the road will be within the road reserve). However, field work established that the road was going to affect a number of traders and structures on the road reserve. However, there are some sections where realignments to achieve the road design standards and safety requirements is impossible; and therefore, will require some resettlement. This will affect some roadside properties and settlements mainly at key centres along the road at Wakor and Ortum. This and other realignments have necessitated the undertaking of a Resettlement Action Plan (RAP).

It is worth noting that RAP implementation is ongoing between Marich Pass and Lokichar, where KeNHA and National Land Commission (NLC) is ongoing with compensation of those that had been enumerated during the initial design of the road in 2014. The design review consultant did not therefore enumerate the section between Marich Pass and Lokichar to avoid interfering with the ongoing RAP implementation.

The census was carried out to document the current occupants of the Project Affected People (PAPs) within the road RoW in all the settlements along the road. The data is important as it will form the basis for future RAP decision making regarding eligibility for compensation and resettlement assistance.

The road project development will disrupt livelihoods and cause loss of properties following displacement of people along some sections of the alignment. From RAP studies, the valuation roll yielded 277 PAPs , mainly vendors roadside vendors trading at urban centres at Wakor and Ortum along the road reserve, as shown below.

### Number of PAPs Enumerated According to Settlement

Affected Towns/Centres	Business Structures	Tenants	Mobile Road Vendors	TOTAL
Mopus	15	0	0	15
Sebit	29	2	0	31
Ortum	98	27	53	178
Wakor	12	2	29	43
Chepgaun	10	0	0	10
<b>Total</b>	<b>164</b>	<b>31</b>	<b>82</b>	<b>277</b>

The estimated cost and budget for the RAP is Kenya Thirty Million, seven hundred and twenty-three thousand, eight hundred and ninety-five shillings only (Kshs 30,723,895.00).

### Proposed Environmental and Social Plan (ESMP)

The negative environmental, health and safety, and social impacts together with the proposed mitigation measures are presented in the table below.



## ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

The Environmental and Social Management Plan (ESMP) is developed to demonstrate how site-specific concerns and mitigation measures are addressed during construction and operation of the proposed project development activities

### ESMP during Construction Phase

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets of mitigation	Responsibility	ESMP Costs
<b>ENVIRONMENTAL IMPACTS</b>					
Vegetation Loss	Low	<ul style="list-style-type: none"> <li>Minimize unnecessary vegetation clearance</li> <li>Revegetation and landscaping of vegetation and trees along the road</li> <li>Siting of camp sites should be done away from densely vegetated areas.</li> <li>Compensate for the valuable trees to be felled within the settlements as per the project RAP recommendations.</li> </ul>	<ul style="list-style-type: none"> <li>Vegetation cover along the road reserve that is also safe to the road users.</li> <li>Landscaping and grassing on road reserves and especially on steep slopes</li> <li>Recovery of tree cover lost in Kitale</li> </ul>	Contractor , RE, KeNHA	No additional cost to the BoQ (see habitat loss and disturbance)
Workmen's camps management	High	<ul style="list-style-type: none"> <li>Locate camp sites away from residential areas and settlements</li> <li>Contractor to prepare a Waste Management Plan for all worksites, especially the campsites</li> <li>Provision of adequate water and sanitation (fixed toilets with running water and changing rooms) at the campsites, separate for men and women;</li> <li>Provide for septic tanks and soak pits</li> <li>Pay special attention on waste generation and disposal, sanitary conditions at the sites, which includes exploring an option of having a third party to manage the various waste generated at the campsites, including regular treatment of pests and rodents;</li> <li>No waste at the campsite shall be buried or burnt; contractor to do either take waste into county designated dumpsite or use licensed third-party service providers for disposal of waste;</li> </ul>	Campsite meeting environmental and social conditions of the project	Contractor, RE	Costs build in the planning and administration costs of the contractor

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets of mitigation	Responsibility	ESMP Costs
		<ul style="list-style-type: none"> <li>Treatment of the campsite for rodents and other pests shall be done regularly;</li> <li>Completely decommissioning of the camp including permanent foundations and floors to discourage future informal settlement at the campsite</li> </ul>			
Excessive Noise and Vibration	Medium	<ul style="list-style-type: none"> <li>Contractor to prepare Health and safety plan;</li> <li>Monitor environmental and occupational noise levels as per the EMCA provisions of regulations and World Bank Group EHS guidelines;</li> <li>The noise emission characteristics should be considered during selection and mobilization of construction equipment;</li> <li>Where feasible, fit equipment with rock mufflers, sound insulations, silencers to lower the levels of noise emission;</li> <li>Sensitize construction workers to switch off machinery and vehicles when not in use;</li> <li>Provision of appropriate and adequate Personal Protective Equipment (PPEs) to workers;</li> <li>Proper selection of project auxiliary sites, e.g. locate noisy operations like batching plant away from the densely settled areas;</li> <li>Where noisy activities must be undertaken near sensitive receptors, the neighbouring occupants must be informed in advance and works limited to day time only.</li> <li>Noise quality samples to be used as baseline data will be collected before commencement of the civil works for regular monitoring during the construction period at various sensitive areas to be agreed upon with the RE.</li> </ul>	Noise levels meeting conditions of the applicable standards	Contractor, RE, County governments	To be provided under Bill No 1 – KSHS 5,000,000 for PPEs (ear plugs, maintenance of vehicles in administrative costs of the contractor)

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets of mitigation	Responsibility	ESMP Costs
Construction Dust and Air Quality	High	<ul style="list-style-type: none"> <li>• Sprinkling water (at least twice a day) on the accesses and excavated surfaces during the construction period to suppress dust generation;</li> <li>• Limit the speed of construction vehicles (maximum speed limit 40 kph/25 mph) on earth road;</li> <li>• Where feasible, fit equipment with rock mufflers, sound insulations, silencers to lower the levels of noise emission;</li> <li>• Provision of appropriate protective personal equipment including respirators and dustcoats to exposed workers;</li> <li>• Ensuring the location of material stockpiles are away from human settlements and business premises;</li> <li>• Covering loaded trucks during the transportation of material;</li> <li>• Sensitize workers on best practice on management of air pollution from vehicles and machinery;</li> <li>• Demolition of existing structures shall be done in a manner that the dust from demolitions can be controlled;</li> <li>• Undertake regular air quality (dust level) monitoring and conduct corrective adjustments where necessary.</li> <li>• Air quality samples to be used as baseline data will be collected before commencement of the civil works for regular monitoring during the construction period at various sensitive areas to be agreed upon with the RE.</li> </ul>	Low particulate matter in the air meeting the applicable standards	Contractor , RE	<p>To be provided under Bill No 1 - Kshs 5 million</p> <p>(Dust masks and other accessories)</p> <p>(NB water sprinkling part of the main BoQ – Bill No 9)</p>
Generation of Solid Wastes	Medium	<ul style="list-style-type: none"> <li>• Contractor will prepare Solid Waste Management Plan</li> </ul>	<p>Proper waste management and disposal</p> <p>Minimal accumulation of waste</p>	Contractor, RE, Contracted Licensed waste handlers	TO be provided under Bill 1 - KShs. 2,500,000 annually for waste management

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets of mitigation	Responsibility	ESMP Costs
		<ul style="list-style-type: none"> <li>Waste be managed as per Environmental Management and Coordination (Waste Management) Regulations 2006;</li> <li>Utilize the 3C strategy – Reduce, Reuse and Recycling;</li> <li>Reuse excavated top soil for landscaping of the site as far as practical;</li> <li>Segregation of solid wastes and provision of suitable and well labelled waste receptacles within the camp and at active construction sites;</li> <li>Disposed solid waste at designated sites through licensed waste handlers;</li> <li>Sensitize resident workers and service providers (e.g. food vendors) at project sites on proper waste management practices especially hazardous materials and risks of contaminations.</li> </ul>			(total 7,500,00 for duration of the contract)
Increased Soil Erosion	Low	<ul style="list-style-type: none"> <li>Material excavation should be minimized and restricted to designated locations;</li> <li>Excavated material should be properly piled and managed - sprinkled with water and covered (where possible) to prevent possible wash-out into seasonal watercourses.</li> <li>The contractor should ensure that construction related impacts like erosion and cut slope destabilization should be addressed through rock pitching;</li> <li>Re-vegetation should be done in tandem with construction activities to avoid exposure of bare ground to agents of erosion;</li> <li>Enforce landscaping and restoration of the construction site prior to decommissioning of the construction site;</li> <li>As part of enhancing environmental protection in the region, the contractor should start a tree planting campaign for reforestation by incubating a tree nursery programs along the road. The types of trees to plant shall be through the</li> </ul>	Controlled soil erosion Proper compaction of surfaces Proper Landscaping and grassing of embankments	Contractor, RE	Part of Bill no 8

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets of mitigation	Responsibility	ESMP Costs
		guidance of the local KFS or through involvement of the Ministry of Environment and Forestry			
Contamination by Liquid Waste and Hydrocarbon Spills	High	<ul style="list-style-type: none"> <li>• Contractor will prepare waste management plan</li> <li>• Machinery maintenance should be done only on purpose-built garages that meet hydrocarbon containment measures and controlled drainage;</li> <li>• Fueling and servicing of vehicles will be undertaken from only designated and lined area</li> <li>• Contractor will be required to have an emergency spill containment and response plan;</li> <li>• Minor service and washing areas placed/ constructed with containment basins to ensure that the surrounding areas (including groundwater) are not polluted;</li> <li>• All sanitation waste, grey water runoff or uncontrolled discharges from the site/working areas (including wash down areas) to any water courses shall be contained, treated and properly channeled;</li> <li>• Flash toilets at camp sites should be connected to septic tanks or other treatment facilities approved by the county government and NEMA;</li> <li>• Water containing such pollutants as cements, concrete, lime, chemicals and fuels shall be discharged into a conservancy tank for removal from site.</li> <li>•</li> </ul>	Zero tolerance on liquid waste and hydrocarbon spills	Contractor, RE	To be provided under Bill No 1 - Kshs 3 million Rest of the budget under administrative costs of the contractor
Habitat Loss and Disturbance	Low	<ul style="list-style-type: none"> <li>• Locate project auxiliary features like camps and batching plants in areas already disturbed or outside of wildlife habitats.</li> <li>• Construction activities should be confined on the demarcated corridor and discourage movement or intrusion into wildlife habitats;</li> <li>• Throughout the construction cycle, project staff should be sensitized regularly on wildlife conservation.</li> </ul>	Minimal vegetation clearance Minimal disruptions of habitat life	Contractor, RE	Under Bill No 1  Extra KShs. 5,000,000 for reforestation program through establishment of a tree nurseries along the road project

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets of mitigation	Responsibility	ESMP Costs
		<ul style="list-style-type: none"> <li>• The Contractor should sensitize workers on nature conservation, and enforce unauthorized intrusion or use of the wildlife habitats through signed code of conduct;</li> <li>• After decommissioning contractor facilities, native vegetation should be replanted as restoration measures. Accredited sources of seedlings should be used (such as local KFS tree nurseries).</li> <li>• To avoid random off-road driving that leads to trampling of vegetation in sensitive habitats, vehicles should be provided with designated routes</li> <li>• Existing diversions and diversions should be considered before opening up new ones during construction.</li> </ul>			
Impacts on Materials Borrow Sites	High	<ul style="list-style-type: none"> <li>• All material sites shall be selected in consultation with the county governments and the local communities, and rehabilitation/decommissioning plans agreed to ensure the sites will not cause any social conflict within the communities. If borrow sites will be converted to water pans, proper communities and stakeholder engagement shall be conducted and agreed upon (through signing of agreements to exclude any future liability by the contractor) if such usage will be proposed by the community members.</li> <li>• The contractor shall carry out environmental and social assessment for all auxiliary sites and seek relevant statutory licenses including NEMA for proposed material sites to be used for construction works;</li> <li>• Construction materials including sand, stones and borrow materials must be sourced from duly approved sources only;</li> </ul>	<p>Properly rehabilitated material borrow sites</p> <p>No incidents/accidents at materials borrow sites</p>	Contractor, RE	<p>No additional cost to the BoQ</p> <p>Costs built in the planning and administration costs of the contractor</p>

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets of mitigation	Responsibility	ESMP Costs
		<ul style="list-style-type: none"> <li>Materials haulage routes must be pre-determined to avoid unnecessary off road driving;</li> <li>Contractor to develop a system of tracking materials received viz a vis utilization to ensure proper materials management to avoid wastage;</li> <li>The contractor shall locate material sites away from settlements if possible;</li> <li>Where material sites are located near settlements, the contractor shall carry out baseline studies of structural integrity assessments of nearby structures;</li> <li>The contractor shall develop safety management plans for any blasting which shall require the blasting to be done by a qualified experts, sensitization and notification to locals on blasting times;</li> <li>All material sites shall always be fenced with controlled entry at all times.</li> </ul>			
Increased Incidences of Poaching and Human-Wildlife Conflicts	Medium	<ul style="list-style-type: none"> <li>Engage KWS to monitor wildlife distribution and movement in relation to the project during construction and subsequent stages to advise accordingly;</li> <li>Contractor should liaise with KWS to handle and capture reptiles (especially snakes) hiding under rocks and sheltered terrains and safely release them in suitable habitats;</li> <li>Sensitize staff on wildlife encounters and discourage animal persecution or provocation through pre-informed and signed code of conduct;</li> <li>Sensitize all construction staff on dealing with wildlife encounters and enforce zero-tolerance on wildlife poaching by signing code of conduct.</li> <li>Any cases on wildlife poaching should be forwarded to KWS for further action and prosecution.</li> </ul>	No incidents of poaching and human wildlife conflict with construction workers	Contractor, KWS, KeNHA, Local police	KShs. 500,000 Annually for KWS emergency response  Total 1.5 Million  Wildlife signs to be provided under Bill No 17
<b>SOCIAL</b>					

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets of mitigation	Responsibility	ESMP Costs
Land take and disruption of livelihoods	Medium	<ul style="list-style-type: none"> <li>• RAP Study Report for the project should be implemented to guide the compensation and resettlement process;</li> <li>• Compensation for all affected properties should be compensated before construction commences;</li> <li>• Grievance management system should be operationalized and maintained throughout the project implementation phase. All pertinent stakeholders should be involved in the compensation and grievance redress mechanism during implementation of RAP.</li> </ul>	<p>Do no harm for the PAPs</p> <p>Minimize livelihoods of the PAPs</p>	KeNHA, Contractor, RE	Cost as per RAP Study Report is Kshs <u>30,723,895.00</u>
Increased Water Demand	High	<ul style="list-style-type: none"> <li>• The contractor to develop independent construction water sources to avoid straining existing local resources;</li> <li>• Consider supplementing ground water supplies with harvesting seasonal surface flows through pans and small dams that may also be handed over to the local communities;</li> <li>• The Contractor must adhere to the Water Act, 2016 and associated rules and regulations as administered by WRA and NEMA; and</li> <li>• Relevant water abstraction permits must be obtained from these authorities.</li> </ul>	Minimal interference of water resources in the project area	Contractor, RE	No additional cost to the BoQ Under and administrative costs of the contractor
Construction works induced traffic and inconveniences	High	<ul style="list-style-type: none"> <li>• The contractor shall be required to formulate and implement a traffic management plan</li> <li>• Provision of alternative routes in areas where accesses have been disrupted;</li> <li>• Provision and maintenance of clear traffic signages of ongoing construction works, regulate speed limits and diversion signage to notify approaching traffic;</li> <li>• In urban areas, schedule delivery of materials to the sites during periods of light traffic between 9.00am - 12.00 pm and 2.00 pm - 4.00 pm during week days;</li> </ul>	<p>Minimal disruptions of traffic due to construction activities</p> <p>Minimal accidents reported for contractors vehicles</p> <p>Observance of Code of Conduct</p>	Contractor, RE	No additional cost to the BoQ Under Bill No 4 and 9



Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets of mitigation	Responsibility	ESMP Costs
		<ul style="list-style-type: none"> <li>• Contractor to carry out road safety awareness for community members and institutions along the project corridor</li> <li>• Obtain permission from inhabitants and county governments if diversion routes go beyond the Right of Way;</li> <li>• Reinstatement of diversion routes (and old tracks) to original condition;</li> <li>• Institute a traffic management plan incorporating adequate temporary signages and flagmen as necessary</li> </ul>			
Disruption of Public Utilities	Medium	<ul style="list-style-type: none"> <li>• Liaise with utilities providers (power, water, telecommunication) to identify affected sections of alignment of the utilities and provide cost to cover the relocation of the existing infrastructure;</li> <li>• Relocation plans shall include adequate notification of affected customers.</li> </ul>	Minimal disruption of public utilities	Contractor, RE	Under Bill No 1 – Relocation of services
Communicable Diseases	Medium	<p><b>Upper Respiratory Tract Infections (URTI)</b></p> <ul style="list-style-type: none"> <li>• Apply dust suppression measures - sprinkling water on the accesses and excavated surfaces – this shall be determined by the RE depending on the prevailing weather conditions;</li> <li>• Maintain a grievance register to log any complaints from local community;</li> <li>• Hold inductions for staff and people visiting the construction sites on the health and safety aspects;</li> <li>• Provide dust masks for all staff and visitors to active construction areas;</li> <li>• The Contractor should plan work program's activities and timing to avoid emission impact on sensitive receptors, especially urbanized areas;</li> <li>• Install screens and scrubbers on crusher sites to minimize dust emissions;</li> <li>• Locate ancillary facilities away from residential/institutional to minimize dust or other emissions to the residents;</li> </ul>	No reported cases of communicable diseases	Contractor, RE	To be provided under Bill 1 - Kshs 6,000,000  For sensitization and awareness programs

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets of mitigation	Responsibility	ESMP Costs
	Medium	<ul style="list-style-type: none"> <li>Regular maintenance contractors' equipments</li> </ul> <p><b>Spread of HIV/AIDS, COVID, and Other STDs</b></p> <ul style="list-style-type: none"> <li>KeNHA/Contractor should, in liaison with approved local service providers, provide HIV/AIDS awareness training to staff and the locals and monitor the efficacy of the awareness created during the project implementation period;</li> <li>Sensitize workers on the need to refrain from risky behaviours;</li> <li>Provision of condoms both male and female in the sanitary facilities and various locations for the members of public;</li> <li>The unskilled workers should, as far as feasible, be recruited from among the residents of the project area and its immediate neighborhood to minimize labour influx;</li> <li>Workers should be given regular leave, preferably monthly to cool off period and join their families</li> <li>Regular sensitization and awareness, and provision of measures to reduce spread of COVID-19, and other communicable diseases.</li> </ul>	Adherence to Code of Conduct by employees	Contractor, RE Appointed NGO	Kshs 15,000,000 for HIV/AIDS Awareness programs and campaigns (by a NGO) To be included under Bill No 25
Conflicts with local communities on labour issues	Medium	<ul style="list-style-type: none"> <li>Contractor to formulate and implement a labour management plan for his workforce;</li> <li>Contractor will be required to have a transparent external communication plan covering among others, how available opportunities will be advertised;</li> <li>The Contractor should prioritize employing locals as casuals to reduce the need for labour influx;</li> <li>Consultations with the local council of elders to ensure that available opportunities are fairly distributed across different clan members;</li> <li>Maintain a grievance register to log any complaints from workers and local community.</li> </ul>	Local benefits from project construction in employment	Contractor, RE	No additional cost to the BoQ Costs build in the planning and administration costs of the contractor

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets of mitigation	Responsibility	ESMP Costs
Workers Welfare	Low	<ul style="list-style-type: none"> <li>• The contractor shall comply with the required Law of Kenya under DOSHS, and Labour requirements;</li> <li>• Have fulltime nurse on the campsite, with all first aid facilities are available at all times;</li> <li>• In collaboration with local health facilities, ensure that the workers have access to health facilities in the area;</li> <li>• Contractor to ensure that first aid facilities are available at all times at the work sites, and arrangement to access to ambulance service;</li> <li>• The contractor shall provide portable water and mobile toilets (separate for women and men) for the workers at all worksites along the road;</li> <li>• The contractor has to ensure that for any personnel accommodation, suitable arrangements are made to meet the welfare and hygiene requirements and prevention of epidemics, taking into consideration issues like harsh weather conditions in the region, sanitation, etc.</li> <li>• Contractor should hire qualified Human Resources staff to manage labour related risks in the project</li> <li>•</li> </ul>	<p>Adherence to labour laws</p> <p>Proper living and working conditions for the workers</p>	Contractor, RE	<p>No additional cost to the BoQ</p> <p>Costs build in the planning and administration costs of the contractor</p>
Community Safety and Health	Medium	<ul style="list-style-type: none"> <li>• Ensure that all active work areas have controlled access limited to authorized persons only;</li> <li>• Establish and maintain continuous liaison with the host communities including sensitization on safety and health issues on construction sites;</li> <li>• Prepare and implement construction traffic management plan, incorporating safety of other traffic;</li> <li>• Install and maintain appropriate safety and warning signages along road sections and all other construction sites and facilities;</li> </ul>	Minimize health and safety risks to the local communities	Contractor, RE	<p>No additional cost to the BoQ</p> <p>Under Bill 9, and administrative costs of the contractor</p>

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets of mitigation	Responsibility	ESMP Costs
		<ul style="list-style-type: none"> <li>• Ensure proper and adequate provision of sanitation and waste management facilities at all construction sites;</li> <li>• Maintain a system of receiving and responding to any safety concerns by the communities;</li> <li>• Undertake general and third-party insurance liability covers as appropriate.</li> </ul>			
Labour influx and Social Change	High	<ul style="list-style-type: none"> <li>• The contractor shall develop a labour management plan for project;</li> <li>• The Contractor should prioritize employing locals as casuals to reduce the need for labour influx;</li> <li>• Ensure there is adequate security and reasonable controlled access to project offices and residential quarters of immigrant staff to discourage deviant behaviours at workers campsites;</li> <li>• Employment policy of the contractor should prohibit deviant behaviours at the workplace among staff such as cultural profiling, sexual exploitation, child labour and gender-based violence;</li> <li>• Workers will be sensitized on the different cultural practices in the region and for immigrant workers, respecting different cultural, religions and beliefs, including behaviours and norms of the local people;</li> <li>• Contractor to establish a grievance management system to handle internal and external complaints.</li> <li>• Workers will be sensitized and sign code of conduct regarding interactions, behaviours and relations with the local communities.</li> </ul>	<p>Adherence to Code of Conduct by employees</p> <p>Good relationship of workers and local communities</p>	Contractor , RE	No additional cost to the BoQ - administrative costs of the contractor
Crime Management	Low	<ul style="list-style-type: none"> <li>• All activities of a criminal nature on the worksite or by the Contractor's employees (whether on or off the worksite) shall be reported to the police and necessary follow-up undertaken to ensure action is taken;</li> </ul>	<p>Adherence to Code of Conduct by all employees</p> <p>Proper security to protect employees</p>	Contractor, RE, Local administration	No additional cost to the BoQ - administrative costs of the contractor

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets of mitigation	Responsibility	ESMP Costs
		<ul style="list-style-type: none"> <li>• Sensitize the construction workers, locals, and security to be on the lookout on suspicious activities near the site</li> <li>• Enforce the crime related clauses in the Code of conduct signed by all workers</li> </ul>			
Child Protection, Sexual exploitation and abuse (SEA) of underage girls	High	<ul style="list-style-type: none"> <li>• Workers will be educated by relevant agencies such as police and probation officers on the relevant laws and polices protecting children</li> <li>• Reach out to children in and out of school in the vicinity of the construction sites with a life skills program focusing on HIV/AIDS and sexual abuse prevention among others areas</li> <li>• Mobilize and strengthen child protection institutions and structures near construction sites</li> <li>• Reach out to school authorities and parents near construction sites on paying special attention to child protection in light of labour influx</li> <li>• Partnerships will be established with relevant government agencies and NGOs to ensure children access survivor centred services such as medical care, psychosocial support, legal redress, safety, etc as and when necessary</li> <li>• Ensure no children are employed on site in accordance with national labor laws</li> <li>• Ensure that any sexual exploitation and abuse (SEA) of children by the contractors' workers are promptly reported to the police</li> <li>• Popularize /put in place confidential mechanisms and hotlines for reporting child abuse cases</li> <li>• Enforce the child protection related clauses in the Code of conduct signed by all workers</li> <li>• Ensure visibility of signage and information, education and communication materials on such issues in the construction sites</li> <li>• Liaise with the administration units (County and sub County governments, Police, DO, chiefs, etc.) to provide regular surveillance and patrols to</li> </ul>	Adherence to Code of Conduct by all employees	Contractor , RE	Kshs 10,000,000 For sensitization and awareness

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets of mitigation	Responsibility	ESMP Costs
		protect workers and unacceptable behavioral interaction of children and workers			
Absenteeism in Schools	Low	<ul style="list-style-type: none"> <li>Contractor and local NGOs to conduct a program to strengthen school based and school led life skills programs targeting any schools near construction sites to discourage dropping out of schools for school children;</li> <li>Ensure no children are employed on site in accordance with national labor laws;</li> <li>The contractor shall sensitize the workers not to engage with children conducting business activities near the worksites of campsites</li> <li>Impose zero tolerance for employees on sexual relationship with students that would encourage dropping or being absent from school</li> </ul>	<p>Adherence to Code of Conduct by all employees</p> <p>Zero tolerance on child labour</p>	Contractor , RE	Part of sensitization and awareness budget (under Bill No 1), and administrative costs of the contractor
Gender Equity and Mainstreaming	Medium	<ul style="list-style-type: none"> <li>Contractor and implementing agency to prepare and implement a Gender Action plan to include at minimum, in conformance with local laws and customs, equal opportunity for employment (min 30% of labour should be women);</li> <li>Ensure that women are given adequate employment opportunities during recruitment and job postings, including equal payment</li> <li>Regular sensitization and awareness campaigns to the workers should be done to promote gender equity in employment during the construction works and during operation</li> <li>Provision of gender disaggregated accommodation, bathing, changing, sanitation facilities</li> </ul>	<p>Women are given opportunities to participate in the projects</p> <p>30% of labour to be women</p>	Contractor, RE	Kshs 5,000,000 for sensitization and awareness (under Bill No 1)
Gender based violence (GBV), Rape and Sexual Harassment	Medium	<ul style="list-style-type: none"> <li>Contractor will prepare a GBV Prevention and Response Plan and implementation arrangements</li> <li>Contractor to prepare and enforce a No Sexual Harassment and discrimination Policy in accordance with national laws;</li> </ul>	<p>Adherence to Code of Conduct by all employees</p> <p>Zero cases of GBV related to the project reported</p>	Contractor, RE	Part of sensitization and awareness budget (under Bill No 1)

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets of mitigation	Responsibility	ESMP Costs
		<ul style="list-style-type: none"> <li>• KeNHA to engage services of local CSO to educate all workers and nearby communities and stakeholders on preventing and responding to sexual harassment and GBV ahead of any project related works;</li> <li>• Popularize /put in place confidential mechanisms and hotlines for reporting GBV and sexual offences cases;</li> <li>• Strategies such as male involvement will be employed in preventing and responding to GBV and sexual harassment;</li> <li>• Establish partnerships with relevant government agencies and NGOs to ensure survivors of GBV and sexual offences access survivor centered services such as medical care, psychosocial support, legal redress, safety, etc as and when necessary;</li> <li>• Provision of gender disaggregated facilities - separate bathing, changing, sanitation facilities for men and women;</li> <li>• Grievance redress mechanisms including non-retaliation should be set up for the workers;</li> <li>• Liaise with the administration units (County and sub County governments, Police, DO, chiefs, etc.) to provide regular surveillance and patrols to protect workers and unacceptable behavioral interaction of local communities and workers</li> </ul>			
Alcohol and drug abuse by workers	Low	<ul style="list-style-type: none"> <li>• All workers (including subcontractors) to sign and comply with Code of Conduct on zero-tolerance on alcohol and drug abuse.</li> <li>• Removing any employee who persists in any misconduct or lack of care, carries out duties incompetently or negligently, fails to conform to any provisions of the contract, or persists in any conduct which is prejudicial to safety, health, or the protection of the environment.</li> <li>• Taking all reasonable precautions to prevent unlawful, riotous or disorderly conduct by or</li> </ul>	Adherence to Code of Conduct by all employees	Contractor, RE	No additional cost to the BoQ, Administrative costs of the contractor

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets of mitigation	Responsibility	ESMP Costs
		<p>amongst the Contractor's personnel, and to preserve peace and protection of persons and property on and near the site.</p> <ul style="list-style-type: none"> <li>• Prohibiting alcohol, drugs, arms, and ammunition on the worksite among personnel.</li> <li>• Liaise with the administration units (County and sub County governments, Police, DO, chiefs, etc.) to provide regular surveillance and patrols to protect workers and unacceptable behavioral interaction of local communities and workers</li> </ul>			
Increase in the prices of goods and services in the community	Low	<ul style="list-style-type: none"> <li>• The contractor should ensure his workers appropriately mix the use of locally and non-locally procured goods to allow local project benefits to balance the local economy while reducing risk of crowding out of and price hikes for local consumers</li> </ul>	Use of locally procured goods	Contractor	No additional cost to the BoQ administrative costs of the contractor
Loss of life, injury or damage to people and private property	High	<ul style="list-style-type: none"> <li>• The construction site shall be fenced off to prevent access to members of the public</li> <li>• Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, at all times</li> <li>• The contractor shall have insurance for his workers as required by law;</li> <li>• Insuring against liability for any loss, damage, death or bodily injury which may occur to any physical property or to any person which may arise out of the Contractor's performance of the contract</li> <li>• All fatalities or severe accidents/incidences shall be reported to the client (KeNHA) immediately (KeNHA) shall report to the AfDB within 48 hours after occurrence. The same should be done to DOSHS within 24 hours and a written notice to the same within 7 days as per the statutory requirements.</li> </ul>	Zero cases of severe incidents/accidents	Contractor, RE	No additional cost to the BoQ Part of contract requirements
Complaints and grievances/social conflicts	Medium	<ul style="list-style-type: none"> <li>• Provide grievance redress mechanism for the local communities and workers;</li> </ul>	Proper and operational GRM setup for employees and members of the public	Contractor, RE	Kshs 10,000,000 For GRC operations



Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets of mitigation	Responsibility	ESMP Costs
		<ul style="list-style-type: none"> <li>• Advise the public and workers on where to report grievances;</li> <li>• Consider prioritizing the local manpower for both skilled and unskilled labour.</li> <li>• Implement proposed grievance resolution mechanism</li> <li>• Grievance redress mechanisms especially for workers should incorporate non-retaliation policies</li> </ul>			
Impacts on Cultural Resources and Archaeological Sites	Low	<ul style="list-style-type: none"> <li>• Use “Chance Finds” procedures in case of any discovery of archeological or important physical or cultural resources</li> </ul>	No impact on PCR	Contractor, RE	No additional cost to the BoQ administrative costs of the contractor
Increased Wildlife and Livestock Accidents	Medium	<ul style="list-style-type: none"> <li>• The public should be sensitised on safety measures to observe while using the road;</li> <li>• Implement pedestrian and livestock safety management strategies such as provision of safe corridors (side roads) along the road alignment and construction areas, including tunnels and bridges and safe crossings for pedestrians and livestock,</li> <li>• Installation of barriers (e.g. guardrails, fencing, plantings) to deter pedestrian and animals access to the tarmacked roadway except at designated crossing points;</li> <li>• Installation and maintenance of speed control and traffic calming devices at pedestrian crossing areas such as bumps, rumble strips in all the villages along project road;</li> <li>• Installation and maintenance of all road signs, signals, markings, and other devices used to regulate traffic, specifically those related to pedestrian, wildlife or livestock;</li> <li>• Installation and maintenance of all signs, signals, markings, and other devices used to regulate</li> </ul>	Livestock and wildlife safety	KeNHA / Construction Contractor/ Ministry of Agriculture, Livestock and Fisheries/ KWS.	No additional cost to the BoQ

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets of mitigation	Responsibility	ESMP Costs
		<p>traffic, including posted speed limits, warnings of sharp turns, or other special road conditions;</p> <ul style="list-style-type: none"> <li>• Installation of measures to reduce collisions between animals and vehicles (e.g. use of signs to alert drivers on road segments where animals frequently cross).</li> <li>• Consider providing water points on the opposite side of the road to limit the animals from crossing the road;</li> <li>• Wildlife crossings are considered to provide safe and convenient road crossing locations and this should be achieved in the type and design of the structure. The structures should have shorter length and wider width;</li> <li>• Fences are important to guide animals to the structures as well as for problem animal control.</li> </ul>			
Increased Deadwood Collection and Charcoal	Medium	<ul style="list-style-type: none"> <li>• KWS and KFS should conduct routine habitat surveillance and patrols as well as thorough inspection of vehicles by security personnel at manned roadblocks (at the exit points) to rid off illegal loggers and timber dealers;</li> <li>• Multi government agencies should institute campaigns on sustainable charcoal production, incorporating revegetation of affected areas with native species;</li> <li>• Locals should be sensitized on the importance of conserving woody vegetation.</li> </ul>	Conserving natural vegetation cover	KeNHA / KFS	No additional cost to the BoQ
Impacts on Vulnerable groups	Medium	<ul style="list-style-type: none"> <li>• The project had conducted a standalone Social Assessment (SA) report in 2015 to determine how the communities will benefit from the project activities, and the recommendations will be incorporated into the project design;</li> <li>• Develop an action plan that sets out the measures through which the project will ensure that potentially adverse effects on the peoples' communities are avoided, minimized, and mitigated, and/or compensate for such effects;</li> </ul>	Incorporation of project benefits for the vulnerable groups	KeNHA, Contractor, RE	No additional cost to the BoQ  Part of proposed projects to benefit local communities

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets of mitigation	Responsibility	ESMP Costs
		<ul style="list-style-type: none"> <li>• The project to conducted continuous Consultations in order to achieve broad community support;</li> <li>• The project will make the development process more inclusive of vulnerable groups and local communities by meaningful consultations and incorporating their perspectives in the design of development programs and poverty reduction strategies;</li> <li>• Provide the local communities and vulnerable groups with opportunities to benefit more fully from development programs associated with the project, such as social infrastructure projects along the road project.</li> </ul>			
Security Challenges	High	<ul style="list-style-type: none"> <li>• The contractor shall develop Security Management and Emergency Response Management Plan for his employees, and conduct regular briefs on security emergency, including drills on worksites and campsites;</li> <li>• KeNHA to support the contractor in liaison with government security agencies for security planning and continuous surveillance;</li> <li>• Contractor to appoint fulltime security coordinator to coordinate with security agencies in the area on issues related to security for the construction workers;</li> <li>• Workers should be sensitized on security arrangements with regular updates as necessary;</li> <li>• Travel plans to remote locations like off-road borrow sites and quarries should be discouraged based on the prevailing security situation;</li> <li>• Emergency contact list shall be maintained on site and by various teams. This should incorporate satellite communication services between camp-based and Nairobi based offices;</li> </ul>	Security management	Contractor/ KeNHA	No additional cost to the BoQ - administrative costs of the contractor

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets of mitigation	Responsibility	ESMP Costs
		<ul style="list-style-type: none"> <li>Enough security should be provide 24/7 at all worksites and campsites, including use of armed policemen.</li> </ul>			
<b>OCCUPATIONAL HEALTH AND SAFETY</b>					
Occupational Safety and Health Hazards	High	<ul style="list-style-type: none"> <li>Contractor will prepare Health and Safety Plan and Emergency Response Plans and operationalize them</li> <li>Contractors' selection criteria should include ability to demonstrate having some defined minimum requirements for Safety and Health Management System.</li> <li>Contractor's should comply OSHA 2007 requirements as bare minimum;</li> <li>Contractor must obtain a registration of workplace certificate from DOSH and comply with the subsequent requirements of the Health and Safety Committee Rules 2004 of the OSHA Act;</li> <li>Enforce use of defined standard operating procedures for handling various activities, depending on risks levels;</li> <li>Establish an emergency response procedure and display on all work areas;</li> <li>Provision of a standard first aid kit at active construction sites at all times;</li> <li>Designate qualified first-aider as per the OSHA requirements;</li> <li>Contractor to have a full time Health and Safety advisor on site</li> <li>Engage a qualified Health and Safety auditor to conduct routine and annual Health and Safety (H&amp;S) audits;</li> <li>Establish a Health and Safety Committee for the project construction team as per the Health and Safety Committee Rules 2004 of the OSHA Act</li> <li>Provide medical care for all staff as necessary as allowed in the Kenyan Law including securing a worker insurance cover as required under WIBA;</li> </ul>	<p>Eliminate incidents and accidents (Zero cases)</p> <p>Proper provision and use of PPEs</p>	Contractor, RE	<p>To be included in Bill 1 - Kshs 8 million for operations of clinical facilities at campsites and other OHS arrangements</p> <p>Other costs under Bill 1, 9, and administrative costs of the contractor</p>

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets of mitigation	Responsibility	ESMP Costs
		<ul style="list-style-type: none"> <li>• Conduct risk assessment before commencing new assignments/tasks;</li> <li>• Provide appropriate and adequate Personal Protective Equipment (PPE) to all workers that is commensurate with construction site activities;</li> <li>• Abide by standard best practice health and safety provisions in the construction contract;</li> <li>• Conduct daily toolbox and monthly safety meetings for the construction workforce;</li> <li>• Undertake routine worksites safety inspections;</li> <li>• Carry out induction and training on Health and Safety for workers and visitors to site</li> <li>• Display of appropriate safety signs around the construction site</li> <li>• All operators shall be trained and skilled in their area of operations;</li> <li>• Regular trainings to workers on OHS and first aid administration;</li> <li>• Contractor (s) to maintain an accident register; carry out accident and incidents investigations and implement corrective actions.</li> </ul>			
Road Safety	High	<ul style="list-style-type: none"> <li>• Copies of insurance policies for the contractor's drivers and vehicles should be provided to the Supervision Consultant.</li> <li>• The contractor's vehicles and equipment must be in proper working condition and have registration plates, and numbering.</li> <li>• The contractor to sensitize all drivers and equipment operators to adopt safe driving and operation behaviors, to ensure proper discipline by these personnel, and sanctions those in breach.</li> <li>• Ensure that safety is included in the driver's contracts as part of "Code of Conduct" and any non-compliances are sanctioned;</li> </ul>	Minimal road accidents	Contractor, RE , Local administration	<p>No additional cost to the BoQ</p> <p>Under administrative costs of the contractor and Bill No 9</p>

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets of mitigation	Responsibility	ESMP Costs
		<ul style="list-style-type: none"> <li>Excavated sites, embankments, and dangerous locations are protected with proper safety barriers, tape and warning signs.</li> <li>Install temporary speed calming measures such as bumps and speed signs at high risk areas such as shopping centres, hospitals, and schools;</li> <li>As part of normal Occupational Health and Safety monitoring, the contractor and Supervision Consultant both maintain a log detailing every violation and accident on site or associated with the project work activities, including the nature and circumstances, location, date, time, precise vehicles and persons involved, and follow-up actions with the police, insurance, families, community leaders, etc.</li> <li>The implementing agency, in cooperation with the relevant government agency, should undertake road safety campaigns targeting settlements, schools, and other facilities along the project road or other affected areas. The cost of such campaigns should be covered in the project budget.</li> </ul>			
Impacts Related to High Temperature and Humidity Levels	Medium	<ul style="list-style-type: none"> <li>Contractor must ensure Project staff have access to adequate potable water;</li> <li>Provisions should be made for adequate ventilation and air conditioning for in-house work spaces;</li> <li>Sensitize staff on health concerns and avoiding heatstroke, dehydration and fatigue;</li> <li>Work schedules should be such that workers are allowed adequate break durations in between working sessions;</li> <li>Ensure adherence to OSHA, 2007.</li> </ul>	Workers welfare complied with	Contractor, RE	No additional cost to the BoQ  Under administrative costs of the contractor
Stakeholder Engagement	High	<ul style="list-style-type: none"> <li>The implementing agency (KeNHA) should prepare and implement a communication and</li> </ul>	Continuous Stakeholder engagement	KeNHA, Contractor, RE	Kshs 10,000,000

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets of mitigation	Responsibility	ESMP Costs
		community/stakeholder engagement plan that addresses all project issues			
Grievance Redress Mechanisms	Medium	<ul style="list-style-type: none"> <li>Proper, effective and strong Grievance Redress Mechanisms (GRM)</li> </ul>	Established GRM	Contractor, RE, KeNHA	Part of Complaints mechanisms budget

**ESMP during operation phase**

Environmental / Social impact	Level of Impact	Recommendation, mitigation, monitoring and/or Management Measures	Goals of mitigation	Responsibility for Implementation	Cost (KSHS)
<b>ENVIRONMENTAL IMPACTS</b>					
Road Maintenance Impacts	Low	<ul style="list-style-type: none"> <li>Incorporate recycling of road resurfacing waste where possible;</li> <li>All vegetation cuttings for road clearance maintenance suspected to be from invasive alien species should be burnt on site translocated to minimize dispersal;</li> <li>Manage sediment and sludge removed from storm water;</li> <li>All removed paint materials suspected or confirmed as containing lead should be treated as a hazardous waste.</li> </ul>	Conserve environment during road maintenance	KeNHA	No additional cost to the BoQ – under KeNHA maintenance budget
<b>SOCIAL IMPACTS</b>					
Increased Vehicle Accidents	High	<ul style="list-style-type: none"> <li>The public should be sensitised on safety measures to observe while using the road;</li> <li>KeNHA to liaise with NTSA for close monitoring of the road usage and impose penalties on those going against the set roads usage rules;</li> <li>KeNHA should ensure maintenance of installed road furniture and safety signages along the road;</li> <li>Undertake periodic roadside bush clearance that may reduce visibility clearance or obstruct critical signages.</li> </ul>	Road use safety	KeNHA	No additional cost to the BoQ Under KeNHA and other various agencies operational budget

Environmental / Social impact	Level of Impact	Recommendation, mitigation, monitoring and/or Management Measures	Goals of mitigation	Responsibility for Implementation	Cost (KSHS)
Communicable Diseases	Low	<ul style="list-style-type: none"> <li>Regular sensitization and awareness of the truck drivers, sex workers,, and local communities on communicable diseases such as HIV, COVID-19, and other communicable diseases.</li> <li>Enforcement of Vehicles to adhere to emission criteria set under the Environmental Management and Co-ordination (Fossil Fuel Emission Control) regulations, 2006.</li> <li>Proper Vehicle maintenance and servicing of vehicle engine, especially for maintenance equipment.</li> </ul>	Prevent communicable diseases	KeNHA	No additional cost to the BoQ
Human Encroachment along the Project Roads	Medium	<ul style="list-style-type: none"> <li>KeNHA in consultation with the county governments should enforce development control by not allowing for any development approvals on the road reserve to ward off potential encroachers and to allow for easy implementation of future road maintenance or expansion plans;</li> <li>Install and maintain road reserve boundary posts at appropriate intervals;</li> <li>Conduct awareness talks and presentations about the road reserve.</li> </ul>	Curb human encroachment onto road reserve	KeNHA	No additional cost to the BoQ – county government budgets and KeNHA management of road reserves

**Table 0-1 ESMP during Decommissioning Phase**

Environmental / Social impact	Level of Impact	Recommendation, mitigation, monitoring and/or Management Measures	Goals	Responsibility for Implementation	Cost (KSHS)
Community Health and Safety	Low	<ul style="list-style-type: none"> <li>Contractor must prepare detailed decommission plan for approval by local government, NEMA and department of mines as applicable;</li> <li>KeNHA should consider satisfactory rehabilitation of decommissioned sites as part of contractual requirement with enforceable penalties including financial disincentives.</li> </ul>	Enhance public safety	KeNHA	No additional cost to the BoQ
Loss of Income	Low	<ul style="list-style-type: none"> <li>Notify the employees in advance on the project closure date and adequately compensate them;</li> </ul>	Improve local financial safety nets	KeNHA	No additional cost to the BoQ



Environmental / Social impact	Level of Impact	Recommendation, mitigation, monitoring and/or Management Measures	Goals	Responsibility for Implementation	Cost (KSHS)
		<ul style="list-style-type: none"> <li>Dismissal procedures to be compliant with Employment Act, 2007;</li> <li>Provide counselling &amp; alternative skills for alternative activities;</li> <li>Employer should possibly identify alternative means of livelihood for the staff who were employed at the construction camp.</li> </ul>			
Noise pollution	Low	<ul style="list-style-type: none"> <li>Prepare a decommissioning plan to guide activities;</li> <li>Monitor noise levels as per the NEMA Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009 &amp; OSHA, 2007;</li> <li>The noise emission characteristics should be considered during selection and mobilization of decommissioning equipment; and</li> <li>Sensitize staff to switch off machinery and vehicles when not in use.</li> </ul>	Mitigate noise pollution	KeNHA	No additional cost to the BoQ
Dust and Fumes	Low	<ul style="list-style-type: none"> <li>Prepare a decommissioning plan to guide staff on proper handling of sensitive facilities;</li> <li>Enforce stand operating procedures while undertaking demolition works;</li> <li>Provide and enforce the appropriate use of PPE against dust; and</li> <li>Employ dust suppression measures such as sprinkling water on loose soil surfaces and providing cover for spoil batches.</li> </ul>	Suppress pollution from dust and fumes	KeNHA	No additional cost to the BoQ
Waste Accumulation	Medium	<ul style="list-style-type: none"> <li>Decommissioning plan should cover waste management;</li> <li>Waste be managed as per Environmental Management and Coordination (Waste Management) Regulations 2006;</li> <li>Establish a segregation and grading waste management system to manage garbage and other forms of waste generated;</li> <li>Prioritize options of waste reduction, reuse and recycling, particularly papers, polythene bags and plastic wrappers and containers and other materials that can possibly be recycled; and</li> </ul>	Proper Waste management	KeNHA	No additional cost to the BoQ

Environmental / Social impact	Level of Impact	Recommendation, mitigation, monitoring and/or Management Measures	Goals	Responsibility for Implementation	Cost (KSHS)
		<ul style="list-style-type: none"> <li>Disposed waste at designated sites through licensed waste handlers.</li> </ul>			
		<b>TOTAL COST OF ESMP</b>			<b>Ksh 93,500,000</b>

**NB:** The cost of ESMP excludes RAP costs

## **Grievance Handling Mechanism Structure**

Grievance redress mechanisms (GRM) provide a formal avenue for affected groups or stakeholders to engage with the project implementers or owners on issues of concern or unaddressed impacts. Grievances are any complaints or suggestions about the way a project is being implemented. They may take the form of specific complaints for damages/injury, concerns about routine project activities, or perceived incidents or impacts. Identifying and responding to grievances supports the development of positive relationships between projects and affected groups/communities, and other stakeholders.

### **Objectives of Grievance Redress Mechanism (GRM)**

The GRM has the following objectives:

- Establish a prompt, easy to understand and access, consistent and respectful mechanism to support the receiving, investigating and responding to complaints or grievances from communities and other stakeholders;
- Ensure proper documentation of complaints or grievances and any corrective actions taken; and
- Contribute to continuous improvement in performance of the project by reducing risks and negative environmental and social impacts through analysis of trends and lessons learned

## **Grievance Handling Mechanism Structure**

A grievance redress committee (GRC) will be constituted to manage any concerns or complaints emanating from the local communities, projected affected persons and stakeholders at the project level

The local Assistant County Commissioner of the subcounty will be the chairman of the Grievance Redress Committee (GRC), with the Resident Engineer (RE) being the secretary of the committee or a person the RE might appoint as his representative. Other members of the GRC will include but not limited to area administration (chief), community representatives who will include representation from men, women, youth, People Living with Disabilities (PLWDs), representatives from NEMA, NGOs, County, and other stakeholders such as the business leaders, bodaboda sector, among others).

The main role of the committee will be arbitration through mediation and negotiation when complaints arise to ensure that cases are resolved quickly and fairly. The committee shall normally meet once per month and may form special sub-committees or ad-hoc committee that shall meet on a weekly basis or more frequently as the nature of some grievances may demand. Such sub-committees or special ad-hoc committee will report their findings and recommendations to the main committee for ratification or approval. The Resident Engineer will be designated as the person in charge of Grievance Redress by ensuring the GRM is formed and operational, and reporting of grievances received to the client on monthly basis or as needed. The RE and his team will be responsible for creating awareness of the Grievance Redress Mechanism (GRM) amongst all the stakeholders through public awareness campaigns, and providing information on GRC with local communities, including awareness materials that will be distributed at all centres along the road project, through local Administration office, posters, local radio stations, flyers, public gatherings, churches, mosques, and other applicable locations along the project area of influence.

The GRC shall be issued with ToRs by the implementing agency (KeNHA) on their roles and responsibilities, with a clear period of tenure. In addition, facilitation of the GRC shall be done accordingly based on applicable government rates. The budget for this facilitation has been provided for in the ESMP.

The various points of receiving complaints would be as follows: County Governments administration; Local chief's office; KeNHA office (at headquarters and Regional Office), Contractor or RE office, Ministry of Transport, Infrastructure, Housing and Urban Development (MoTIHUD) and Representative at the community level. The complaints can be made in writing, verbally, over the phone, by fax, emails or any other media such as WhatsApp and KeNHA website.

## ESMP Implementation and Monitoring Arrangements

In order to ensure the sound development and effective implementation of the ESMP, it will be necessary to identify and define the responsibilities and authority of the various persons and organizations that will be involved in the project. In addition, the following entities will be involved in the implementation of the Environmental and Social Monitoring Plan (ESMoP)

- Kenya National Highways Authority (KeNHA);
- Ministry of Transport, Infrastructure, Housing and Urban Development;
- National Environment Management Authority;
- Supervising Consultant;
- Construction Contractor;
- Directorate of Safety and Health Services (DOSHS)
- Turkana and West Pokot county Governments.

Organization	Role and responsibility
<b>KeNHA</b>	<ul style="list-style-type: none"> <li>• Overseeing or appointing qualified and competent team to oversee environmental, social, health and safety (EHS) during the Project cycle;</li> <li>• Review and approve Contractor’s Environmental and Social Management Plan (CESMP);</li> <li>• Carry out targeted Environmental, Social, Health and Safety (ESHS) training to the Supervision Consultant and contractor’s teams;</li> <li>• Regular monitoring (monthly) and supervision of Implementation of the ESMP;</li> <li>• Carry out regular compliance ESHS audits including developing corrective action plans;</li> <li>• Ensuring that during construction and operations, the NEMA license conditions are adhered to since it’s the principle holder of NEMA license;</li> <li>• Ensure the project is complying with ALL the AfDB Safeguards Policies that are applicable to the project.</li> </ul>
<b>Ministry of Transport, Infrastructure, Housing and Urban Development</b>	<ul style="list-style-type: none"> <li>• Facilitate development and sustenance of transport infrastructure, maritime economy, public works and housing for sustainable socio-economic development.</li> <li>• The State Department for Infrastructure is one of the Departments whose functions include policy management for road development. KeNHA falls under the State Department for Infrastructure.</li> </ul>
<b>National Environment Management Authority (NEMA)</b>	<ul style="list-style-type: none"> <li>• Issue license for the project</li> <li>• Exercise general supervision and co-ordination over all matters relating to the environment and to be the principal instrument of Government in the implementation of all policies relating to the environment and to ensure that all mitigation measures proposed are implemented.</li> </ul>
<b>Construction Contractors</b>	<ul style="list-style-type: none"> <li>• Preparing a Contractor’s Environmental and Social Management Plan (CESMP) that will comply with the requirements of the EIA/ESMP and the Standard Specifications for road works in Kenya, which include specifications for environmental and social protection and waste disposal, borrow pit and quarry acquisition and exploitation, landscaping and grassing among others.</li> <li>• Carry out environmental and social assessment for the project auxiliary sites</li> <li>• Operationalize, monitor and report on the implementation of the CESMP on monthly and quarterly basis (or as required by the Supervision consultant and KeNHA).</li> <li>• Employ competent and qualified separate environmental and social experts on fulltime basis to manage and monitor implementation of CESMP.</li> <li>• Employ fulltime personnel to manage Occupational Health and Safety issues for the entire duration of the project.</li> <li>• Report any environmental, social, health and safety incidents to the Supervision Consultant</li> </ul>
<b>Supervising Consultant</b>	<ul style="list-style-type: none"> <li>• Oversee the construction programme and construction activities performed by the Contractor, in compliance with the ESMP.</li> <li>• Employ qualified full time Environmental and Social Specialists in its team to co-ordinate all aspects of the environment and social during project implementation.</li> <li>• Review and approve the CESMP and other associated plans (eg rehabilitation/decommissioning plans).</li> <li>• Daily and regular monitoring, reviewing and verifying the implementation of the project’s ESMP by the contractor,</li> <li>• Proposing additional appropriate mitigation measures that may be required during the project’s implementation.</li> </ul>

Organization	Role and responsibility
	<ul style="list-style-type: none"> <li>Keep track of project compliance regarding permits and approvals necessary from the relevant authorities.</li> <li>Conducting and coordinating training to the contractor's team on issues relating to environmental and social issues.</li> <li>Report on his monthly and quarterly reports (or as required) on the ESMP aspects throughout the project implementation duration</li> </ul>
<b>Directorate of Safety and Health Services (DOSHS)</b>	<ul style="list-style-type: none"> <li>Registering and Permitting of work place for all the work sites and camp sites for the project;</li> <li>Inspection and auditing of workplaces to ensure they are adhering to OSHA 2007.</li> <li>Receiving and investigating any severe incidents reported on worksites</li> </ul>
<b>Community Based Organizations and Civil Society Groups</b>	<ul style="list-style-type: none"> <li>Participate in training and enhancing the capacity of the local communities in poverty reduction strategies proposed by the Social Assessment;</li> <li>Ensure communities are meaningfully consulted on the project;</li> <li>To encourage ownership of roads by the local communities by involving them directly in the process of monitoring of road construction;</li> <li>Represent the underrepresented groups such as women and youth, People Living With Disability (PLWD), other interest groups, etc</li> <li>Oversight role in ensuring that the proposed environmental and social mitigation measures are implemented as proposed (especially if there are any local organizations that deals with local environmental and social issues, wildlife etc).</li> </ul>
<b>County governments</b>	<ul style="list-style-type: none"> <li>The relevant departmental officers in the County Governments of where project is located should be called upon where necessary during project implementation to provide the necessary permits and advisory services to the project implementers</li> </ul>

### Client's Capacity to Implement Safeguards

Review of the existing environmental and social management system of KeNHA indicated that the organization has adequate capacity that is capable of implementing safeguards for the proposed projects, based on similar projects financed by the AfDB and other donor funded projects the organization has executed. The Directorate of Environment and Social safeguards has experienced specialists who have capacity to monitor and implement the ESMP and the safeguards for the proposed project.

However, the ESIA recommends a capacity building and training program for all other stakeholders namely; supervising consultants, contractors, local county governments, participating institutions (NEMA, DOSHS, KWS, KFS, and others), local communities, and other stakeholders that will be involved directly in the implementation of this project. The capacity building requirements will mostly be in the form of stakeholder training and workshops. In addition, regular stakeholder workshops shall be held quarterly to review safeguards performance and improve on lessons learned through interactions and engagement throughout the project period.

The proposed capacity building and training requirements would cover among others; NEMA Environmental Management and Coordination Act and Regulations, AfDB OS, Good International Industry Practices (GIIP)EHS Guidelines, OSHA requirements, preparation of CESMP; and Environmental and Social safeguards risk management during construction; Code of Conduct, and execution of safeguards requirements Clauses in the Contractors' contract documents.

The Grievance Committee members will also need to be trained on the grievance redress mechanisms and management system to be set up for the project. Besides safeguards, the capacities of the Grievance Committee members will be built around issues of conflict identification, conflict information analysis and conflict resolution.

### ENVIRONMENTAL AND SOCIAL MONITORING PLAN

The overall objective of environmental and social monitoring is to ensure that mitigation measures are implemented and that they are effective. Environmental and social monitoring will also enable response to new and developing issues of concern during project implementation.

**Environmental and Social Monitoring Plan (ESMoP) During Construction**

Monitoring Item	Monitoring Phase	Parameters	Indicators	Location	Frequency	Responsibility
<b>ENVIRONMENTAL IMPACTS</b>						
Vegetation Loss	Construction	% cover	No. of Trees felled and compensated Areas of land cleared	Entire Site	Weekly	Contractor, KeNHA
Workmen's camps management	Construction	Solid waste, wastewater, sanitation	General camp management and cleanliness	Workers Camp sites	Weekly	Contractor, KeNHA
Asphalt and Crusher Plants	Construction	TSP, NO <sub>x</sub> , SO <sub>2</sub> , CO, Dust particles, particulate matter etc.	Use of PPE Pre-medical checks Compliance with NEMA regulations Daily air quality measurements	Active areas	Daily	Contractor KeNHA
Excessive Noise and Vibration	Construction	dB and m/s, respectively	Noise levels <sup>2</sup> , complaints log	Active areas	Daily	Contractor, KeNHA
Construction dust and Air Quality	Construction	TSP, NO <sub>x</sub> , SO <sub>2</sub> , CO, Dust particles, particulate matter etc.	Records on issuance and use of PPEs Equipment and Number of times road is sprinkled Safety induction records Compliance with NEMA regulations and WHO guidelines Complaints from community	Active areas	Daily	Contractor, KeNHA
Solid Waste management	Construction, Decommissioning	Domestic refuse, metallic scraps, sludge	Waste management plan Waste collection and disposal records Level of housekeeping Agreements with waste handlers Licenses of waste handlers/transporters engaged	Entire Site	Monthly	Contractor, KeNHA
Hazardous waste collection	Construction	Waste oil Bitumen	Waste management plan Agreement with licensed waste handlers Waste management records	Entire site	Weekly	Contractor, KeNHA

<sup>2</sup> Noise, Air, and Water quality baseline parameters will be undertaken before commencement of the project by the contractor at agreed monitoring locations with the RE

Monitoring Item	Monitoring Phase	Parameters	Indicators	Location	Frequency	Responsibility
Soil Erosion	Construction	Eroded surfaces	Gully formation; Sedimentation Protection measures in place	Entire Site	Monthly	Contractor, KeNHA
Water Quality and Contamination by Liquid Waste and Spills	Construction	Contaminated surfaces pH, Total Suspended Solids (TSS) and Total Dissolved Solids (TDS), heavy metals, oils and grease	Records on water quality; Compliance with NEMA regulations and WHO guidelines; Soil conditions at the sites; Bunded hydrocarbon storage areas	Rivers, streams, other water sources including boreholes and water pans;  Entire Site	Weekly	Contractor, KeNHA
Habitat Loss and Disturbance	Construction and Operation	Vegetation cover and wildlife habitat	Number of seedlings replanted; Percent of ground vegetation cover	Entire Site	Weekly	Contractor, KeNHA
Spread of Invasive and Alien Species	Construction	% cover	Identified invasive species	Entire Site	Monthly	Contractor, KeNHA
Impact on borrow and quarry sites	Construction	Rehabilitation, Landscape restoration	EIA reports and licenses Other relevant permits and authorizations Decommissioning plan Number of material sites restored as recommended	Material sites	Monthly	Contractor, KeNHA
Increased in poaching and Human-Wildlife Conflicts	Construction	Poaching and Wildlife encounter incidences	Workers Code of conduct Records of encounter incidences Sensitization records Poaching cases	Entire Site	Monthly	Contractor, KeNHA, KWS
Inhibited wildlife and livestock movements and crossings	Construction	Animal crossing	Number of animal crossings provided Installed signages	Entire site	Project life	Contractor, KWS, KeNHA
Increased deadwood collection and charcoal	Construction	% cover	% cover declining or increasing	Entire site	Project life	KFS, KWS, County government
Environmental and Social Risks	Construction	Fire outbreaks, floods, terrorism, etc	Areas for potential hazards	Entire site	Continuous during project life	KeNHA
<b>SOCIAL IMPACTS</b>						
Disruption of Livelihood due to land take	Construction	PAPs	RAP implementation progress report	Right of way	Monthly	Contractor, KeNHA
Increased water demand	Construction	Projected water requirements against available water volumes	Water assessment report; abstraction permits	Entire site	Monthly	Contractor, KeNHA, WRA

Monitoring Item	Monitoring Phase	Parameters	Indicators	Location	Frequency	Responsibility
Construction induced traffic and disruptions	Construction	Traffic management plan	Number of accidents reported Number of grievances registered;	Entire site	Monthly	Contractor, KeNHA
Disruption of Public Utilities and Accesses	Construction	Utility relocation plans Construction management plans	Number of grievances registered; Communications and agreements with utility companies; Notices to the affected public	Right of way	Monthly	Contractor, KeNHA
Spread of communicable diseases	Construction	Sensitization and testing campaigns	Number of reported infections; Number of Medical camps held;	Entire site and immediate neighbouring communities	Monthly	Contractor, KeNHA
Spread of HIV/AIDS and Other Sexually Transmitted Diseases (STDs)	Construction	Sensitization and awareness campaigns	Agreements with HIV/AIDS awareness service provider Sensitization and monitoring records; Number of Medical camps for testing and counselling; Campaign materials; Signed code of conduct	Entire site and immediate neighbouring communities	Monthly	Contractor, KeNHA
Conflict with local communities on labour issues	Construction	Social unrest by local communities	Number of social unrest registered Number of Grievances on labour issues	Entire site	Monthly	Contractor, KeNHA
Workers welfare	Construction	Non-compliance with workers safety	Accident reports Number of grievances by workers	Entire site	Monthly	Contractor
Community Health and Safety	Construction	Incidences of injuries to local communities and road users Occupational safety and health advisor engaged; Safety training for workers	Number of accident cases reported Severity of cases reported Community feedback	Entire site	Daily	Contractor
Labour Influx and Social Change	Construction	Cultural integration and social harmony	Number of awareness trainings and sensitization campaigns Cases of deviant behaviours by immigrant workers reported	Entire site	Monthly	Contractor; Gender Dept, police
Crime Management	Construction	Incidences	Number of crimes reported	Entire site	Monthly	Contractor, Police Dept
Child Protection, Sexual exploitation and abuse (SEA) of underage girls	Construction	Sexual misconduct of employees	Incidents of sexual exploitation Police records Number of Grievances	Entire site	Monthly	Contractor, Gender dept, police dept



Monitoring Item	Monitoring Phase	Parameters	Indicators	Location	Frequency	Responsibility
Absenteeism in Schools	Construction	School attendance	Number of absent students in schools Sexual incidences reported	Entire site	Monthly	Contractor / Schools
Gender equity and Mainstreaming	Construction	Participation by women	Number of women benefiting from the project Number of Grievances related to gender equity	Entire site	Monthly	Contractor, Gender Dept
GBV, Rape and Sexual harassment	Construction	Incidences	No of cases reported Number of grievances Number of sensitization and awareness campaigns	Entire site	Monthly	Contractor, Gender Dept
Alcohol and drug abuse by workers	Construction	Workers conduct Drug and alcohol abuse	Number of workers reported on drug and alcohol abuse Police reports	Entire site	Monthly	Contractor
Increase in the prices of goods and services in the community	Construction	Prices of commodities	Increase in cost of living in the area Increase of key commodities in the region	Entire site	Monthly	Contractor/ County Ministry of Trade
Impacts on Vulnerable and Marginalized groups	Construction	Participation by VMGs	Number of projects targeting VMGs Number of grievances related to VMGs participation	Entire site	Monthly	Contractor/ KeNHA
<b>OCCUPATIONAL HEALTH AND SAFETY</b>						
Occupational Safety and Health Hazards	Construction	Visual inspection; Accident and Incident records Safety and Health Management Plan with relevant procedures incorporating: Emergency response plan	Traffic management Plan No. of OHS trainings and Audit records Health and safety management plan; Compliance with DOSHS regulations and AfDB ISS Accident and Incident Register.	Entire site	Daily	Contractor, KeNHA
Impacts related to High temperature and Humidity Levels	Construction	Temperature & humidity	Human health change	Entire site	Daily	Contractor, KeNHA
Road safety	Construction	Road accidents	Traffic management Plan Number of awareness trainings and sensitization campaigns Installed signages and traffic calming devices Accident records	Entire site	Monthly	Contractor; KeNHA, NTSA

Monitoring Item	Monitoring Phase	Parameters	Indicators	Location	Frequency	Responsibility
Security challenges	Construction	Incidences	Number of intelligence briefings and reports Incident records	Entire site	Daily	Contractor, KeNHA
Loss of life, injury or damage to people and private property	Construction	Accidents, Fatalities, and property damage	Number of accidents Number of fatalities Number of claims/grievances	Entire site	Daily	Contractor /KeNHA
Traffic management	Construction	Accidents and incidents Complaints	Number of accidents Number of fatalities Number of claims/grievances	Entire Site	Daily	Contractor KeNHA

### Environmental and Social Monitoring Plan (ESMoP) Operation Phase

Monitoring Item	Monitoring Phase	Parameters	Indicators	Location	Frequency	Responsibility
<b>ENVIRONMENTAL IMPACTS</b>						
Vegetation Loss	Operation	% cover	No. of Trees felled and compensated  Areas of land cleared	Entire Site	Monthly	KeNHA
Soil Erosion	Operation	Eroded surfaces	Blocked drains Gulley formation; Sedimentation Protection measures in place	Entire road section	Monthly	KeNHA
Habitat Loss and Disturbance	Operation	Vegetation cover and wildlife habitat	Number of seedlings replanted; Change in land use Percent of ground vegetation cover	Entire road section	Monthly	KeNHA
Spread of Invasive and Alien Species	Operation	% cover	Identified invasive species	Entire road section	Monthly	KeNHA
Impact on borrow and quarry sites	Operation	Rehabilitation, Landscape restoration	Ponding Accidents and incidents	Material sites	Biannually	KeNHA
Increased in poaching and Human-Wildlife Conflicts	Operation	Poaching and Wildlife encounter incidences	Poaching incidents cases KWS surveys	Entire road section	Biannually	KeNHA, KWS
Inhibited wildlife and livestock movements and crossings	Operation	Animal crossing	Number of animal crossings provided Installed signages	Entire road section	Monthly	KWS, KeNHA
<b>SOCIAL IMPACTS</b>						
Spread of communicable diseases	Operation	Sensitization and testing campaigns	Number of reported infections; Number of Medical camps held;	Entire road section	Annually	KeNHA

Monitoring Item	Monitoring Phase	Parameters	Indicators	Location	Frequency	Responsibility
Community Conflicts	Operation	Incidences	Number of conflicts reported	Entire road section	Monthly	Police Dept KeNHA
<b>OCCUPATIONAL HEALTH AND SAFETY</b>						
Road safety	Operation	Road accidents	Traffic accident records Police operation book records Installed signages and traffic calming devices	Entire road section	Monthly	; KeNHA, NTSA
<b>TOTAL COST OF MONITORING ESMP ACTIVITIES</b>						<b>Kshs 10 million</b>

## **Contractor Clauses**

This will include various plans and safeguards the Contractor will be expected to prepare and implement based on the ESMP, during the construction phase of the project. The plans will be prepared by the contractor and will be reviewed by the RE and forwarded for further review and approval by KeNHA before the commencement of the works. These safeguards will be required as a part of the requirements in the bidding documents and contractual obligations. The safeguard documents required will include a Contractors Environmental and social management plan (CESMP) with the following subplans;

- i. Occupational health and safety plan
- ii. Waste management plan
- iii. Traffic management plan
- iv. Borrow pit and quarry site rehabilitation plan
- v. Child Protection Strategy
- vi. HIV/AIDS management plan
- vii. Code of Conduct
- viii. Grievance redress mechanism
- ix. Prevention and protection against gender-based violence and sexual exploitation
- x. Labour influx plan
- xi. Stakeholder engagement plan
- xii. Whistle-blower policy

During the bidding process, the Contractor will be expected to include a brief methodology of the implementation of these Environmental and Social Safeguards and attach a cost of implementation of these plans in his proposal bid.

In addition, the Contractor will have to provide relevant staff for the implementation of the safeguards including a Community Liaison Officer and EHS advisor throughout during the construction period of the project.

## **CONCLUSION AND RECOMMENDATIONS**

### **Conclusion**

The rehabilitation and improvement of the project roads is foreseen to attract significant benefits to the remote areas of Northern western Kenya through transport connectivity and ease of access. Nonetheless, negative impacts (on the socio-economic, cultural and ecological environments) are anticipated during the different road development phases. Therefore, its recommended that the KeNHA and contractor implements the proposed mitigation measures and environmental and social management plan. RAP has been prepared separately to specifically address project impacts related to relocation and loss of livelihoods and shall be implemented ahead of construction works.

The total direct amount of implementation of ESMP is estimated to be about Kshs 93,500,000, including other implementation costs spread out in the budget for the road construction, with Kshs 15 million dedicated to the HIV/AIDS programmes. The rest of the ESMP Costs amounting to a lumpsum of Kshs 69.5 Million is dedicated to other Environmental and Social Management plans under Bill Number 1 and other costs spread out in the main works of the Bill of Quantities as shown in the ESMP under Chapter 8. In addition, a provisional cost of Kshs 10 million has also been included to be provided in Bill number 1 for ESMP monitoring activities. With the total environmental and social impacts mitigation costs estimated to be less than 5% of the total project costs, the Project is considered feasible environmentally and social. It is thus recommended that the project be allowed to go ahead with construction from an environmental and social impacts perspective.

### **Recommendations**

Recommendations for the prevention and mitigation of potential adverse impacts are as follows:

- KeNHA will involve stakeholders and public during the project implementation, and particularly during the construction and early stages of the road use to ensure minimized environmental and social impacts.

- The Contractor(s) shall develop contractor's environment and social management plan (CESMP) in line with this ESIA report for purposes of supervision and continuous monitoring. This document shall be part of the contract for the works between the KeNHA and the contractor;
- All material sites will have comprehensive ESIA's undertaken and management plans developed such as to include extraction practices, haulage and materials management and rehabilitation plans.
- KeNHA will ensure that the contractor comply with the requirements of the ESMP, which includes compliance with all the environmental and social mitigation measures, and other requirements such as gender principles; labour laws by ensuring the contractor to employ 30% women, utilizing PWDs and the youth in road construction and maintenance; providing safe working conditions for both women and men workers; and ensuring that all civil work contractors engaged under the project, participate in HIV prevention and road safety programmes and; that information reaches the local communities (women, men, the youth and vulnerable groups) living and working along the road corridor.
- Regular environmental and social monitoring will be carried out to ensure that measures proposed in this ESIA have been implemented to mitigate or avert any potential negative impacts for the project.
- KeNHA will oversee the set-up of a proper and applicable Grievance Redress Mechanism (GRM) for the project to deal with grievances and issues on the project, as part of the stakeholder management program.
- KeNHA shall ensure that a provisional budget of Kshs 93.5 million for implementation of the ESMP is included in the BoQs for adequate budgeting by the contractor. A further Kshs 10 million shall be provided in Bill No. 1 as provisional sum for monitoring activities of the ESMP.

#### SUMMARY BUDGET OF ESMP IMPLEMENTATION AND MONITORING

S/N	Item	Description	Cost (KSHS Million)
1	Sensitization and Awareness	Sensitization of the project activities, including printing of materials of SEAH/GBV, meetings with local communities by an NGO consultant	10
2	Loss of vegetation, Habitat loss & Disturbance	Reafforestation, landscaping and planting of trees	5
3	Gender Equity & Mainstreaming	Sensitization and awareness materials, Special projects targeting women and vulnerable groups	9
4	Workers Welfare and OHS	Operation of clinic at campsite and other OHS arrangements	11
5	Stakeholder Engagement	Meetings, venues, allowances, & refreshments	10
6	Communicable diseases	Sensitization and awareness materials, COVID 19 protocols	6
7	Air Quality	Control and Monitoring of air pollution, including PPEs	5
8	Noise Pollution	Control and Monitoring of Noise pollution, including PPEs	2
9	HIV/AIDS	Sensitization and awareness materials, Testing, Involvement of NGOs for counselling, provisions of condoms, etc	15
10	Solid Waste management	Management of waste, disposal and other costs associated with SWM	7.5
11	Control of Liquid waste and hydrocarbon spills	Waste management arrangements	3
12	Grievance Redress Mechanisms	GRC Operations	10
		<b>TOTAL ESMP Cost (excluding monitoring)</b>	<b>93.45</b>
13	<b>Monitoring Costs</b>	<b>Costs of Monitoring (to be included in the BoQ as Lumpsum)</b>	<b>10</b>
	<b>TOTAL COSTS OF ESMP and ESMoP</b>		<b>103.5</b>

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# 1 INTRODUCTION

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## 1.1 Project Background

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The Government of the Republic of Kenya (GoK) has earmarked funds through the Development Vote for use in engaging the services of a Consultancy Firm to undertake Design Review, Updating of Resettlement Action Plan, Review of ESIA and Economic Feasibility Study Reports and Updating of Tender Documents in readiness for the upgrading of the 55 km Lesseru – Kitale road section and 142 km Morpus – Kainuk - Lokichar road section which forms part of the of the Eldoret - Kitale – Lodwar -Nadapal – Kapoeta - Juba Corridor (945km) corridor interconnecting Kenya and South Sudan. Its improvement will significantly enhance connectivity within the Eastern Africa Region, connecting the southern regions to the northern parts of Kenya linking landlocked South Sudan to Kenya.

The project road is part of the international trunk road connecting Southern Sudan, Kenya and Tanzania. The Biharamulo - Sirari - Lodwar - Lokichogio corridor (Corridor 3) is one of the five main corridors that the East African Community has identified, which constitute a strategic priority and require rehabilitation and upgrading. The section of this corridor that is within Kenyan is about 900 Km long starting at Isebania at the border with Tanzania and ending at Nakodok at the border with Southern Sudan. The road intersects with other critical international corridors including the Northern Corridor (Corridor 1) A8 Highway and the LAPSSET Corridor A10 Highway at Webuye and Lokichar respectively.

The 142 km Morpus – Kainuk - Lokichar road section which this report deals with forms part of the Eldoret - Kitale – Lodwar -Nadapal – Kapoeta - Juba Corridor (945km) corridor interconnecting Kenya and South Sudan. The project road traverses marginalized and arid areas in West Pokot and Turkana Counties where the mainstay is either pastoralism, some small scale farming (West Pokot area) and small scale business dealing with farm produce and other general merchandises. However, there are certain areas along the alignment that experience insecurity due to intercommunity conflicts between the Pokots and the Turkanas especially during the dry season.

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## 1.2 Overall Project Objectives

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This project will contribute to the principal Project Development Objective (PDO), which is to improve access to the North Western part of Kenya and between Kenya and South Sudan, through improving road infrastructure and ICT links, reducing transport and ICT costs, and facilitating the reduction of non-fiscal trade barriers, which help reduce the cost of doing business and development. The improvement of the Morpus – Kitale (A1) section of the road improves South Sudan's access to sea ports, because it is part of the Eldoret – Nadapal – Juba (Kenya - South Sudan regional link) corridor that connects to the Northern Corridor (A8) at Lesseru). This will act as a corridor serving the landlocked countries in the sub region to Mombasa Sea port. This section of the road project provides part of the most cost-efficient transit corridor for South Sudan that crosses only one border post.

The overall Project objectives for undertaking both Morpus – Lokichar (A1) road project are to;

- Improve the efficiency of road transport along the project Corridor
- Spur economic activity along the project road and enhance social welfare
- Enhance security and promote peace along the project corridor
- Enhance regional integration

- Enhance road safety along the project road

The expected results indicators include:

- a. Average Travel time between Morpus - Lokichar, disaggregated by passengers and freight;
- b. Number of public transport service providers along Morpus –Lokichar;
- c. Number of road crash fatalities between Morpus - Lokichar road section (per 1,000 vehicles)
- d. Number of women and children utilizing the improved social services (Social/Gender disaggregated) and
- e. Number of non-Kenyans trained in new skills in Kenyan institutions.

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### 1.3 Project Rationale

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The expansion of major highways remains Kenya's top priority to improve both national and regional connectivity, transportation logistics and support the achievement of Vision 2030 and the Big 4 Agenda. The GoK has identified the Morpus – Lokichar (A1) Road as a priority national trunk road, which is connected to A8 by Kitale – Lesseru (B2) road. The A8, B2 and A1 Road are international trunk roads that form part of the EAC Regional Road Network (Transnational corridor Nos 1 and 3 respectively) and they play a key role in national connectivity and enhancement of Kenya's trade competitiveness.

The project road is part of the international trunk road connecting Southern Sudan, Kenya and Tanzania. The Biharamulo - Sirari - Lodwar - Lokichogio corridor (Corridor 3) is one of the five main corridors that the East African Community has identified, which constitute a strategic priority and require rehabilitation and upgrading. The section of this corridor that is within Kenyan is about 900 Km long starting at Isebania at the border with Tanzania and ending at Nakodok at the border with Southern Sudan. The road intersects with other critical international corridors including the Northern Corridor (Corridor 1) A8 Highway and the LAPSSET Corridor A10 Highway at Webuye and Lokichar respectively.

Relatively poor transport links between the East African Community countries is one of the key factors that create obstacles and increase costs to the movement of goods, services and people. It is thus considered as a major impediment on intra- and inter-regional trade, contributing to the under development of the sub-region.

The road is critical to economic development of Kenya since it carries a significant amount of commercial traffic and directly supports the Big-Four Agenda by facilitating faster access and supporting spatial development for businesses, housing and promoting economic rejuvenation in the rural areas of the various counties.

Therefore, the expansion of major highways remains Kenya's top priority to improve transportation logistics and support the achievement of Kenya's Vision 2030 Strategy, and the Big 4 Agenda. Kenya has prioritized the development of missing highway links in Northern Kenya and other underserved areas. This is demonstrated by Investments made over time on sections of the Kenya – Ethiopia Corridor (Nairobi - Thika Marua and Isiolo – Moyale highway), the Kenya Sudan Link road (Isebania – Kisii – Ahero and Kisumu – Kakamega – Kitale, and Lodwar – Lokichar – Lokichoggio – Nadapal Highway) and recently the Horn of Africa Gateway Development program targeting Isiolo – Wajir – Rhamu – Mandera highway).

The Kitale – Kapenguria – Morpus section is programmed for improvement through support from by KfW, while the Kainuk River Bridge which falls under the proposed Morpus – Lokichar Project has been reconstructed, as well as various road development projects between Lokichar and Nakodok now nearing completion under the IDA financed EARTTDFP project.

Furthermore, the Government recently procured contracts for the upgrading of sections of Nakuru – Marigat- Loruk – Barpelo – Marish Pass through local (GoK) financing. The 142 Km long Morpus – Lokichar section therefore constitutes a missing link yet to be financed to enable seamless connectivity between Kenya and EAC neighbours, and local communities in Northern Kenya.

The beneficiaries of the project will include: pastoralist communities, farmers and businesses along the road corridor, tradable sectors of the economy, agriculture, and the extractive industry, as well as road users (passengers and transporters), consumers and producers both inside and outside the sub-region. Through the export processing facilities and pastoralist road-side markets, the project will offer new jobs and income earning opportunities to the people in Turkana and West Pokot in the Kenyan territory. Currently this region has not received adequate attention and exhibits very high levels of poverty. With the improvement of the whole road corridor to South Sudan, the occasional cut off from the rest of Kenya and South Sudan, particularly during the rainy season, will be reduced.

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## 1.4 Need for ESIA review and update

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An initial Environmental and Social Impact Assessment Study was undertaken in February 2014 along the preliminary design process undertaken by EGIS. The study was undertaken within the provisions of the established regulations under EMCA, 1999 as well as the World Bank’s Social and Environmental safeguards. In December 2014 an individual Consultant was engaged to provide an independent verification and update of the environment and social status along the corridor and confirm the sustainability during the project implementation.

The first Environmental and Social Impact Assessment Study was undertaken in February 2014 for Lesseru – Marich Pass road, and updated in December 2014 during the design process. The 2014 studies had been undertaken within the provisions of the established regulations under EMCA, 1999, and had to be updated to conform with the World Bank’s Environmental and Social and safeguards Policies - the financier of the Feasibility, ESIA, RAP and Engineering Design Studies for Lesseru – Kitale (B8) and Kitale - Lokichar – Lodwar – Nadapal (A8) roads. This ESIA review is part of the design review process of the proposed Lesseru – Kitale (B8) and Morpus – Lokichar (A8) road project conducted by CGP Consulting Engineers.

The previous ESIA’s were prepared under the World Bank guidelines at the design stage. However, a review and updating of the ESIA’s is necessary due to delay in implementation of the road, and new information that may have risen since the ESIA’s were conducted, including change in environmental and social setting of the area the roads transverses. The review and updating of the ESIA is also necessary to validate any design changes that may be necessary during the design review process. Further, the ESIA review and updating was to be revised to meet the African Development Bank (AfDB) Integrated Safeguards System (ISS), and also to ensure that an EIA license is issued for the proposed project.

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## 1.5 Objectives of the ESIA Study

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The main objective of the ESIA study was to identify environmental and social impacts associated with the proposed construction of the proposed road and to recommend an appropriate environmental management strategy for the project. The core outcome of the Study is an Environmental and Social Management and Monitoring Plan, which will be used to enhance and mitigate any positive and negative impacts, respectively, for the project.

This objective was achieved through; (i) review and update the existing ESIA report, identify any gaps vis-à-vis AfDB Operational Safeguards (OS) requirements for the road project, which according to AfDB is



classified as **Category 1** project, and the national requirements for ESIA; (ii) identify and fill in those gaps by updating the ESIA, including collection of additional baseline should it be required, and in depth analysis of environmental and social impacts that are not currently covered in the existing draft; and (iii) updating the ESMP to include both generic construction measures and site-specific measures.

The specific objectives of the assignment were:

- To review and update the ESIA report to conform with AfDB Safeguards Policies and Procedures for project assigned **Category 1** and laws and regulations of the Government of Kenya,
- To review and identify gaps in the ESIA report prepared for this subproject and address them by evaluating the established social and environmental context, reviewing the identified potential risks and impacts, benefits and opportunities.
- To review and identify all the potential significant positive and adverse environmental and social impacts, including direct, indirect and cumulative impacts associated with the project
- To review proposed measures to avoid, reduce, mitigate, manage and/or compensate for such impacts, including the institutional arrangements and required capacity building to implement all such measures and monitor their effectiveness
- To review and develop an Environmental and Social Management Plan (ESMP)
- This being a marginalized region, ensure that the stakeholder analysis and consultation are conducted as part of the ESIA review, and identify who among the affected population is particularly vulnerable to potential adverse impacts. The project should adopt differentiated measures so that potential adverse impacts do not fall disproportionately on the disadvantaged or vulnerable
- To carry out site investigations to collect primary data and review available relevant secondary data to establish a comprehensive environmental and social baseline, indicators, and data collection methodology
- To conduct public consultations and meaningful stakeholder engagement with project-affected persons and Non-Governmental Organizations (NGOs) about the project's environmental and social impacts, as well as offer opportunity to receive their opinions and feedback so as to take their views into account and reflect the issues raised into the final design for the project.
- To come with appropriate budget for environmental, social and, health and safety mitigation measures for the subproject.
- To document all the above mitigation and development interventions in acceptable format to be further discussed and agreed with KeNHA and in compliance with the AfDB Policies, and best Practices on EHS guidelines.

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## 1.6 Project Justification

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The Morpus -Lokichar (142km) is part of the international trunk road connecting Southern Sudan, Kenya and Tanzania. The Biharamulo - Sirari - Lodwar - Lokichogio corridor (Corridor 3) is one of the five main corridors that the East African Community has identified, which constitute a strategic priority and require rehabilitation and upgrading. The section of this corridor that is within Kenyan is about 900 Km long starting at Isebania at the border with Tanzania and ending at Nakodok at the border with Southern Sudan. The road intersects with other critical international corridors including the Northern Corridor (Corridor 1) A8 Highway and the LAPSET Corridor A10 Highway at Webuye and Lokichar respectively

The road traverses one of the marginalized, relatively underdeveloped, arid areas of the country with relatively high levels of poverty among the communities and high insecurity incidences and reported cases of insurgency. The prevailing project area conditions present an unattractive environment for doing business.

The objective of the project is to improve transport communications between Kenya and South Sudan for the benefit of both countries and the region and improve economic and social welfare of the people living along the corridor. The project therefore aims to provide efficient, effective and climate-resilient

transportation system, promote both domestic and cross-border trade, improve economic and social empowerment and contribute to efforts to alleviate poverty, enhance access to markets for farm produce and inputs and deepen regional integration

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## 1.7 ESIA Methodology

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### 1.7.1 Inception Stage

The ESIA study process commenced with the retrieval and review of existing project documentation as well as a site reconnaissance along the project road. Thereafter an ESIA Study Inception Report was compiled and submitted to the client.

Details of the Inception Phase inputs are presented below:

#### 1.7.1.1 Desktop Review

Desktop review of design consultant ESIA, Updated ESIA by Independent Consultant, and other relevant documents was done in preparation of updating the ESIA Study Report. The consultant was able to prepare tools to facilitate the reconnaissance field visit and other follow up visits of the study. Desk study by the consultant began with review of the following project documentary resources:

- ESIA Study Report for Lesseru – Marich Pass road done during Engineering Design February 2014 by the design Consultant (JV of KOCKS CONSULT GMBH), and updated ESIA of December 2014 by Independent Consultant (Harrison Ngirigacha)
- ESIA Study Report (Draft Final Reports, February 2014) for the Preliminary and Detailed Design of Lesseru – Kitale (B2) Kitale -- Marich Pass (A1) road.
- Updated ESIA Study Report, February 2015) for Lesseru – Kitale (B2) Kitale -- Marich Pass (A1) road.
- ESIA Study Report (Draft Final Reports, February 2014) for the Preliminary and Detailed Design of Marich Pass - Lodwar (A1) road.
- Updated ESIA Study Report, February 2015) of Marich Pass - Lodwar (A1) road
- ESIA Study for Marich Pass – Lodwar done in February 2014, and updated ESIA of January 2015 by Independent Consultant (Zabloon Oonge)
- Draft Final Engineering reports - (April 2014) for the Preliminary and Detailed Design of Marich Pass - Lodwar (A1) road.
- Draft Final Engineering reports - (April 2014) for the Preliminary and Detailed Design of Lesseru – Kitale (B2) Kitale -- Marich Pass (A1) road.
- African Development Bank Integrated Safeguards System- Policy Statement and Operational Safeguards, December 2013,
- AfDB ISS Environmental and Social Assessment Procedures (ESAP), November 2015

Other reports (with focus on the project area) reviewed by the ESIA Team include:

- County Integrated Development Plan 2018-2022 – West Pokot County;
- County Integrated Development Plan 2018-2022 – Turkana County;
- The 2019 Kenya Population and Housing Census – Population Distribution by Administrative Units. Volume 1, prepared by KNBS;
- Project Information Document / Integrated Safeguards Data Sheet (PID/ISDS). Prepared in May 2015 for the World Bank Eastern Africa Regional Transport, Trade and Development Facilitation Project (EARTTRDFP) (Second Phase).

- Social Assessment Lesseru-Marich Pass- Lodwar- Nakodok A1 Road, South Sudan-EA Regional Transport, Trade And Development Facilitation Project (EARTTDFP), May 2015

Current legal, policy and regulatory frameworks were also reviewed. Scientific reports, sectoral reports and authoritative online sources were reviewed to fill in knowledge gaps on the various thematic areas of the ESIA study. The full list of information sources reviewed during the preparation of ESIA study is provided in the Reference Chapter of this Report.

#### 1.7.1.2 Site Reconnaissance

The reconnaissance visit was also undertaken where during the visits, a rapid assessment of the project area was conducted to review and identify the following:

- Vegetation mix and fauna activities;
- Terrain formation and physical features within the project area and its zone of influence e.g. land gradient, surface drainage, edaphic characteristics etc;
- Existing land uses and related developments;
- Preliminary identification of receptors of potential project biophysical and socio-economic project impacts.

#### 1.7.1.3 Stakeholder Consultations

In addition to stakeholder consultations that had been carried out by the previous consultants, the consultant reviewing and updating the ESIA also conducted other Stakeholder consultations along the road. The consultations were mainly conducted with the help of the local administration (County Commissioners and chiefs) who would play an active role in community coordination and mobilization during the project implementation.

### 1.7.2 ESIA Study Phase

#### 1.7.2.1 Baseline Socio-Economic Survey

##### **Review of Secondary Data**

- The study team undertook desktop reviews of project related documentation to gain understanding of the background of the study area. Information from secondary data provided benchmarks against which the study team analyzed relevant parameters.

##### **Field Observations**

- Site walks were conducted to ensure that the entire study team was well versed with the project area. Participatory transect walks were carried out together with community leaders who acted as guides so as to enable collection of qualitative data on the project area. The initial field work (involving household surveys and stakeholder consultations) was undertaken in between November 2021 and January 2022.

##### **Household Survey**

- Structured household surveys were conducted among the project beneficiaries in order to capture quantitative information and some qualitative information at household level. The qualitative information was to be verified through information collected during interviews with key informants as well as public meetings. The ESIA review team reviewed household surveys conducted previously to identify if there was any gap on the data collected.

- The baseline socio economic data was collected through questionnaires that were distributed to randomly selected households in the area by trained enumerators who went from door to door.
- 390 Sample household surveys were also collected to collect sample socio-economic data for people located along the road project with the help of the local chiefs, village elders and enumerators from the locality.

#### **Stakeholders' consultations and public meetings**

Stakeholders' consultations and public meetings were conducted between November 2021 and January 2022, and in March 2022 through key informant interviews (KII), meetings with institutional representatives, Community Based Organizations (CSOs), Non-Governmental Organizations (NGOs), and community meetings as elaborated in Chapter 5.

#### **1.7.2.2 Baseline Ecological Environment**

Desktop review of existing data and documentation was undertaken for the description of the ecological environment of the project environment. Project area documentation reviewed includes:

- Draft ESIA Study Report (2014) and Updated ESIA Study (2015)

Parameter under review included:

- Habitat classifications;
- Dominant floral species;
- Invasive alien floral species;
- Wildlife (macrofauna – mammals, avifauna) and wildlife issues.

#### **1.7.2.3 Assessment of Project Impacts**

An environmental impact is any change (negative or positive) to the existing condition of the environment caused by human activity or an external influence. Impacts may be:

##### **Direct or indirect**

Direct impacts result from a proposed action and manifest at the present time and place; while indirect impacts are caused by action that manifest at later time or occur remotely from source and are foreseeable.

##### **Cumulative.**

Impacts are termed cumulative when they add incrementally to existing impacts. In the case of the project, potential environmental impacts would arise during the construction and the operations phases of the project and at both stages positive and negative impacts would occur.

Moreover, impacts also vary with:

- Duration, that is long-term or short-term.
- Extent of their effect that is in wide-spread or local; and
- Are positive (beneficial) or negative (adverse).

##### **1.7.2.3.1 Impact significance**

The purpose of this ESIA Study Report is to identify the significant impacts related to the project under consideration and then to determine the appropriate means to avoid or mitigate those which are negative and enhance the positive ones.

Significant impacts are defined, not necessarily in order of importance, as being those which:

- Are subject to legislative control.
- Relate to protected areas or to historically and culturally important areas.
- Are of public concern and importance.
- Are determined as such by technically competent specialists.
- Trigger subsequent secondary impacts.
- Elevate the risk to life threatening circumstances; and
- Affect sensitive environmental factors and parameters.

#### 1.7.2.3.2 Impact identification

In this study, impacts were predicted and evaluated using acceptable standard methods of impact prediction and evaluation. Constant reference to project activities was made and scores were assigned in an assessment table to make an objective assessment of how each of the project activities would impact on a particular environmental and social medium. The significance of impacts is subjective, but the value judgments required were best arrived at by use of several approaches such as brainstorming and use of checklists and matrices, to establish the potential impacts from the proposed project activities.

#### 1.7.2.3.3 Impact assessment scoring

The impacts were evaluated using the parameters of magnitude, significance, probability, and duration of occurrence. Evaluation of the identified impacts was guided by careful assessment and judgment of anticipated consequences with regard to set standards or pre-development environmental situation of the site. The score of each of the impacts is an average value of scores. 1 and 2 show criteria for assessing significance. The assessment and assignment of values to each identified impact was based on the values developed in Table 1-2: Significance rating matrix

which is adapted from the International good practices. Impacts were evaluated by assigning positive or negative scores.

**Table 1-1: Criteria for assessing significance**

<b>SEVERITY OF IMPACT</b>	<b>RATING</b>	<b>CONSEQUENCE</b>
<i>Insignificant / non-harmful / less beneficial</i>	-1/ +1	
<i>Small/ Potentially harmful / Potentially beneficial</i>	-2/ +2	
<i>Significant / slightly harmful / Significantly beneficial</i>	-3/ +3	
<i>Great/ harmful / beneficial</i>	-4/ +4	
<i>Disastrous/ extremely harmful / extremely beneficial</i>	-5/+5	
<b>SPATIAL SCOPE OF IMPACT</b>	<b>RATING</b>	
<i>Activity specific</i>	-1/ +1	
<i>Right – of – way specific (within right – way)</i>	-2/ +2	
<i>Local area (within 5km of the project)</i>	-3/ +3	
<i>Regional</i>	-4/ +4	
<i>National</i>	-5/+5	
<b>DURATION OF IMPACT</b>	<b>RATING</b>	
<i>One day to one month</i>	-1/ +1	
<i>One month to one year</i>	-2/ +2	
<i>One year to ten years</i>	-3/ +3	
<i>Life of operation</i>	-4/ +4	
<i>Post closure</i>	-5/+5	
<b>FREQUENCY OF ACTIVITY / DURATION OF ACTIVITY</b>	<b>RATING</b>	<b>LIKELIHOOD</b>
<i>Annually or less / low</i>	-1/ +1	
<i>6monthly / temporary</i>	-2/ +2	
<i>Monthly / infrequent</i>	-3/ +3	
<i>Weekly/ life operation/ regularly / likely</i>	-4/ +4	
<i>Daily / permanent / high</i>	-5/+5	
<b>FREQUENCY OF IMPACT</b>	<b>RATING</b>	
<i>Almost never/ almost impossible</i>	-1/ +1	
<i>Very seldom / highly unlikely</i>	-2/ +2	
<i>Infrequent / unlikely/seldom</i>	-3/ +3	
<i>Often / regularly/ likely/ possible</i>	-4/ +4	
<i>Daily / highly likely/ definitely</i>	-5/+5	

Table 1-2: Significance rating matrix

<b>CONSEQUENCE (Severity+ Spatial Scope + Duration)</b>																
<b>LIKELIHOOD</b> (Frequency of activity + Frequency of impact)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	
	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	
	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	
	7	14	21	28	35	42	49	56	63	70	77	84	91	98	105	
	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	
	9	18	27	36	45	54	63	72	81	90	99	108	117	126	135	
	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	

Table 1-3: Negative and Positive Mitigation Ratings

<b>Significance Ratings</b>	<b>Value</b>	<b>Negative Impact Management Ratings</b>	<b>Positive Impact Management Ratings</b>
<b>Very High</b>	<b>126-150</b>	Avoid/Offset/Compensate	Maintain proposed management
<b>High</b>	<b>101-125</b>	Avoid/ Mitigate, Offset./Compensate	Maintain proposed management
<b>Medium-High</b>	<b>76-100</b>	Mitigate and minimize	Maintain proposed management
<b>Low -Medium</b>	<b>51-75</b>	Mitigate and minimize	Maintain proposed management
<b>Low</b>	<b>26-50</b>	Minimize, Avoid	Maintain proposed management
<b>Very low</b>	<b>1-25</b>	Minimize/adapt	Maintain proposed management

#### 1.7.2.4 Preparation of an ESMP and ESMoP

The Environmental and Social Management Plan (ESMP) is developed to demonstrate how site-specific concerns and mitigation measures are addressed during construction and operation of the proposed project development activities. The ESMP has been developed with project knowledge and information available to date. The impacts originating from the project road development (construction, operation and decommissioning phases) have been identified. To ensure that the negative environmental impacts can be controlled and mitigated effectively, a thorough scientific management and monitoring plan has been prepared. This will ensure that all the targets are achieved and that the environmental responsibilities and obligations of ESIA are met during project implementation. As a progressive approach, components of the ESMP may require updating throughout the initiation and scheduling of plans for the project.

The Environmental and Social Monitoring Plan (ESMoP) is prepared with an objective of monitoring to ensure that mitigation measures in the ESMP are implemented and that they are effective. Environmental and social monitoring also enables response to new and developing issues of concern.

#### 1.7.3 Review Findings

The initial ESIA Report was reviewed alongside the design report and drawings followed by a review verification mission of the road corridor comprising the Environmentalist (Team Leader), Sociologist, the Highway Design Engineer and a Field Support Team. The following are the key findings made;

- (i) The initial Environmental and Social Impact Assessment report covered the section between Lesseru and Marich Pass. There is therefore a need to omit the impacts of the section between Kitale town and Mopus centre, whose financing is being undertaken by KfW.
- (ii) The road section between Marich Pass and Lokichar was dilapidated. The road was rehabilitated and spot improved between 2016 and 2018, to facilitate crude transport from Lokichar basin. The Kainuk Bridge was also constructed under the Worldbank financing. The rehabilitation had positive impacts on environmental and social such as reduction travel time rideability, trade, among others.
- (iii) The design for the road sections are well thought out and have fairly addressed the main challenges facing the road stretch including among others;
  - Geometry (slopes and curves),
  - Reduced social conflicts
  - Provisions for drainage
  - Improved junctions
- (iv) However, the design did not consider some safety issues at major key towns such as Ortum, where people are trading on the road. While appreciating the design, no options in Ortum town was given such as service lanes and livelihood restoration options for the traders.
- (v) The ESIA captured the environmental and social economic baseline of the area adequately. While appreciating the impacts analysis in the initial ESIA report, it was felt that arising from the above findings, significant specific linkages along the corridor required to be updated. Equally, specific management factors in the Environmental and Social Management Plan also required updating on the basis of the established corridor specific linkages.

### 1.8 Structure of the Report

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This report has been prepared under the following chapters:

**Executive summary:** This section presents a summary of the significant findings and

recommended actions, with an emphasis on expected impacts.

- Chapter 1: **Introduction:** This chapter gives description of the project background, location, purpose, objectives, NEMA reporting requirements, study methodology and the structure of the report.
- Chapter 2: **Policy, Legal and regulatory framework:** This chapter outlines the overview of legislative regulatory and framework, international guidelines and conventions relevant to this project.
- Chapter 3: **Project Description:** This chapter presents the project design and implementation strategies.
- Chapter 4: **Environmental and Social setting:** This chapter gives description of the environmental and social setting of proposed project and surrounding areas, e.g. climate, soils, geology, vegetation, fauna, land use, socio-economic profile and cultural heritage.
- Chapter 5: **Stakeholder Consultation and Public Participation:** This chapter gives description of the objectives, methods used and summary of results of the public consultation activities undertaken during the project report stage.
- Chapter 6: **Climate Change and Adaptation:** Presents the connection of the proposed project to climate change and the preferred adaptation measures.
- Chapter 7: **Alternatives to the Project:** This chapter gives an analysis of project alternatives including the no-project option.
- Chapter 8: **Potential Impacts and Mitigation Measures:** This chapter presents the analysis of beneficial and adverse impacts of the project on the biophysical and human (social, cultural, and economic) environments. The analysis covers anticipated impacts during the construction, operation phases and decommissioning phases and describes the measures proposed to enhance benefits or prevent, minimize, mitigate, or compensate for adverse impacts.
- Chapter 9: **Environmental and Social Management Plan (ESMP):** This chapter presents the proposed ESMP prepared for the project. It also presents strategies for management of specific biophysical and socio-economic management components that should be further developed prior to commencement of the Construction Phase of the Project
- Chapter 10: **Grievance Redress Mechanism (GRM):** This chapter outlines the process, procedure, and mechanisms for handling possible disputes in the project implementation process.
- Chapter 11: **Environmental and Social Monitoring Plans (ESMoP):** This chapter presents the proposed ESMoP prepared for the project.
- Chapter 12: **Conclusions:** The conclusion briefly presents the proposed way forward on the project and key deliverables.
- Chapter 13: **References:** Presents the sources of information and materials used in the study and review.
- Chapter 14: **Appendices:** GRM Forms, Chance Find Procedures, Minutes of meetings, Questionnaires



## 2 PROJECT LOCATION AND DESCRIPTION

### 2.1 Project Location

The Morpus-Kitale Road (A1) road is approximately 142 km and lies entirely in West Pokot and Turkana County. The project road is part of the international trunk road connecting Southern Sudan, Kenya and Tanzania. The Morpus – Kainuk - Lokichar (142 km) road section which forms part of the of the Eldoret - Kitale – Lodwar -Nadapal – Kapoeta - Juba Corridor (945km) corridor interconnecting Kenya and South Sudan. The road starts at Morpus (Km 0+00 - approximately 66.4km from Kitale town) and runs in a North-Easterly direction through the trading centres in West Pokot of Sebit (km 10), Ortum (km 16), Marich Pass (km 34) ,and trading centres in Turkana of Kainuk (km 62), Kakongu (km 96), Kalemngorok (km 110), before terminating at Lokichar, (Km142km), where it connects with the proposed LAPSSET Road A10 Corridor. The road from Lokichar to Nadapal has recently been upgraded by KeNHA through funding from the World Bank.

The road alignment from Morpus Centre to Kainuk consists of undulating curves due to the physiography of West Pokot County. The section from Kainuk Bridge to Lokichar consists of a rolling terrain with a series of undulating vertical profile. The project road generally traverses communal land. The entire road is in fair condition, having been rehabilitated to bitumen standards recently. However, the road is narrow and has no shoulders. The road traverse hilly terrain with long steep sections and sharp bends that are a safety hazard to motorist. Some sections of the road are overtopped by storm runoff. The rocky nature of the adjacent Morpus Hills coupled with land degradation along the slopes pose the risk of rock falls, mudslides and erosion which causes siltation and blockage of drainage structures and scouring. The last section of the road from Marich Pass to Lokichar has a generally flat terrain.

A map showing the project location is presented in the Figure below

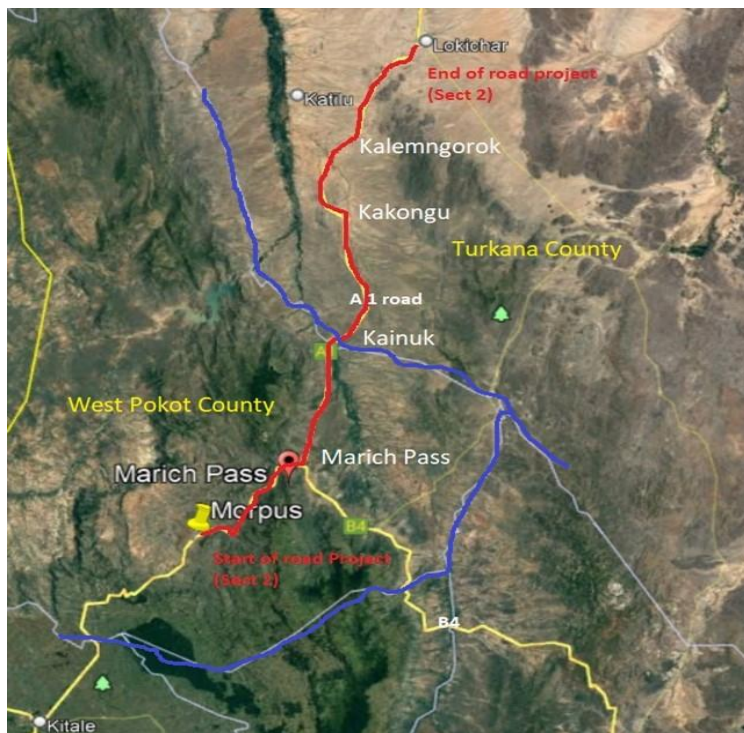


Figure 1: Map showing the project road (red colour)



Plate 1: Showing a paved section under the stage construction methodology with numerous sections requiring frequent patching

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## 2.2 Project Description

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### 2.2.1 Existing alignment and geometry

The existing horizontal alignment from Morpus Centre to Lokichar is clearly defined with the corridor reserve being clearly marked. The project road traverses alternating undulating curves due to the physiography of West Pokot County and a flat to rolling terrain in Turkana County. The road physical conditions including the surface, road shoulders, roadside drainage, road furniture and culvert crossings have exceeded their design life and call for rehabilitation and/or total reconstruction.



Plate 2 Showing condition of the pavement of various sections of the project road.

The Marich – Pass (A1) road is characterized by the following conditions;

- The road is on flat and rolling terrain;
- The condition of the road alternates between fair to good conditions. The road has recently been recarpeted to allow for crude oil transportation from Turkana Basin. However, the road has no shoulders, and road safety is compromised

- The carriageway width is not uniform and ranges from 6.5m to 7m.

### 2.2.2 Existing Drainage Structures

The road cross River Sebit (km 16), River Kopro (km 33), River Muruny (Km 37), and river Nokobosan (Km 128). Kainuk Bridge at Km 62 was recently done by KeNHA through World Bank financing as part of Lodwar – Nadapal project. The structural elements of the bridges (apart from Kainuk bridge) are in good condition but the width might not be sufficient especially considering that the road-way has to be used by motorised and non motorised traffic on the same lanes.

The minor drainage structures consisting of pipe culverts, are generally in good condition, and do not have structural problems, however almost all of them are affected by siltation problem, which is caused by lack of regular maintenance.

### 2.2.3 Existing Road Reserve

The road project is classified as Class A road, requiring a minimum width of 60m. The topographical survey conducted during the design review identified that the existing road reserve varies along the road, with some sections having at least 60m provision, while in other town centres, the road reserve is small to about 30 m (eg at Ortum and Marich Pass) due to encroachment.

### 2.2.4 Design Speed and Standards

The terrain allows suitable design speed of 100km/hr on most sections of the road. The requisite geometric design standards for the project road are summarised in the Table 3-1.

**Table 2-1 Road Design Standards**

Description	
Terrain	Flat
Design speed (Km/hr)	100
Carriageway width (m)	7.0
Shoulder width (m)	1.5 each side
Minimum horizontal radius (m)	1000
Maximum super-elevation	6%
Maximum grade	3%
Minimum lengths of sag and crest curves	240

### 2.2.5 Pavement Design

Following material investigations and making use of the RDM III and AASHTO, the following are the pavement features that were designed for the project road.

**Table 2-2 Pavement Structure for the Main Carriageway**

	75mm Surfacing – AC type 1
	150mm Cement Stabilised Gravel Base
	175mm Cement improved material subbase (Base Quality)
	300mm compacted natural material improved subgrade to S5

## **2.2.6 Other design features**

### **2.2.6.1 Shoulders**

Pavement layers, both subbase and base extend to the outer edges of the shoulder. The shoulders will be sand sealed. Shoulders will be widened by 1.5m to accommodate guardrails in high fills i.e. where the fill is greater than 3m.

### **2.2.6.2 Crossfalls and slopes**

The carriageway crossfall of 2.5% has been maintained. Shoulder cross fall is 4%. Embankment slopes (ratio of vertical to horizontal distances) of 1:4 is recommended for fills less than 1m and 1:2 for fills greater than 1 m and up to 3 m. For fills greater than 3m, the side slope is 1:1.5.

### **2.2.6.3 Side drains and cut slopes**

Scraper drains 2.5 m wide (Type B3) have been adopted as side ditch generally in flat terrain. The width of the drain shall be reduced to 1.0 m where hard material is encountered. Minimum depth of side drains from the edge of the shoulder has been maintained at 1.0 m.

The ditch back slope shall depend on the height of cut, erosion conditions and the need of borrow material from the area. Side slopes of 1:3 have been adopted for cuts up to 1 m, 1;2 for cut heights between 1 and 3m and 1:1.5 for heights greater than 3m. A slope of 5:1 shall be used for cuts in rock material, depending on the material type.

### **2.2.6.4 Service, Loop and Market Roads**

The road will also provide service roads at several market centres and institutions located along the road project. The main purpose for the service roads is to provide access to the market centre shops, public institutions such as hospitals, schools, and others for ease of access to these institutions.

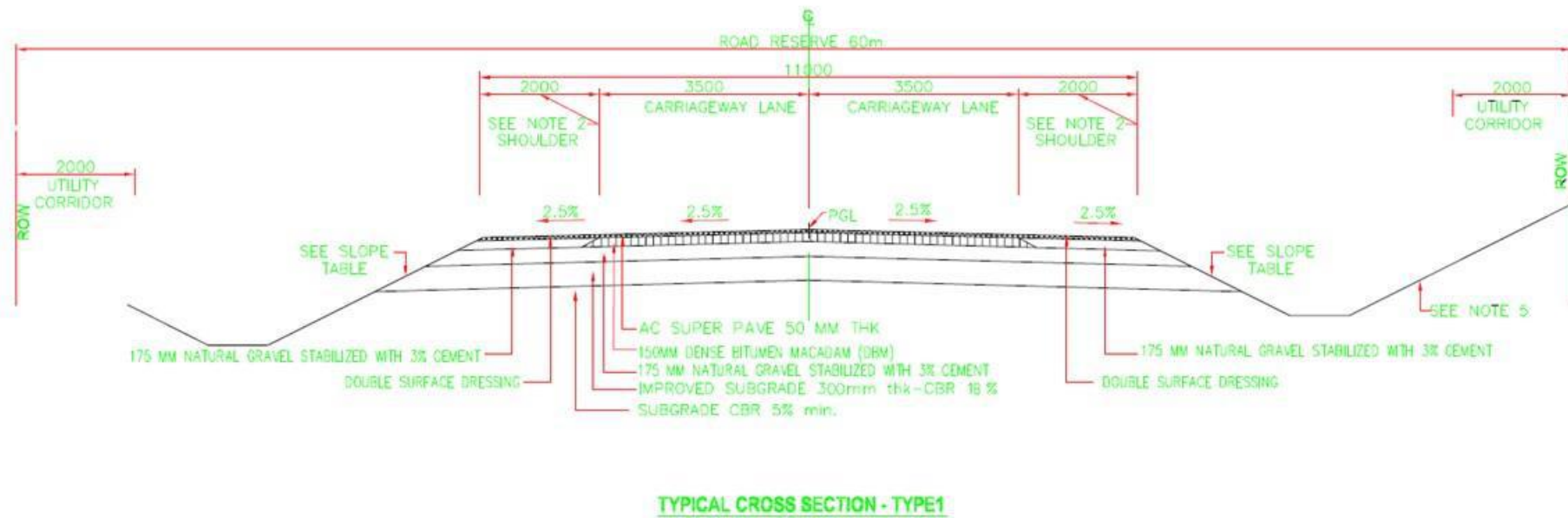


Figure 1: Proposed Typical Pavement Cross Section

## 2.2.7 Proposed Project design

### 2.2.7.1 Construction works

The Works to be executed under the Contract comprise the upgrading and construction of approximately 142 km of single carriageway from Morpus Centre to Lokichar, two-lane 7.0 m wide, bitumen surfaced road with 2.0 m shoulders on each side. The major items of Works to be executed under the Contract included the following:

- Setting out, referencing and taking cross sections;
- Site clearance and removal of top soil;
- Earthworks;
- Constructing drainage structures (box and pipe culverts including protection works);
- Construction of pavement comprising bitumen surfacing, cement stabilised base and improved material subbase;
- Works necessary to effect the safe and convenient passage of traffic through the Works;
- Provision of road furniture e.g. signs, guardrails, marker posts, wire fencing, etc.;
- Operations ancillary to the main Works such as the construction of offices, laboratories and staff housing, accommodation works, diversion of services, the operations in quarries and borrow areas, the provision of water supply, the diversion of existing services.

The design of the road includes facilities such as lay-bays, bus bays and widening at market centres along the road.

### 2.2.7.2 Temporary works

In addition to the permanent works described above, some temporary works will be undertaken to facilitate construction. These include:

- Diversion roads to allow passage of traffic to be maintained along the full length of the construction works;
- A work camp for accommodation, offices, services, stores, workshops and parking of vehicles;
- Production facilities such as concrete precast yard, timber and reinforced steel bending yards;
- Temporary stockpile areas to be set aside for delivered or double-handled materials such as aggregates and sand;
- Spoil areas for disposal of unsuitable or surplus materials.

## 2.2.8 Road Furniture and Ancillary Services

The design Consultant has made the following recommendations on road safety and furniture, which also forms as part of environmental and social mitigation measures:

- **Road Reserve Boundary Posts** - these are proposed at intervals of 250m on each side of the road reserve edge and details are shown in the book of drawings annexed to this report;
- **Edge Marker posts** - these are proposed at bridge approaches, pipe culverts, and sharp curves and at locations where sight distance requirements are not complied with. Exact location for the Edge Marker Posts will be determined during the construction phase of the project.
- **Kilometre Marker Posts** - these are proposed at intervals of 2km staggered on either side of the road.
- **Road Signage** - these are provided and installed in accordance with the recommendations of Ministry of Works, Roads Department (Kenya); Manual for Traffic' Signs in Kenya, Part I (Road Markings)- 1975;

- **Road Marking** - Locations for different types of road marking will be determined on site during construction. These are to be determined in accordance with the requirements of Ministry of Works, Roads Department (Kenya); Manual for Traffic Signs in Kenya, Part I (Road Markings)- 1975;
- **Guardrails** - These road furniture elements, whose exact locations will be determined on site during construction, shall be determined at bridge approaches, box culverts and high fill in accordance with Guardrail Need Index (G .N.I) in Figure 8.5 .1 of the RDM I;
- **Kerbs** - these are proposed at junctions, bus bays and parking bays. Exact location shall be determined on site during construction;
- **Warning Signs and Features:** Locations of Reflective Road Stands, Rumble Strips and Speed Bumps shall be determined on site during Construction.
- **Animal and Wildlife Crossings:** Since this is an area where communities livelihoods rely on livestock, and most of them are nomadic in nature, it is recommended that the signage will be installed at all towns and centres, and spread along the road project. Consultations with the local communities will also be necessary to identify key exact points or areas that will require signage.
- **Pedestrian Crossings:** The residents who have settled along the road in town centres will require protection from vehicles with level crossings and foot bridges in various sections of the road, especially in densely populated towns. The design consultant has considered such features in all towns and near institutions (such as mosques, schools, and hospitals) including installation of speed reduction measures such as bumps/humps, road markings and signage, and foot bridges for safety of the local residents.

It is recommended that all road signs shall use pictorial or animated signage as much as possible to compliment written signage along the road project.

## 2.2.9 Material Investigations

### 2.2.9.1 Borrow Material

Various borrow areas and gravel sources were investigated along the proposed Road as sources of materials. Summary details on these sites are presented in the **Table 2-3** below for materials that met the quality standards for use in construction of the road

**Table 2-3: Proposed Material Sites**

### 2.2.9.2 Proposed hardstone sites

Hard Stone Quarry No.	Name of Hard stone Quarry / Area	Location	Chainage	Offset (Km)	Side	Remarks
HS 3	Chepsertoi Area	Just Past Marich Pass Junction	158+200	1.50	LHS	Surface samples Tested, boreholes drilled to confirm quantity and quality

### 2.2.9.3 Proposed Gravel sources for improved Base-Course and Sub-Base material

Road Section	Material Site No.	Chainage	Offset (Km)	Side	Type of gravel
Morpus –Marich Pass	MS1	112 + 800	0.01	RHS	Whitish Quartzitic Gravel
	MS2	145 + 800	0.04	RHS	Whitish Quartzitic Gravel

Road Section	Material Site No.	Chainage	Offset (Km)	Side	Type of gravel
	MS3	157 + 700	1.80	RHS	Whitish Quartzitic Gravel

#### 2.2.9.4 Sand Sources

In the project area of influence, two rivers with sand were sampled and analysed that is River Turkwell and Muruny River. Samples indicate the sand from these sources is suitable for concrete works. In addition, the alignment soils consist of silty sands/clays with a high percentage of fines. It is possible to obtain well graded sand by wet sieving some soils along, or near the alignment. However, these will have to be tested by the contractor and approved by the engineer before use.

Sand Source No.	Name of River	Chainage	Offset	Side	Remarks
RS 1	R Muruny	Along the road from Km 25	Within Road Corridor	Both sides	River Sand
RS 2	R Turkwell	Along the road from Km30	Close to the road corridor	Left side	River sand

#### 2.2.9.5 Water for Construction

Several water sources were identified along the project road corridor for use during the construction phase. The permanent water sources available for construction include;

- River Muruny (KM37 + 140) and River Ortum (Km10).
- Turkwell river (km 29+500)

Water for human and livestock consumption along the project road especially between Kaputir and Lokichar is currently sourced from boreholes and water pans. These existing water supply points are located at selected centres and due to nature of water scarcity, the contractor will be required to find his own source of water for construction and not use already existing water sources.

The alternative sources of water include sinking boreholes to tap ground water, rain water harvesting during the wet seasons through construction of water pans, or damming of the seasonal rivers. Sinking of boreholes is considered the most feasible for the project, as the other alternatives would be expensive and would take too long to complete or gather enough water for the works. Sharing arrangements and handover of the water sources will have to be agreed upon during and after completion of the road project to avoid any conflict between the contractor and the local communities along the road project.

#### 2.2.9.6 Use of Borrow and Quarry Sites

The contractor will be entirely responsible for locating suitable sources of materials complying with the Standard and Special Specifications and for the procurement, mining, haulage to site of these materials and all costs involved therein. The Contractor will make available any land for quarries, borrow pits, stockpiles and spoil areas, except for those areas in road reserves specifically approved by the resident engineer. Any areas used for spoil dumps or stockpiles within the road reserve forming the site of the works by the Contractor shall be subject to the approval of the RE. The contractor will also establish and maintain transport routes for transporting any materials to final destinations.



In addition, the contractor will be required to conduct ESIA (which will include rehabilitation plan) for all materials borrow and quarry sites and obtain requisite permits/licenses as per NEMA requirements.

### 2.2.10 Project Costs

The construction of the proposed road project is estimated to cost **KES 16 billion, including the cost of ESMP implementation**. This ESMP cost is provided in chapter 9 of this report.

## 3 POLICY, LEGAL AND REGULATORY FRAMEWORK

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### 3.1 Policy Framework

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#### 3.1.1 Environment Policy, 2014

The aim of the Environment Policy (Sessional Paper No.10 of 2014) is to ensure that environmental concerns are part of the national planning and management processes; and that guidelines are provided for environmentally sound development. The policy has seven broad goals under which guiding principles are mainstreamed to achieve conservation and management of the natural resources (forest ecosystems, arid and semi-arid lands ecosystems etc. that have wildlife resources, water resources, grazing lands, minerals, soils therein). Some of the principles outlined in the policy include right to a clean and healthy environment, ecosystem approach, total economic value, sustainable resource use, equity, public participation, precautionary principle, polluter pays principle, international cooperation, community empowerment, benefit sharing and good governance.

#### **Relevance**

The policy promotes use of EIA as an innovative environmental management tool. It also calls for the Government of Kenya (GoK) to ensure that all significant development projects are subjected to EIA and regular environmental audits.

This EIA Study Report (and its ESMP that will be subjected to regular audits) was prepared to promote sustainable development as envisaged in the policy.

#### 3.1.2 Vision 2030

Kenya Vision 2030 is the country's new development blueprint covering the period 2008 to 2030. The blueprint aims at transforming Kenya into "a newly industrialising, middle-income country providing a high quality of life to all its citizens in a clean and secure environment." The Vision is anchored on three key pillars: Economic; Social; and Political Governance.

The political governance pillar envisages public participation during project development, while social pillar envisages development through equitable social development.

The Vision 2030 policy anticipates possible environmental impacts during roll out of flagship projects requiring mitigation measures be put in place in line with the requirements of the Environmental Management and Coordination Act (EMCA), 1999 and the Environmental Management and Coordination (Amendment) Act,

2015. Hence, the project proponent (KeNHA) should ensure environmental care through mitigation of impacts as part of project achievement.

### **Relevance**

The improvement of the existing ESIA for the Kitale-Marich Pass- Lokichar Road aims at observance of the principal policy directives of Vision 2030.

#### **3.1.3 National Land Policy, 2009**

The policy is presented to provide goals and direction for the current and future management of land in Kenya. It outlines the measures and guidelines which the government shall implement to achieve optimal utilization and management of land, and from which laws governing land administration and management shall be drawn. The Policy and its implementation is guided by the philosophy that land is not just a commodity that can be traded in the market but has multiple values which should be protected by both policy and law.

Clause 51(d) of the policy states that government to establish development control standards, processes and procedures that are efficient, transparent and accountable taking into account International Conventions and national policies relating to the sustainable use of land and the preservation of environmental values.

The policy in Section 3.4.3.4 promotes Environmental Management and Audit as land management tools and encourages public participation in the process.

### **Relevance**

This ESIA has espoused the policy recommendations key among them compliance with EMCA as the harmonised framework for sustainable use of land.

#### **3.1.4 Integrated National Transport Policy (INTP), 2009**

The policy scopes the main challenges associated with transport infrastructure planning, development and management, sectoral institutional and regulatory frameworks, safety and security, gender mainstreaming, and environmental considerations, among others.

The policy perceives that currently there are inadequate measures to check on the damage on the environment (gaseous pollution, vibration and noise among others) and that efficient road transport management will minimize pollution by traffic. The policy advocates for use of more energy efficient and less polluting modes of transport. It recognizes the need to enforce EMCA at all stages of road infrastructure development and management that will lead to reduced environmental impacts from road infrastructure provision and operation as well as better utilization of road building materials.

### **Relevance**

The ESIA through the ESMP has identified foreseeable impacts and corresponding mitigations at construction and operation stages.

#### **3.1.5 Draft Policy on Aligning the Roads Sub-Sector With the Constitution, 2012**

The draft policy suggests environmental issues to be looked at holistically. The national and county governments in liaison with the National Land Commission should ensure compliance with the land use and development plans in accordance with existing laws to prohibit by law allocation of protected areas reserved

for road reserves. The boundaries of such areas shall be clearly delineated and documented, designated and kept in an inventory of all road reserve that will be placed under the National Land Commission (NLC) to hold and manage it in trust for the people of Kenya. The policy recognizes that due to weak adherence to environment requirements, environmental degradation as a result of road transport is rife with activities such as gaseous emissions, noise pollution and oil spills. This has not been adequately addressed both in the urban and rural areas. With the growing levels of urbanization, increased motorization and other transport activities, it is necessary to ensure that the transport system is environmentally friendly.

**Relevance:**

The policy requires development within the road sector to be environmentally friendly. This ESIA study is addressing both the environmental and social issues by developing environmental and social management plan that will be adopted during the entire project period.

**3.1.6 Guidelines for Prevention and Control of Soil Erosion in Road Works, 2010**

The guidelines main objective is to benefit all persons engaged in the road works (Engineers, consultants, contractors and supervisors) and is not informed on the extent of damages caused by uncontrolled run-off from the road corridor. It acknowledges that road works potentially result in environmental hazards through the spillage of carbon products, contaminating the surrounding land, dust and noise pollution, interference with the drainage pattern hence extensive soil erosion. The guidelines therefore focus to minimize the damages to the environment through the use of innovative construction methods and procedures which are less damaging to the environment in controlling soil erosion. The guidelines discuss several issues on the soil and water conservation principles which entail:

- The design and construction of water ways and soil erosion control measures in road drainage systems;
- Soil erosion control measures needed in upper and lower catchment areas;
- Soil erosion and their mitigation measures against anticipated damages from the road drainage discharge;
- Use of vetiver grass to stabilize and heal erosion damages; and
- Indicative cost of soil and water conservation measures for planning purposes

**Relevance**

The guidelines are applicable to this project as they provide some of the mitigation measures to alleviate environmental degradation expected such as soil erosion especially during the construction phase of the project.

**3.1.7 The National Biodiversity Strategy, 2007**

The overall objective of the National Biodiversity Strategy and Action Plan (NBSAP) is to address the national and international undertakings elaborated in Article 6 of the Convention on Biological Diversity (CBD). It is a national framework of action to ensure that the present rate of biodiversity loss is reversed and the present levels of biological resources are maintained at sustainable levels for posterity. The general objectives of the strategy are to conserve Kenya's biodiversity, to sustainably use its components; to fairly and equitably share the benefits arising from the utilization of biological resources among the stakeholders; and to enhance technical and scientific cooperation nationally and internationally, including the exchange of information in support of biological conservation.

**Relevance**

The project falls where there is no protected habitats. However, there are some wildlife outside the protected areas and should the project encounter endangered flora and fauna then their conservation is of primary importance. Also, it is anticipated that with the upgrading of the road to bitumen standards, the speed of the vehicles using the road will increase leading to death of more animals crossing the road in search of water and pasture.

### 3.1.8 Gender Policy, July 2011

The objective of this policy is to mainstream gender perspectives in the national development process in order to improve equality and related social, legal/civic, economic and cultural conditions in Kenya. The policy encourages integration of measures that ensure gender-specific vulnerabilities and capacities of men and women are systematically identified and addressed.

The implementation of project will create job opportunities; through gender mainstreaming the problem of marginalizing women during employment has been highlighted. As it is, women are a vulnerable group in the community, whose employment needs should be given special consideration in the project.

### 3.1.9 The National Social Protection Policy (NSPP)

The overarching framework for social protection in Kenya is embedded within the national Constitution. Article 43(1)(e) states that 'Every person has a right to social security' while Article 43(3) stipulates that, 'The State shall provide appropriate social security to persons who are unable to support themselves and their dependants.' These rights reflect Kenya's commitments to its citizens, arising most fundamentally from its adherence as a member of the United Nations to the Universal Declaration of Human Rights and as a Party to the International Covenant on Economic, social and Cultural Rights<sup>58</sup>. In addition, Kenya has ratified several international conventions that require the extension of social security to specific categories of the population including the right to social security for all children, that is found in the Convention on the Rights of the Child (CRC), the right to social security for all women, found in the Convention on the Elimination of Discrimination Against Women (CEDAW), and the right to social protection for all persons with disabilities, which is stipulated in the Convention on the Rights of Persons with Disabilities (CRPD). Therefore, within Kenya, social security is recognized as an entitlement that all citizens should be able to access, whenever they are in need.<sup>59</sup>

However, it is important to recognize the right to social security should be progressively realized over time: developed countries took many decades to build their current systems. Social protection plays a key role in realising Kenya's Vision 2030 which aims to provide a 'high quality of life for all its citizens by the year 2030' and 'a just and cohesive society with social equity.' These priorities cannot be achieved without a significant level of investment in social protection, as well as in other core services such as health, education, transport, housing, and social care.

In 2011, the National Social Protection Policy (NSPP) was agreed by Cabinet, accompanied by a sessional paper on the NSPP in 2014;<sup>60</sup> in 2012, a new international instrument, the Social Protection Floors Recommendation (ILO Recommendation No. 202) was formalised and agreed by Kenya, thereby providing a globally recognised standard and framework within which the NSPP can be embedded;<sup>61</sup> in 2012, the Public Service Superannuation Scheme Act was passed by Parliament with the objective of bringing about a transition to a funded basis of the old-age provision for (national) civil servants; in 2013, a Social Assistance Act was passed by Parliament (Act 24 of 2013); and, in 2013, National Social Security Fund Act was promulgated to bring about key reforms within the NSSF. A Social Protection Coordination Bill is currently under development.

The NSPP set out the direction of social protection in Kenya with the objective of ensuring that: 'All Kenyans live in dignity and exploit their human capabilities to further their own social and economic development.' It defined social protection as: Policies and actions, including legislative measures, that enhance the capacity of and opportunities for the poor and vulnerable to improve and sustain their lives, livelihoods, and welfare, that enable income-earners and their dependants to maintain a reasonable level of income through decent work, and that ensure access to affordable healthcare, social security, and social assistance.'

The NSPP also established three pillars for the national social protection system (although it did not define them):

- Social assistance, which has a key aim of providing 'direct cash transfers to poor and vulnerable people over their lifecycle.' The NSPP indicated that transfers could be either targeted at those living in poverty or offered on a universal basis to everyone in a particular category of the population (such as all older people).
- Social security, with a key aim of offering 'retirement schemes to informal sector workers and to increase the range and adequacy of NSSF benefits.' These could include maternity, unemployment insurance, and work injury arrangements.
- Health insurance, with the aim of 're-establish(ing) the NHIF as a fully-fledged comprehensive national health insurance scheme, which covers all Kenyans.'

### 3.1.10 African Development Bank Integrated Safeguard System

The AfDB adopted the Integrated Safeguard System (ISS) as a tool for identifying risks, reducing development costs, and improving project sustainability. The ISS promotes best practices in these areas but also encourages greater transparency and accountability and protects the most vulnerable communities. The AfDB encourages member countries to observe international human rights norms, standards, and best practices on the basis of their commitments made under the International Human Rights Covenants and the African Charter of Human and Peoples' Rights.

The AfDB ISS builds on the two previous safeguard policies, Involuntary Resettlement (2003) and Environment (2004), and on three cross-cutting policies and strategies: Gender (2001), the Climate Risk Management and Adaptation Strategy (2009) and the Civil Society Engagement Framework (2012). The bank has now adopted five Operating Safeguards (OSs) to achieve the goals and the optimal functioning of the Integrated Safeguards System (ISS). These OSs are:

#### **Environmental and Social Assessment (OS 1)**

Objectives of this operational Safeguard are:

- To identify and assess the environmental and social impacts (including gender) and climate change vulnerability issues of Bank lending and grant financed operations in their area of influence,
- To avoid or if not possible minimize, mitigate, and compensate for adverse impacts on the environment and on affected communities.
- To ensure that affected communities have timely access to information in suitable forms about Bank operations and are consulted meaningfully about issues that may affect them

Under the Bank's OS 1 following four Categories are defined and included:-

*Category 1:* Bank operations likely to cause significant environmental and social impacts. Category 1 projects are likely to induce significant, irreversible adverse environmental and / or social impacts, or significantly affect environmental or social components that the Bank or the borrowing country considers sensitive.

*Category 2:* Bank operations likely to cause less adverse environmental and social impacts than Category 1. Category 2 projects are likely to have detrimental site-specific environmental and / or social impacts that are less adverse than those of Category 1 projects can be minimized by applying appropriate management and mitigation measures or incorporating internationally recognized design criteria and standards.

*Category 3:* Bank operations with negligible adverse environmental and social risks. Category 3 projects do not directly impact the environment adversely and are unlikely to induce adverse social impacts. They do not require an environmental and social assessment.

*Category 4:* Bank operations involving lending to Financial Intermediaries. Category 4 projects involve Bank lending to Financial Intermediaries (FIs) who on-lend or invest in subprojects that may produce adverse environmental and social impacts

**Relevance:** *This OS is applicable as the proposed project is categorized as category 1 project where ESIA is mandatory and potential risks and impacts including physical, biological, socio-economic, health, safety and cultural property are likely to occur associated with the proposed project activities.*

### **Involuntary Resettlement: Land Acquisition, Population Displacement and Compensation (OS 2)**

Objectives of OS 2 include:

- Avoid involuntary resettlement where feasible, or minimize resettlement impacts where involuntary resettlement is unavoidable, exploring all viable project designs.
- Ensure that displaced people receive significant resettlement assistance, preferably under the project, so that their standards of living, income earning capacity, production levels and overall means of livelihood are improved beyond pre-project levels.
- To set up a mechanism for monitoring the performance of involuntary resettlement programs in Bank operations and remedying problems as they arise so as to safeguard against ill-prepared and poorly implemented resettlement plans

**Relevance:** *This OS will be applied as there will be Involuntary Resettlement due to the implementation of the proposed road project*

### **Biodiversity and Ecosystem Services (OS 3)**

Objectives of OS 3 include:

- Preserve biological diversity by avoiding, or if not possible, reducing and minimizing impacts on biodiversity;
- In cases where some impacts are unavoidable, to endeavour to reinstate or restore biodiversity including, where required, the implementation of biodiversity offsets to achieve “not net loss but net gain” of biodiversity;
- Protect natural, modified and critical habitats; and
- Sustain the availability and productivity of priority ecosystem services to maintain benefits to the affected communities and to sustain project performance.

**Relevance:** *This OS is applicable and considered since the proposed road project would be located in areas providing ecosystem services upon which potentially affected communities are dependent for survival, sustenance, and livelihood in addition to providing habitat for fauna species in the area.*

### **Pollution Prevention and Control, Greenhouse Gases, Hazardous Materials and Resource Efficiency (OS4)**

Objectives of OS 4 include:

- Manage and reduce pollutants likely to be caused by a project so that they shall not pose harmful risks to human health and the environment, including hazardous, nonhazardous waste and GHG emissions.
- Set a framework for efficiently utilizing all a project's raw materials and natural resources especially focusing on energy and water.

**Relevance:** *The OS is applicable because the proposed road project will likely cause significant adverse environmental or social impacts owing to waste generation during construction and operation phases different phase of the project and the need to avoid, prevention and control such wastes and the need to properly utilize locally available limited resource including water, land, construction material and other resources.*

### **Labour Conditions, Health and Safety (OS 5)**

Objectives of OS 5 include:

- Protect the workers' rights and to establish, maintain, and improve the employee –employer relationship.
- Promote compliance with national legal requirements and provide due diligence in case national laws are silent or inconsistent with the OS.
- Provide broad consistency with the relevant International Labour Organization (ILO) Conventions, ILO Core Labour Standards and the UNICEF Convention on the Rights of the Child in cases where national laws do not provide equivalent protection;
- Protect the workforce from inequality, social exclusion, child labour and forced labour; and
- Establish requirements to provide safe and healthy working conditions

**Relevance:** *The project will involve the establishment of a temporary or permanent workforce during construction and implementation phase of the project.*

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## **3.2 Legal Framework**

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### **3.2.1 The Constitution of Kenya, 2010**

The Constitution of Kenya, 2010; in Part 2 - Environment and Natural Resources stipulates the obligation of the State in respect of the environment. According to Article 69, the State shall:

- Ensure sustainable exploitation, utilization, management and conservation of the environment and natural resources, and ensure the equitable sharing of the accruing benefits;
- Work to achieve and maintain a tree cover of at least ten per cent of the land area of Kenya;
- Protect and enhance intellectual property in, and indigenous knowledge of, biodiversity and the genetic resources of the communities;
- Encourage public participation in the management, protection and conservation of the environment;
- Protect genetic resources and biological diversity;
- Establish systems of environmental impact assessment, environmental audit and monitoring of the environment;
- Eliminate processes and activities that are likely to endanger the environment; and
- Utilize the environment and natural resources for the benefit of the people of Kenya.

"Every person has the right to a clean and healthy environment", which includes:

- The right to have the environment protected for the benefit of present and future generations through legislative and other measures, particularly those contemplated in Article 69: and
- The right to have obligations relating to the environment fulfilled under Article 70".

Thus, every activity or project undertaken within the republic must be in accordance with the Constitution as well as adherence to the entitlement of every individual to a clean and healthy environment, as envisaged in the Constitution.

This Report seeks to ensure prior identification and adoption of mitigation strategies against impacts to ensure protection of citizen's right to a clean and healthy environment under the Bill of Rights.

### 3.2.2 Environmental Management and Coordination Act (EMCA) Cap 387

EMCA, Cap 387 (The principal Act) and the Environmental Management and Coordination (Amended) Act, 2015 provide the main legal and institutional framework under which the environment in general is to be managed. EMCA is implemented by the guiding principle that every person has a right to a clean and healthy environment and can seek redress through the High court if this right has been, is likely to be or is being contravened.

Section 58 of the Act makes it a mandatory requirement for an EIA study to be carried out by proponents intending to implement projects specified in the Second Schedule of the Act. Such projects have a potential of causing significant impacts on the environment. Similarly, section 68 of the same Act requires operators of existing projects or undertakings to carry out Environmental Audits (EA) in order to determine the level of conformance with statements made during the EIA study. The proponent is required to submit the EIA and EA reports to NEMA for review and necessary action.

The Environmental Management and Co-ordination (Amendment) Act, CAP 387 has repealed some of the sections in the principal Act. EMCA provides for the establishment of appropriate legal and institutional framework for the management of the environment and for matters connected therewith and incidental thereto. EMCA outlines the requirements for EIA, environmental audits, monitoring procedures and environmental-quality standards.

This ESIA Report has been prepared in accordance with the provisions of EMCA. The following regulations under EMCA operationalize various provisions under the Act.

#### 3.2.2.1 Environmental (Impact Assessment and Audit) Regulations, 2003 and Environmental (Impact Assessment and Audit) (Amendment) Regulations, 2016

Regulation 3 of the Environmental (Impact Assessment and Audit) Regulations state that "the Regulations should apply to all policies, plans, programmes, projects and activities specified in Part III and V of the Regulations". The road construction project falls under the High-Risk Project (4) Transportation and related infrastructure projects including— (a) all new major roads including trunk roads. It is under this premise that this ESIA Report was prepared.

#### 3.2.2.2 Environmental Management and Coordination (Air Quality) Regulations, 2014

These Regulations cover air quality standards that are requisite to protect human health and allow an adequate margin of safety. These Regulations specify priority air pollutants, mobile and stationary sources as well as stipulates emission standards.



The emissions/pollution likely to result from road construction activities (such dust and exhaust emissions from running vehicle and equipment engines) have the potential of polluting the immediate atmospheric environment. Bush clearing, earthworks and bulk delivery of construction material, if unmanaged may result in generation of dust. Thus, need for strict adherence to these Regulations and standards therein in preventing/monitoring possible pollutants and managing sources. The table below shows the WHO 2021 air pollution guidelines.

**Table 3-1 WHO 2021 air pollution guidelines**

POLLUTANT	AVERAGING TIME	WHO 2021 AIR QUALITY GUIDELINE
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	Annual	5
	24-hour	15
PM <sub>10</sub> (µg/m <sup>3</sup> )	Annual	15
	24-hour	45
O <sub>3</sub> (µg/m <sup>3</sup> )	Peak season	60
	8-hour	100
NO <sub>2</sub> (µg/m <sup>3</sup> )	Annual	10
	24-hour	25
	1-hour	200
SO <sub>2</sub> (µg/m <sup>3</sup> )	24-hour	40
	10-minute	500
CO (mg/m <sup>3</sup> )	24-hour	4
	8-hour	10
	1-hour	35
	15-minute	100

**3.2.2.3 Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009**

These Regulations provide thresholds within specified environments for noise and excessive vibrations. It includes provisions on noise from related sources such as vibration of machinery, motor vehicles, blasting activities, and construction at night. Sensitive areas such as mosques, schools occur along the project road and may be affected by noisy activities during road construction phase. Construction activities such as compaction of the road surface, blasting activities at quarries, movements of various mobile construction equipment (such as mixing plant) as well as powering generator (at night) have a potential of exceeding permitted levels for residential and mixed residential areas as per the Regulation.

Measures shall be put in place to ensure the permissible noise levels by the NEMA regulation are not exceeded by the project road implementation activities. Where NEMA guidelines has not specified acceptable limitations, the WHO guidelines will be used. These regulations are summarised in the table below.

**Table 3-2 Comparison between WHO and NEMA Noise Guidelines**

Specific Environment	Critical Health Effects	LAeq dB(A) WHO	Time base (hours)	LAeq dB(A) NEMA	Time base (hours)
Outdoor living area	Serious annoyance	55	16	45	14
	Moderate annoyance	50	16	35	14
Indoor dwelling Inside bedroom	Speech interference	35	16	-	-
	Sleep disturbance	30	8	-	-

Outdoor bedroom	Sleep disturbance	45	8	35	-
School classroom Indoor	Speech and communication	35	During class time	Day 60 Night 35	14 14
School playground outdoor	Annoyance External	55	During play	45	Day
Hospital, treatment room indoor	night time daytime	30 30	8 16	-	-
Industrial, Commercial and traffic areas	Hearing impairment	70	24	60	12
Ceremonies, festivals entertainment events	Hearing impairment	100	4	-	-

### 3.2.2.4 Environmental Management and Coordination (Waste Management) Regulations 2006

These Regulations basically cover all categories of wastes that include solid waste, Industrial waste, hazardous waste, toxic substances and waste, biomedical waste and radio-active substances. These Regulations also vest responsibilities to the generator of the wastes especially with regards to any consequent environmental impacts.

Construction of project road will generate waste at different forms and quantities such as form woodwork, empty bitumen drums, excavated spoil material, wrappers, plastic containers, cuttings (plastic/metal), used vehicle tyres, among others. Wash-down from equipment and vehicle maintenance, waste from septic facilities and used oil and chemical substances are some of the liquid waste expected to be generated at project construction stage. The wastes generated from the activities have the potential of contaminating the immediate ground surfaces and atmosphere; thus, need for strict adherence to these Regulations in dealing with all the wastes and handling of waste streams.

### 3.2.2.5 Environmental Management and Coordination (Water Quality) Regulations 2006

The regulation provides for sustainable management of water resources including prevention of water pollution and protection of water sources (lakes, rivers, streams, springs, wells and other water sources). It is an offence under Regulation No. 4 (2), for any person to throw or cause to flow into or near a water resource any liquid, solid or gaseous substance or deposit any such substance in or near it, as to cause pollution. Regulation No. 11 further makes it an offence for any person to discharge or apply any poison, toxic, noxious or obstructing matter, radioactive waste or other pollutants or permit the dumping or discharge of such matter into the aquatic environment unless such discharge, poison, toxic, noxious or obstructing matter, radioactive waste or pollutant complies with the standards for effluent discharge into the environment. These regulations are summarised in the table on the next page.

The proposed road project will require water and also generate some waste water from vehicles oil, asphalt plant, asphalt products and at the batching site. In addition, the camp sites may also produce waste water in form of effluents and kitchen waste water. There are numerous seasonal water crossings along the project road that are in need of protection from pollution through compliance with the waste water discharge standards specified in this regulation.

Table 3-3: NEMA Waste Water Discharge Guidelines

Parameter	Units	Discharge into public sewers	Discharge into open water bodies
PH	-	6.0 – 9.0	6.0 – 9.0
BOD (5 days at 20o C) not to exceed	Mg/l	500	20
COD not to exceed	Mg/l	1000	50
Total suspended solids not to exceed	Mg/l	500	30
n-hexane extract not to exceed	Mg/l	Nil	30
Oils(mineral, animal & vegetable)	Mg/l	10	5
Total phenol not to exceed	Mg/l	10	2
Copper (Cu) not to exceed	Mg/l	1.0	0.05
Zinc (Zn) not to exceed	Mg/l	5.0	0.5
Lead (Pb) not to exceed	Mg/l	1.0	0.1

Parameter	Units	Discharge into public sewers	Discharge into open water bodies
Arsenic (As) not to exceed	Mg/l	0.2	0.002
Total Mercury (Hg) not to exceed	Mg/l	0.05	0.005
Alkyl mercury not to exceed	Mg/l	0.01	0.001
PCB (Polychlorinated biphenyl) not to exceed	Mg/l	Nil	0.003
Pesticides residues not to exceed	Mg/l	Nil	0.05
Sulphates not to exceed	Mg/l	1000	500
Dissolved manganese (Mn)	Mg/l	-	1.0
Chromium (total)	Mg/l	1.0	0.1
Chloride not to exceed	Mg/l	1000	1000
Fluoride not to exceed	Mg/l	-	2.0
Coliform bacteria	-	-	1000/100ml
Free ammonia not to exceed	Mg/l	2.0	0.2
Sulphides (S) not to exceed	Mg/l	2.0	0.1
Cadmium (Cd) not to exceed	Mg/l	0.5	0.05
Cyanide (CN) total not to exceed	Mg/l	0.5	0.1
Organic phosphorous not to exceed	Mg/l	30	1.0
Chromium six (Cr 6) not to exceed	Mg/l	0.5	0.005
Total dissolved solids not to exceed	Mg/l	3000	1200
Selenium (Se) not to exceed	Mg/l	1.0	0.05
Nickel (Ni) not to exceed	Mg/l	3.0	1.0
Barium (Ba) not to exceed	Mg/l	10	2.0
Temperature not to exceed	-	+/- 2o of the ambient temperature of the sewer	+/- 2o C of ambient temperature of the water body
Oil/ grease	Mg/l	No trace	Nil/ no trace
Toxic substances	Mg/l	Nil	Nil
Odour	-	-	Not objectionable to the nose
Colour	-	-	Not objectionable to the eye or not to exceed 5 mg Pt/l

### 3.2.3 Water Act, 2016

The Water Act 2016 provides for the management, conservation, use and control of water resources and for acquisition and regulation of rights to use water; to provide for the regulation and management of water supply and sewerage services. Under this Act, ownership of water resources is vested and held in trust with the national government. Nonetheless, every person has a right to access water resources that is administered by the national government.

Road construction activities will need bulk supply of water for mixing and curing concrete, suppressing dust, cleaning and maintenance of equipment, among others. The Act promotes water resources management through soil and water conservation, protection, development and utilization of water resources. The construction of the project road will have to apply water resource management measures since the project area is predominantly arid.

Various permits from Water Resources Authority (WRA) will be required for proposed water abstraction methods, whether surface or ground water. In consideration that the project will be located in counties that have scarcity of water, the contractors will be required to employ water efficient technologies during construction.

### 3.2.4 Kenya Roads Act, 2007

Provides for the establishment of the Kenya National Highways Authority, the Kenya Urban Roads Authority and the Kenya Rural Roads Authority; the powers and functions of the authorities and connected purposes.

The functions of KeNHA include the management, development, rehabilitation and maintenance of international trunk roads linking centres of international importance and crossing international boundaries or terminating at international ports (Class A road), national trunk roads linking internationally important centres (Class B roads), and primarily roads linking provincially important centres to each other or two higher-class roads (Class C roads).

**Part IV, Sections 22 to 28** provides for the powers of the authority as a statutory body to; -

- (a) Maintain, operate, improve and manage the roads under its jurisdiction;
- (b) Construct new roads;
- (c) Measure and assess the weights, dimensions and capacities of vehicles using any road and provide measures to ensure compliance with rules relating to axle load control, other provisions of the Traffic Act (Cap. 403) and any regulations under this Act; and
- (d) Provide such amenities or facilities for persons making use of the services or facilities provided by the Authority as may appear to the Authority necessary or desirable.

**Part IV (29)** on compensation further emphasizes that in exercising the powers conferred by sections 23, 24, 25, and 26, an Authority shall do as little damage as possible, and, where any person suffers damage, no action or suit shall lie against the Authority, but he shall be entitled to such compensation there for as may be agreed between him and the concerned Authority, or, in default of agreement, as may be determined by an arbitrator appointed by the Chief Justice.

Section 49 of the act provides for permissions to be issued by the road authority to owners of structures and other works on, over and below roads or certain other land. Similarly, section 56 requires that where a new road is constructed, the roads authority should construct and maintain certain accommodation facilities like culverts and drains etc. necessary for the purpose of making good any interruption caused by the construction of the road to the use of the lands through which the road is constructed.

#### Relevance

In respect to the above Act, the proposed road is under the jurisdiction of KeNHA. It has identified the proposed road project as a priority project. This will focus on linking up the neighbouring counties and nations which will eventually contribute towards the growth of the national economy. Further to this, KeNHA has adhered to the provisions of Part IV (29) of the Act by requesting for the design consultants to limit the road design, as far as feasible, within the existing road alignment in order to minimize damage on personal or public property along the project roads. Similarly, according to section 56, through this study, the study team will identify specific locations in the project area where additional facilities like culverts need to be installed in order to minimize interruption to the land through which the road is constructed.

### 3.2.5 Traffic Act, 2014

The Traffic Act relates to traffic rules and management of traffic on all public roads. Towards ensuring safety on the roads, the following permits/licenses will be relevant especially for the contractor's compliance during the construction phase.

- Drivers licenses;

- Automobile insurance covers; and
- Permit to transport abnormal loads.

### **3.2.6 Occupational Health and Safety Act (OSHA) 2007**

This Act covers the health, safety and welfare of persons lawfully present at workplaces. Provisions in the Act are designed to allow measures against potential hazards and the absence of risks to health at the workplace. Provisions on health include cleanliness, overcrowding, ventilation and lighting. Those on welfare are supply of drinking water, washing facilities. Machinery safety includes safe use of plant, machinery and equipment. Chemical safety covers handling, transportation and disposal of chemicals and other hazardous substances including waste that may be generated at the workplace. This Act states that before any premises are occupied, or used a certificate of registration must be obtained from the Director. The occupier must keep a general register.

During the implementation of the project road, the project contractor will occupy construction camps, mobilize equipment and hire construction workforce. Specific health, safety and welfare measures to be installed include:

- Avail required personal protective equipment (PPE) at workplaces such as hand gloves, safety boots, reflective jackets, nose mask and helmet.
- Inspection of construction equipment to ensure that they are in good working condition before beginning a job. In addition, the contractor/proponent will ensure that regular inspections and maintenance of the equipment are conducted accordingly.

### **3.2.7 Subsidiary Legislations under OSHA Chapter 514**

#### **3.2.7.1 The Factories and Other Places of Work (Hazardous substances) Rules 2007**

These Rules are prepared to:

- Mitigate against workplace exposure of persons to potentially hazardous substances;
- Put in place safety standards against hazardous exposure; and
- Lower performance of work in hazardous conditions or circumstances.

There is need to properly handle all the hazardous substances that result from the construction activities of the project road. The provisions will help to curb against health hazards arising from any of the harmful substances that may be in use.

#### **3.2.7.2 The Factories and Other Places of Work (Noise Prevention and Control) Rules L.N 25 Of 2005**

These Rules make a provision for the noise levels that a worker should be subjected to at the workplace. Further, the Rules provide for noise prevention program where noise levels exceed 85 dB (A) at the workplace. In situations where the noise levels exceed permissible levels, the occupier is required to develop, rollout and implement a written hearing conservation program.

Deployment of earth moving machines and vehicles at the onset of implementation of project road (during clearing works and bulk delivery of material) has the potential emitting noise. This legislation requires mitigation to excessive noise levels especially those beyond 85 dB(A) at the workplace.

#### **3.2.7.3 The Factories and Other Places of Work (Medical Examinations Rules) Rules L.N.24 of 2005**

These Rules provide for the conducting of medical exams on various occupations including work involving exposure to noise. There should be Pre-employment and annual repeat examinations within two weeks where abnormal examination results are noted. This is to ensure consistency. Examinations are to involve clinical examinations, biological monitoring and other necessary tests depending on the type of exposure.

The regulations and OSHA prescribe the activities under which workers shall undergo medical examination. These include noisy workplaces exceeding threshold limits, and work involving exposure to tar pitch, bitumen and creosote.

#### **3.2.7.4 The Factories and Other Places of Work (Fire Risk Reduction) Rules L.N.59/2007**

These Rules seek to promote fire safety measures at every workplace, process and operations by:

- Vesting some responsibilities to the occupier;
- Recommendations on flammable substances on storage, marking and labelling, handling, monitoring (flammable substances), ventilation;
- Housekeeping as well as removal of products and waste;
- Machinery/equipment layout as well as Fire escape exits;
- Control of spread of smoke;
- Means of evacuation;
- Formation of fighting teams;
- Training in fire safety;
- Functions of firefighting team;
- Fire detection system; and
- Maintenance inspection & testing of cylinders.

During implementation of the project road, the employer/contractor will be required to comply with these regulations by conducting annual fire audits (site offices, camps and establishments), acquiring fire safety certificates, provision of trained fire marshals and conduct of annual fire drills of the resident workforce will have more than 100 staff including the employer's representative; the contractor is expected to form representative SHE committees to perform their roles in accordance with the Rules.

#### **3.2.7.5 Incidence reporting and records maintenance**

All OSH committee secretaries in health facilities shall establish and maintain records of OSH events in the facility. The OSH documents shall include the following:

- Accident reporting and follow up reports
  - Dangerous occurrences
  - Incidents and near misses
  - Occupational diseases
- i. Accident reporting
- Each health care facility shall record, investigate and analyze incidents at the minimum use the standardized form. The facility shall determine the underlying OSH deficiencies and other factors that may contribute to occurrence of incidents. The reporting and investigation shall be done in a timely manner (within 8 hours after occurrence). The results of incident investigation shall be documented and maintained. Incident and accident reports shall be reviewed by the facility OSH committee on a monthly basis

- ii. Dangerous occurrences  
The worker shall report any dangerous occurrences within the work area. The OSH committee shall maintain a register for such occurrences in the appropriate format. Such occurrences shall be investigated and action taken.
- iii. Incidence/ near misses  
The worker shall report any incident and near misses within the work area. The OSH committee shall maintain a register of incidences/near misses. Such occurrences shall be investigated and action taken.
- iv. Notifiable diseases  
All occupational diseases must be reported. Every facility shall adopt reporting guidelines developed and adopted by the National Occupational Safety and Health (NOSH) committee for occupational diseases. The OSH committee shall maintain a register for reported occupational diseases.

### **3.2.8 Employment Act, 2007**

The Act declares and defines the fundamental rights of employees, to provide basic conditions of employment of employees, to regulate employment of children, and to provide for matters connected with the foregoing. The Act provides for the basic minimum conditions of employment to include hours of work, water (for use at the place of work), food (employee properly fed) and medical attention.

At construction stage, the project contractor will hire both full-time and casual staff and the prevailing basic minimum conditions of employment will have to be observed.

### **3.2.9 The Labour Institutions Act**

The Act provides for establishment of labor institutions in Kenya such as the National Labor Board, Labor Committees (e.g. the Work Permits Committee, Trade Disputes Committee etc.), The Industrial Court and the Wages Council.

The applicable minimum wage requirements in Kenya classified by urban, per-urban and rural areas are usually gazetted every year or every other year as regulations under this Act. It will be important for the selected project contractor to abide by this law for fair wages of those engaged.

### **3.2.10 The Labour Relations Act**

This is an Act of Parliament to consolidate the law relating to trade unions and trade disputes, to provide for the registration, regulation, management and democratisation of trade unions and employers organisations or federations, to promote sound labour relations through the protection and promotion of freedom of association, the encouragement of effective collective bargaining and promotion of orderly and expeditious dispute settlement, conducive to social justice and economic development and for connected purposes.

Workers freedom of association, procedures for establishment and registration of trade unions and employers' organisations and related mechanisms are provided in this Act.

KeNHA, its contractors and sub-contractors will be expected to comply with the provisions of this act when their employees exercise these rights.

### **3.2.11 Work Injury Benefits Act (WIBA) Chapter 236**

This Act provides for compensation to employees for work related injuries and diseases contracted in the course of their employment and for connected purposes.

In the event of injury, during the implementation of the project road, the employer/contractor will be required to compensate workers in accordance with the Act. The contractor must therefore obtain and maintain relevant insurance policies in respect of this liability.

### **3.2.12 Wildlife Conservation and Management Act, 2013**

This Act through rules and regulations seeks to promote the protection, sustainable conservation and management of wildlife resources within the Country and related matters. The Act recognizes and vests a range of responsibilities to different agencies associated with management of biodiversity and their refugia. The Act takes cognisance that the conservation, protection and management of the wildlife environment shall be in conformity with the provisions of the Environmental Management and Coordination Act. In addition, the Act in its schedules have listed legally protected areas and various species of wildlife under different categories of conservation significance (i.e. vulnerable, endangered etc.) and whose handling requires authority from the Kenya Wildlife Service (KWS).

The section of the road falling within Turkana County (Kainuk Bridge -Lokichar Centre) pass adjacent to the Turkana South National Reserve an area of interest with regard to wildlife conservation and protection where a number of animal species such as Elephants, giraffes, buffalos, elands, oryxes, bushbuck, greater kudus among others have been sited. The road section of about approximately 20km between Kainuk and Kakong area serves a wildlife migratory corridor as animals cross over from East to West and back in search of pasture and water. These areas are of interest with regard to wildlife conservation and protection.

### **3.2.13 Public Health Act, Chapter 242**

The Act seeks to protect and promote human health as well as prevent, restrain or suppress infectious, communicable or preventable diseases throughout the Country. This Act provides the impetus for a healthy environment and gives regulations to waste management, pollution and human health.

The Act makes it an offence for any landowner or occupier to allow nuisance or any other condition liable to be injurious or dangerous to health to prevail on his land. This would include effluent and solid waste as sources of nuisance.

#### **3.2.13.1 The Public Health (Drainage and Latrine) Rules**

Rule 85 provides that every owner or occupier of every workshop, workplace or other premises where persons are employed shall provide proper and sufficient latrines for use by employees.

Rule 87 requires every contractor, builder or other person employing workmen for the demolition, construction, reconstruction or alteration of any building or other work in any way connected with building to provide in approved position sufficient and convenient temporary latrines for use by such workmen. Rule 91 provides that no person shall construct a latrine in connection with a building other than a water closet or a urinal, where any part of the site of such building is within 200 feet of a sewer belonging to the local authority which is at a suitable level, and where there is sufficient water supply.



The project appointed contractor is expected to observe these provisions including ensuring adequate temporary sanitation facilities for workers.

### **3.2.14 HIV/AIDS Prevention and Control Act, 2006**

This law requires HIV/AIDS education to be conducted in the work place. Road construction works by their nature increase risks of HIV/AIDS spread between workers and host communities and even among workers themselves in camps.

The project appointed contractor is expected to institute HIV/AIDS awareness and prevention plan among his staff and the host communities through service providers approved by the local public health departments. This requirement shall be incorporated in the tender documents to ensure compliance is achieved by bidders.

### **3.2.15 National Construction Authority Act, 2011**

This Act establishes the National Construction Authority (NCA), meant to oversee the construction industry and coordinate its development. The authority is meant to promote quality assurance of the construction industry; accredit and register contractors as well as accredit and certify skilled construction workers and construction site supervisors.

During project implementation, the appointed contractor and the conduct of construction works will be required to meet registration and approval requirements with NCA.

### **3.2.16 Land Act (No. 6 of 2012)**

This Act is intended to create harmony among the land laws to allow for a sustainable administration and management of land and related resources such as environmentally sensitive areas, heritage sites within public land. As part of environmental management of land resources in areas earmarked for development, the Act requires an Environmental Impact Assessment as per EMCA Act.

The pastoralist lifestyle of the locals in the project area and the reliance on land resources (pasture and water sources) in an arid environment makes it primary to sustainably utilize the resources during project activities especially identified material sites and water sources.

### **3.2.17 The National Lands Commission Act, 2012**

This is an Act of Parliament to make further provisions as to the functions and powers of the National Land Commission (NLC), qualifications, and procedures for appointments to the commission; to give effect to the objects and principles of devolved government in land management and administration, and for connected purposes.

Compulsory land Acquisition in Kenya is handled by the NLC. Other mandates of the Commission include management of public land on behalf of the national and county governments.

The Act also mandates the Commission to:

- ensure that public land and land under the management of designated state agencies are sustainably managed for their intended purpose and for future generations;
- administer all unregistered trust land and unregistered community land on behalf of the county government;

- initiate investigations, on its own initiative or on a complaint, into present or historical land injustices, and recommend appropriate redress. To this end, it is empowered to encourage the application of traditional dispute resolution mechanisms in land conflicts.

These roles are all relevant to the planning, implementation, monitoring and evaluation of the envisaged project resettlement process and are elaborated in the separate project RAP document.

### **Relevance**

It is important to note that although the land is community land under the custody of the County government, there are local systems in place for allocation of land to the locals who inhabit the land as well as conflict resolution mechanisms in place when it comes to dispute over land.

### **3.2.18 The Prevention, Protection and Assistance to Internally Displaced Persons and Affected Communities Act, 2012**

This is an Act of parliament that applies to all internally displaced and affected communities by the development projects or programmes. The prevention, protection and assistance to internally displaced persons and affected communities are outlined in the following sections of the Act;

**Part II: Principle of prevention, protection and assistance;** The Government and any other organization, body or individual when responding to a situation of internal displacement and the needs of internally displaced persons under this Act, shall take into account their rights and freedoms as set out in the Bill of Rights of the Constitution.

**Part IV: Public awareness, sensitization, training and education;** The national Government, in order to prevent future instances of internal displacement in Kenya, shall promote public awareness about the causes, impact, and consequences of internal displacement as well as on means of prevention, protection and assistance to internally displaced persons through a comprehensive nation-wide education and information campaign.

**Part V: Provisions relating to development and displacement;** 21. (1) Subject to the Constitution, the Government shall abstain from displacement and relocation due to development projects or projects to preserve the environment and protect persons from displacement by private actors. Finally, (4) The Government shall ensure that the displacement is carried out in manner that is respectful of the human rights of those affected; taking in particular into account the protection of community land and the special needs of women, children and persons with special needs. This requires in particular-(a) Full information of those affected and their effective participation, including by women, in the planning, management of the displacement, and in defining suitable durable solutions; and (b) Provision of safe, adequate and habitable sites.

The proposed project will result in some unavoidable land take and economic displacement of individuals trading along the road reserves. The RAP study and implementation shall consider provisions of this Act in addition to the relevant AfDB policy OS 2 - Involuntary resettlement land acquisition, population displacement and compensation.

### **3.2.19 National Gender and Equality Commission Act, 2011**

This Act establishes the National Gender and Equity Commission, a successor of the Kenya National Human Rights and Equality Commission, with the objectives of promoting gender equality and freedom from

discrimination. The over-arching goal for of the Act is to contribute to the reduction of gender inequalities and the discrimination against all; women, men, persons with disabilities, youth, children, the elderly, minorities and marginalized communities.

### **Relevance**

In his requirement to hire the local labour, the road contractor will be obligated to hire his workforce in a gender sensitive way that includes and promotes equal opportunities for both men and women.

### **3.2.20 The Land Registration Act, 2012**

This is an Act of Parliament intended to revise, consolidate and rationalize the registration of titles to land, to give effect to the principles and objects of devolved government in land registration, and for connected purposes.

The project is envisaged to affect some private properties and communal land. Provisions under this Act are essential to the project RAP as it is expected that the documentation for the affected land parcels will have to be updated in line with the laws of Kenya to show the changes due to the sections acquired for the road implementation. Such provisions are elaborated separately in the project RAP report.

### **3.2.21 Community Land Act, 2016**

The Act requires community land rights to be registered in accordance with its provisions and the provisions of the Land Registration Act, 2012. Section 7 lays out the procedure for registration of community land while section 8 outlines the procedure for recognition and adjudication of community land.

Registration of communities is one of the key processes to facilitate registration of community land. Section 7 gives provision for registration of communities and outlines the public participation activities that must be undertaken during this process.

In this respect, a Certificate of Title issued by the Community Land Registrar shall be evidence of ownership of the land. This Certificate of Title shall not be subject to challenge, except on grounds of fraud or misrepresentation to which the person is proved to be a party or where the certificate of title has been acquired illegally, unprocedurally or through a corrupt scheme.

Community land can be converted to either public land or private land and vice versa. The Act provides that at least two-thirds of the community members must approve any conversion of community land. This does not however limit the application of the Land Act, 2012 and any other law in respect of compulsory acquisition of land.

The impacted land is under community land tenure but is yet to be registered as prescribed in the Community Land Act.

Transitional arrangements on payment of compensation for community land are therefore prescribed in the following sections:

*6(2) County Governments shall hold in trust for a community any monies payable as compensation for compulsory acquisition of any unregistered community land.*

*6(3) Upon registration of community land, the respective county government shall promptly release to the community all such monies payable for compulsory acquisition.*

Any expropriation and acquisition that occurred prior to the enactment of this Act is however still recognized under this Act.

### **Relevance**

Expropriation and acquisition of community land for purposes of the project, will have to be undertaken in Compliance with the Land Act and the transitional arrangements provided in the Community Land Act, until such a time as the community land is registered in accordance with the requirements of the law.

### **3.2.22 Land and Environment Court Act, 2012**

A Land and Environment Court is established under section 4 of the Environment and Land Court Act No. 19 of 2011. The court has the jurisdiction to hear any other dispute relating to environment and land. The Court has original and appellate jurisdiction to hear and determine all disputes in accordance with Article 162(2)(b) of the Constitution and with the provisions of the Act or any other written law relating to environment and land. The court is also empowered to hear cases relating to public, private and community land and contracts, choses in action or other instruments granting any enforceable interests in land.

### **Relevance**

In matters relating to land disputes that may arise between KeNHA and the local community or county government during requisite private or community land acquisition for the road development or local material sites, the court has powers to deal with such disputes relating to land administration and management as well as environmental cases.

### **3.2.23 Land Laws (Amendment) Act 2016**

This Act amends the laws relating to land to align them with the Constitution, to give effect to Articles 68(c)(i) and 67(2)(e) of the Constitution, to provide for procedures on evictions from land, and for connected purposes. The Act has repealed sections of the following Acts:

- Land Registration Act, 2012
- Land Act, 2012
- National Land Commission Act, 2012

At implementation stage, the project proponent will adhere to land requirements under the Act especially where land take is necessary from private owners.

### **3.2.24 Physical and Land Use Planning Act, 2019**

This is the main Act that governs physical and land use planning. It is required that all proposed developments must be approved by the respective local authority and certificate of compliance issued accordingly. Section 30(1) requires a developer in any local authority to be granted development permission by the respective local authority, failure to which heavy fines will ensue; and the land registrar shall decline to register such a document. No sub-division of private land shall take place within a local authority unless the sub-division is in accordance with the requirements of an approved local physical development plan.

The authority is also in charge of development control, land use planning and spatial planning. The act dictates the regulations to be adhered to following principles and norms of physical and land use planning including:

- (a) physical and land use planning shall promote sustainable use of land and liveable communities which integrates human needs in any locality;
- (b) development activities shall be planned in a manner that integrates economic, social and environmental needs of present and future generations; Values and principles. Principles and norms of physical and land use planning.
- (d) physical and land use planning shall take into consideration long-term optimum utilization of land and conservation of scarce land resource including preservation of land with important functions;
- (e) physical and land use planning shall be inclusive and must take into consideration the culture and heritage of people concerned; and
- (f) physical and land use planning shall take into account new approaches such as transit-oriented development, mixed land-uses, planning for public transport and non-motorized transport among others to achieve sustainable development and more efficient use of natural resources.

In the case of disputes, there is a National Physical and Land Use Planning Liaison Committee that may hear appeals against decisions made by the national planning authority. There is also an established County Physical and Land Use Planning Consultative Forum in each county that comprise of among others , the CEC in charge of matters related to roads and infrastructure, \ CEC Member responsible for matters related to social and community development CEC Member responsible for matters related to economic planning; Chairperson of the committee responsible for matters related to physical and land use planning in the respective county assembly; and the CEC Member responsible for matters related to the environment.

The act has made provision for a county physical and land use development plan whose objective shall be — (a) to provide an overall physical and land use development framework for the county; (b) to guide rural development and settlement; (c) to provide a basis for infrastructure and services delivery; (d) to guide the use and management of natural resources; (e) to enhance environmental protection and conservation; (f) to identify the proper zones for industrial, commercial, residential and social developments;

### **Relevance**

The project appointed contractor will seek approval for the construction of temporary camp(s). KeNHA will be required to discuss its development plans (road designs) with the respective County Physical Planning Officers, Liaise with the local governments in development control along the project road.

### **3.2.25 Climate Change Act, 2016**

This is an Act of Parliament to provide for a regulatory framework for enhanced response to climate change, to provide for mechanism and measures to achieve low carbon climate development, and for connected purposes. Part IV section 15 provides on how climate change should be integrated in every public-sector entity. A public entity is expected to observe the Act together with provisions of the National Climate Change Action Plan. The National Climate Change Action Plan Section 4.3.1 (d) has specified how the road infrastructure sector can contribute towards the achievement of low carbon climate resilient sustainable development.

### **Relevance**

KeNHA will be required to work closely with stakeholders to ensure that the project is in line with the set-out strategies by the county in mitigating climate change as per the Act.

### **3.2.26 Urban Areas and Cities Act No. 13 of 2011**

In Sections 27 and 28, the Act empowers County Government to appoint a Manager to manage or prohibit all places of work that by reason of smoke, fumes, or chemical gases, dust, smell, noise or vibration or other cause may be a source of danger, discomfort, or annoyance to the neighborhood, and to prescribe the conditions subject to which businesses, factories and workshops shall be carried on.

The county government of West Pokot and Turkana will thus be instrumental, with mandates derived from this Act, in monitoring works to ensure that environmental nuisances are controlled.

### **3.2.27 The National Museums and Heritage Act (2006)**

Provides for the establishment, control, management and development of national museums and the identification, protection, conservation and transmission of the cultural and natural heritage of Kenya.

The Act also establishes a notification of discovery requirement, and sets restrictions on moving objects of archaeological or paleontological interest. It is administered by the National Museums of Kenya (NMK).

Authority to move any encountered objects of archaeological importance or the implementation of a chance find procedure must be respectively sought from and done in liaison with NMK.

### **3.2.28 Energy Act, 2019**

Energy Act makes provisions that shall apply to every person or body of persons importing, exporting, generating, transmitting, distributing, supplying, using electrical energy, importing, exporting, transporting refining, storing and selling petroleum or petroleum products, producing, transporting, distributing and supplying of other forms of energy, and to all works or apparatus for any or all of these purposes”.

The Act provides for the establishment, functions and powers of the Energy and Petroleum Regulatory Authority (EPRA) under Part III.

EPRA functions and powers include issuance of licences, permits and exemptions for electric power and petroleum undertakings, review and approval of the electric power tariffs, imposition and collection of penalties and fines for non-compliance in the energy sector, investigation and resolution of conflicts, formulation of regulations and enforcement of standards in the Energy Sector, formulation and co-ordination of a disaster preparedness plan for the energy sector, ensuring fair play and competition within the Energy sector.

Given the heavy use of fuel for construction works and remote location of project road relative to major points of fuel supply, the contractor will require bulk storage of fuel on site. Permit for Bulk fuel storage on site from EPRA shall be required in line with this Act.

### **3.2.29 Mining Act, 2016**

This Act regulates the development of the mining and mineral (including construction minerals) industry including health, safety and environment issues related to mining.

The proposed road is expected to place a lot of demand on natural resources to be mined at quarries and borrow sites. In some instances, rock blasting may be required. The mining of these natural resources is regulated by this act among other legislations. Some of the permits/license triggered by this project under the mining act includes:

- Rock mining permit; and

- Permits for blasting and storage of mining explosives from Department of Mines

### 3.2.30 The National Sand Harvesting Guidelines, 2007

The National Sand Harvesting Guidelines (2007) are secondary legislation that apply to all sand harvesting activities in Kenya and is aimed at ensuring sustainable utilization of sand resources and proper management of the environment.

The key provisions are:

- a. The Guidelines establish the Technical Sand Harvesting Committee (TSHC) whose main mandate is to be responsible for the proper and sustainable management of sand harvesting within the County, designate sand harvesting sites, ensure that sand dams and gabions are constructed in designated areas, designate sand transportation roads, ensure EIA/EA are undertaken, undertake dispute resolution, fix minimum sand prices, monitor restoration of sites and allocate areas to the Riparian Resource Management Association (RRMA).
- b. The Guidelines establish a Riparian Resource Management Association (RRMA) which comprises community leaders with the mandate to require EIA before sand harvesting operations start, annual environmental audits, sustainable management, provide access to sites, collection of revenues to be employed in rehabilitation of sites and revenue sharing with the community.
- c. It places responsibilities on sand dealers and transporters to comply with the Guidelines and the law.
- d. It identifies the social impacts of sand harvesting and bans child labour, requires fair wages, the organization of loaders for self-regulation and establishes a revenue sharing mechanism.
- e. It requires sand harvesting to occur in designated areas only and under an environmental management plan.
- f. The said guidelines provide for Farm, Lakeshore/Seashore and Riverbed sand harvesting as follows: it shall not exceed six (6) feet in depth, on-farm sand harvesting must be carried out at designated sites with a buffer zone of at least 50 metres from the riverbanks or dykes for, restoration will be undertaken concurrently with harvesting and under guidance from the Technical Sand Harvesting Committee, open-cast harvesting is recommended and underground tunneling must employ appropriate extraction technology to safeguard human safety.
- g. Riverbed sand harvesting is banned on riverbanks, and must be carried out in designated sites, must retain adequate reserves of sand to ensure water retention and maintain a buffer zone of 100 metres from any infrastructure.
- h. The Guidelines require any person who wishes to remove and/or transport sand to obtain a written approval from the County Environment Officer, NEMA.
- i. The Guidelines bar harvesting or transporting sand during the night.

#### Relevance

This project might be required to harvest sand for its use in structural works in rivers and other sources, and will therefore be required to adhere to the requirements of these guidelines.

### 3.2.31 Technical Guidelines on The Management Of Used Oil And Oil Sludge In Kenya (2016)

NEMA developed technical guidelines on the management of used oil and oil sludge in Kenya so as to assist all used oil and oil sludge handlers meet their requirements under the Environmental Management and Coordination (Water Quality) Regulations of 2006, Environmental Management and Coordination (Waste Management) regulations of 2006 and Occupational Safety and Health Requirements among others.

The guidelines provides direction on safe management of used oil and oil sludge in Kenya and shall be the main regulatory reference material for management of used oil in Kenya.

### **Relevance**

This project will use be using and generating used oil which some are categorized as hazardous and will be required to adhere to these guidelines for proper disposal.

#### **3.2.32 Intergovernmental Relations Act**

The Intergovernmental Relations Act of Parliament to establish a framework for consultation and cooperation between the national and county governments and amongst county governments; to establish mechanisms for the resolution of intergovernmental disputes pursuant to Articles 6 and 189 of the Constitution, and for connected purposes.

The objects and purposes of this act are to:

- Provide a framework for consultation and cooperation between the national and county governments;
- Provide a framework for consultation and cooperation amongst county governments;
- Establish institutional structures and mechanisms for intergovernmental relations;
- Provide a framework for the inclusive consideration of any matter that affects relations between the two levels of government and amongst county governments;
- Give effect to Articles 187 and 200 of the Constitution, in respect of the transfer of functions and powers by one level of government to another, including the transfer of legislative powers from the national government to the county governments; and
- Provide mechanisms for the resolution of intergovernmental disputes where they arise.

### **Relevance**

This project section starts section starts in Morpus in West Pokot county and terminates at Lokichar in Turkana county. It will be necessary for KeNHA to work with both county governments consistently throughout the project period as the act may require.

#### **3.2.33 Access to Information Act, 2016**

The Act upholds the right to information and enables citizens to access information from the state and private companies.

KeNHA, the project implementing agency, is expected to share the project information with general public and other stakeholders as appropriate within the law.

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### **3.3 Institutional Framework**

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The main administrative structures are described in the following sections.

#### **3.3.1 Ministry of Transport, Infrastructure, Housing and Urban Development**

The Ministry has three Departments relevant for road transport development namely; State Department of



Transport, State Department of Infrastructure and State department for public works. The Ministry is mandated to perform the following functions:

- National Roads Development Policy Management
- Transport Policy Management
- Rail Transport and Infrastructure Management
- Development, Standardization and Maintenance of Roads
- Mechanical and Transport Services
- Enforcement of Axle Load Control
- Materials Testing and Advice on Usage
- Standardization of Vehicles, Plant and Equipment
- Registration of Roads Contractors
- Protection of Road Reserves
- Maintenance of Security in Roads
- National Road Safety Management
- National Transport and Safety Policy

### **Relevance**

All the functions listed above are relevant to the project's construction and operation phases. Among the functions that representation in the county include Mechanical and Transport Services and Materials Testing and Advice on Usage. For other functions specific officers from the Ministry have been assigned the responsibility for coordination.

### **3.3.2 Kenya National Highways Authority**

KeNHA was established by the Kenya Roads Act 2007. It is an autonomous road agency. The functions of KeNHA include the management, development, rehabilitation and maintenance of international trunk roads linking centres of international importance and crossing international boundaries or terminating at international ports (Class A road), national trunk roads linking internationally important centres (Class B roads), and primarily roads linking provincially important centres to each other or two higher-class roads (Class C roads).

The main functions of KeNHA are:

- Constructing, upgrading, rehabilitating and maintaining roads Class A, B, C roads
- Implementing road policies in relation to national roads
- Ensuring adherence to the rules and guidelines on axle load control prescribed under the traffic act and any regulations under this act
- Ensuring that the quality of roads works is in accordance with such standards as may be defined by the minister
- Collecting and collating all such data related to the use of national roads as may be necessary for efficient forward planning under the Act

KeNHA has established Planning and Environment Department headed by a director. The department has, among others, the following functions:

- Implementation of policies for the efficient planning, survey services, road reserve protection, monitoring, evaluation and socio-environmental management for the roads under the Authority;
- Preparation of the annual work programmes and budgets for road planning, surveying, road reserves protection and socio-environmental management;

- Preparation and monitoring of the road investment programme for the road network under the Authority;
- Undertaking studies, designs and preparation of tender documentation for operations relating to planning, surveying, road reserve protection and socio-environmental management;
- Effectively supervising works and consultancies relating to road planning, surveying, road reserve protection and socio-environmental management and ensuring the works and services are executed in accordance with the standards and specifications;
- Administering and protecting road reserves;
- Liaison with Ministry for the time being responsible for road safety;
- Undertaking of road safety audits for road designs and implementation of road safety measures;
- Coordination of the Performance Contracts of the Authority;
- Monitoring and evaluation of road projects;
- Preparation and collection of economic, environmental and social data and information;
- Liaison with internal and external financing agencies;
- Preparation of monthly, quarterly, twice yearly, annual and ad-hoc reports for the Department.

In regards to this project, The Authority has a Regional office-North Rift Region located in Eldoret and covering the entire northern-rift area. In addition the Environment and Social Safeguards (ESS) Department domiciled at the Headquarters will play a critical role in enforcing standards for compliance with the Environment and Social Management and Monitoring Plan (ESMP) produced in this Report. There are officers (Environmentalist, Sociologist and land Valuer) allocated specifically to handle ESS issues of the project on day-to-day basis.

### **3.3.3 The National Environmental Management Authority**

The responsibility of the National Environmental Management Authority (NEMA) is to exercise general supervision and co-ordination over all matters relating to the environment and to be the principal instrument of Government in the implementation of all policies relating to the environment.

In addition to NEMA, the Act provides for the establishment and enforcement of environmental quality standards to be set by the Cabinet Secretary in consultation with the Authority, which will govern the discharge limits to the environment by the proposed project.

#### **Relevance**

NEMA must approve the project through issuance an EIA license before implementation. It will also participate in subsequent stages of construction environmental management and annual audits review. NEMA has a county representation with an operational office at the County level headed by a County Director of Environment.

### **3.3.4 Water Resources Authority (WRA)**

WRA is responsible for regulation of water resources through water allocation, source protection and conservation, water quality management and pollution control and international waters. Its roles and responsibilities are as follows:

- Planning, management, protection and conservation of water resources;
- Planning, allocation, apportionment, assessment and monitoring of water resources;
- Issuance of water permits;
- Water rights and enforcement of permit conditions;

- Regulation of conservation and abstraction structures;
- Catchment's and water quality management;
- Regulation and control of water use; and
- Coordination of the Integrated Water Resource Management (IWRM) Plan.

### **Relevance**

Project construction will require substantive water inputs. The contractor will need to get authorisation from WRA to abstract any underground or surface water resources. WRA has a county representation with an operational office at the County level that is responsible for all matters pertaining to utilisation and permitting of water resource utilisation.

### **3.3.5 National Transport and Safety Authority**

The National Transport and Safety Authority (NTSA) was established through an Act of Parliament; Act Number 33 on 26 October 2012. The objective of forming the Authority was to harmonize the operations of the key road transport departments and help in effectively managing the road transport sub-sector and minimizing loss of lives through road accidents. Some of its key mandates are the development of road safety strategies and facilitating education of the general public on road safety.

### **Relevance**

NTSA has set various road safety standards, rules and motor vehicle licensing requirements which the contractor's vehicles and drivers are expected to adhere to. In addition, all vehicles which will be using the road will be required to adhere to the set rules.

NTSA has set various road safety standards, rules and motor vehicle licensing requirements which the contractors vehicles and drivers are expected to adhere to. In addition, all vehicles which will be using the road will be required to adhere to the set rules.

Similarly, KeNHA should liaise with NTSA in conducting road safety education along the project corridor, to sensitize the local population on road safety.

### **3.3.6 Kenya Roads Board (KRB)**

The main objective of KRB is to oversee the road network in Kenya and thereby coordinate its development, rehabilitation and maintenance and is the principal adviser to the Government on all matters related to development, rehabilitation and maintenance. It ensures prudent Sourcing and Optimal Utilization of Resources for Socio-economic Development.

### **Relevance**

It is necessary that KeNHA and the Contractor incorporate the principles of integrated national transport policy in the construction and maintenance of the road.

### **3.3.7 West Pokot, and Turkana County Governments**

The County Governments are a creation of the Constitution of Kenya 2010 and successor of the defunct Municipal authorities. They operate under the auspices of the Cities and Urban Areas Act, The Devolved Governments Act and a host of other Acts.

The County Governments are charged, among others, with the responsibility of providing a variety of services to residents within its area of jurisdiction. These include the services that were hitherto provided by the defunct County Council and the ones that have been transferred from the national government. The former includes Physical Planning, Public Health, Social Services and Housing, Primary Education Infrastructure, Inspectorate Services, Public Works, Environment Management while the latter include Agriculture, Livestock Development and Fisheries, Trade, Industrialization, Corporate Development, Tourism and Wildlife, Public Service Management.

The Fourth Schedule of the Constitution of Kenya 2010 Part 2 (3) provides for devolved environmental functions to be undertaken by the County Governments and includes; control of air pollution, noise pollution, and other public nuisances.

### **Relevance**

The county governments will thus be crucial in issuing trade licenses to the contractor (s), issuing temporary facilities construction plan approvals, monitoring environment protection within the project, and general development control along the road.

### **3.3.8 Directorate of Occupational Safety and Health Services (DOSHS)**

DOSHS is responsible for the enforcement of Occupational Safety and Health Act (OSHA), 2007 and associated regulations. Construction sites must be registered with the Directorate and safety management plans, training and emergency preparedness done in accordance with the relevant guidelines issued by DOSHS.

### **Relevance**

The contractor should be required to register construction sites with this authority as work places before the commencement of the construction works. DOSHS will also undertake workers safety and health inspections at its own initiative or upon receiving reports on any associated issues. West Pokot County and Turkana County do not have a DOSHS office but is covered by the DOSHS Office in the large North Rift Regional office stationed in Kitale.

## **3.4 AfDB Operational Safeguard Policies**

The following Operational safeguards are triggered for the proposed project:

- Operational Safeguard (OS) 1- Environmental and Social Assessment;
- Operational Safeguard (OS) 2 Involuntary resettlement land acquisition, population displacement and compensation
- Operational Safeguard (OS) 3: Biodiversity and ecosystem services
- Operational Safeguard (OS)4: Pollution prevention and control, hazardous materials and resource efficiency
- Operational Safeguard (OS) 5: Labour conditions, health and safety

The safeguard policies are intended to reduce and manage risk and impacts for the Borrowers' and the AfDB projects, ensuring protection of people and environment from adverse impacts, reduce and manage project risks; enhance sound and sustainable operations in regard to the project.

### 3.4.1 OS 1 Environmental and Social Assessment

This overarching safeguard governs the process of determining a project's environmental and social category and the resulting environmental and social assessment requirements. The policy aims to ensure investment projects are environmentally and socially sound and sustainable achieved through appropriate analysis of project activities and subsequent potential environmental and social impacts. It further advances integration of environmental and social aspects of project into the decision-making process.

#### **Relevance**

In accordance with the Bank's ESAP guidelines, this project has been assigned as Category 1 project, because it is anticipated that the potential impacts will be significant and adverse, and that the direct and indirect environmental and social impacts are likely to be diverse, sensitive or unprecedented. The main environmental issues will result from construction and operational phases of the project activities, particularly dust and air emissions, noise pollution and vibration, clearing of vegetation, soil erosion due to excavation and earthworks, human-wildlife conflict, increase in loss of wildlife due to accidents, pollution of soil and water sources from spillage/leakage of oils and sediment loading. Other environmental impacts include those due to the disposal of solid and liquid wastes, and sources and use of water. The occupational health and safety issues identified include workers accidents and hazards during construction, possible exposure of workers to diseases, risks posed to communities living in the area including injuries and accidents during construction and operation stages.

Full Environmental and social impact assessment (ESIA) and environmental and social management plan (ESMP) has been carried out to fulfill the requirements of this policy. In addition, at least two consultation cycles have been carried out with project affected people and other stakeholders (during the design engineer ESIA preparation and Independent Consultant, and this updated ESIA), and the disclosure requirements met.

### 3.4.2 OS 2- Involuntary resettlement land acquisition, population displacement and compensation

This safeguard consolidates the policy commitments and requirements set out in the Bank's policy on involuntary resettlement, and incorporates a number of refinements designed to improve the operational effectiveness of those requirements.

The specific objectives of this OS mirror the objectives of the involuntary resettlement policy to;

- Avoid involuntary resettlement where feasible, or minimise resettlement impacts where involuntary resettlement is deemed unavoidable after all alternative project designs have been explored;
- Ensure that displaced people are meaningfully consulted and given opportunities to participate in the planning and implementation of resettlement programmes;
- Ensure that displaced people receive significant resettlement assistance under the project, so that their standards of living, income-earning capacity, production levels and overall means of livelihood are improved beyond pre-project levels;
- Provide explicit guidance to borrowers on the conditions that need to be met regarding involuntary resettlement issues in Bank operations to mitigate the negative impacts of displacement and resettlement, actively facilitate social development and establish a sustainable economy and society; and
- Guard against poorly prepared and implemented resettlement plans by setting up a mechanism for monitoring the performance of involuntary resettlement programmes in Bank operations and remedying problems as they arise

The project road mainly follows an existing alignment and efforts have been made to follow the existing road reserve. However, field work established that the road was going to affect a number of traders, and structures on the road reserve. To avoid or minimize impacts related to involuntary resettlement, effort has been made to ensure the road

will be within the road reserve. However, there are some sections where realignments to achieve the road design standards and safety requirements is impossible and therefore will require some resettlement. Therefore, the road development will affect some roadside properties and settlements such as at Soy town, Faraful, Matunda, Moi's Bridge, and Kitale town. This and other realignments have necessitated the undertaking of a Resettlement Action Plan (RAP).

### 3.4.3 OS 3: Biodiversity and ecosystem services

This Operational Safeguard (OS) outlines the requirements for borrowers or clients to (i) identify and implement opportunities to conserve and sustainably use biodiversity<sup>3</sup> and natural habitats, and (ii) observe, implement, and respond to requirements for the conservation and sustainable management of priority ecosystem services<sup>4</sup>

#### **Relevance**

This policy is triggered by the project because the project road traverses an area with different natural habitats because of varying weather characteristics, with section 1 in tropical climate. The dominant natural habitat trees in the project area are Pine trees, Eucalyptus, *Grevilia*, among others. Significant degradation of such habitats may lead to population decline or local extinction of such species and we avoided as much as possible during construction.

### 3.4.4 OS 4 Pollution prevention and control, hazardous materials and resource efficiency

This OS outlines the main pollution prevention and control requirements for borrowers or clients to achieve high-quality environmental performance, and efficient and sustainable use of natural resources, over the life of a project.

This safeguard covers the range of key impacts of pollution, waste, and hazardous materials for which there are agreed international conventions, as well as comprehensive industry-specific and regional standards, including greenhouse gas accounting, that other multilateral development banks follow. The specific objectives of this OS are;

- Manage and reduce pollutants resulting from the project— including hazardous and non-hazardous waste—so that they do not pose harmful risks to human health and the environment; and
- Set a framework for efficiently using all of a project's raw materials and natural resources, especially energy and water.
- This OS draws on and aligns Bank operations with existing international conventions and standards related to pollution, hazardous materials and waste, and related issues. It also requires compliance with internationally accepted environmental standards, particularly the World Bank Group Environmental Health and Safety (EHS) Guidelines.

#### **Relevance**

This OS is triggered as the project is likely to cause significant adverse environmental or social impacts owing to the emission of pollutants, waste or hazardous materials covered by national legislation, international conventions or internationally recognized standards or by unsustainable resource use. It is also triggered by potentially significant levels of GHG emissions.

### 3.4.5 OS 5- Labour conditions, health and safety

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<sup>3</sup> Biodiversity is "the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species, and of ecosystems" (The Convention on Biological Diversity).

<sup>4</sup> Ecosystem services are the benefits that people derive from ecosystems. There are four types of ecosystem services: (i) provisioning services, which are the products people obtain from ecosystems (food, freshwater, wood and fiber, fuel), (ii) regulating services, which are the benefits people obtain from the regulation of ecosystem processes (climate regulation, flood regulation, disease regulation, water purification), (iii) cultural services, which are the nonmaterial benefits people obtain from ecosystems (aesthetic, spiritual, educational, recreational), and (iv) supporting services, which are the natural processes that maintain the other services (nutrient cycling, soil formation, primary production).

This safeguard establishes the bank’s requirements for its borrowers or clients concerning workers’ conditions, rights and protection from abuse or exploitation. It also ensures greater harmonisation with most other multilateral development banks.

The specific objectives are to:

- Protect workers’ rights;
- Establish, maintain, and improve the employee– employer relationship;
- Promote compliance with national legal requirements and provide supplemental due diligence requirements where national laws are silent or inconsistent with the OS;
- Align Bank requirements with the ILO Core Labor Standards, and the UNICEF Convention on the Rights of the Child, where national laws do not provide equivalent protection;
- Protect the workforce from inequality, social exclusion, child labour, and forced labour; and
- Establish requirements to provide safe and healthy working conditions.

**Relevance**

This OS is triggered as the project involves the establishment of a temporary or permanent workforce. In addition, the Bank adopted Presidential Directive (PD.02.2021) on Sexual exploitation, sexual abuse and sexual harassment (SEAH)

**3.5 World Bank Group Environment, Health and Safety (EHS) General Guidelines**

The General Guidelines provides guidance to users on common EHS issues potentially applicable to all industry sectors. These are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP). When one or more members of the World Bank Group are involved in a project, these EHS Guidelines are applied as required by their respective policies and standards. These General EHS Guidelines are used in addition to the local guidelines in order to provide mitigation measures for the various environmental and social impacts that will be identified in this report.

The project will comply with World Bank Group EHS General Guidelines namely:

<b>EHS Guideline</b>	<b>Applicability</b>
Environmental	The environmental guidelines provide guidance to users on common environmental issues expected to be impacted during the project implementation which included air, energy, wastewater and water quality, water conservation, waste and hazardous waste management, and contamination. The ESIA has considered all the potential environmental issues and provided mitigation measures related to the proposed project as for environmental management.
Occupational Health and Safety (OHS)	Employers and supervisors are obliged to implement all reasonable precautions to protect the health and safety of workers. This guideline provides guidance and examples of reasonable precautions to implement in managing principal risks to occupational health and safety. The project is expected to have OHS risks during the implementation period, such as injuries of the workers, and other physical hazards at the worksites. This ESIA has evaluated potential OHS risks and provided mitigation measures associated with OHS during project implementation as provided for in this guideline.
Construction materials extraction	This guideline includes information relevant to construction materials extraction activities such as aggregates, limestone, slates, sand, gravel, clay, gypsum, feldspar, silica sands, and quartzite, as well as to the extraction of dimension stone. It addresses stand-alone projects and extraction activities supporting construction, civil works, and cement projects.

EHS Guideline	Applicability
	The project will use these guidelines since it be using materials that will be extracted from various sources along the road. The ESIA has considered the impacts associated with the extraction of materials for construction and proposed mitigation measures as provided for in this guideline.
Toll roads	The EHS Guidelines for Toll Roads include information relevant to construction, operation and maintenance of large, sealed road projects including associated bridges and overpasses. The project will apply these guidelines during construction of the carriageway and bridges which have been considered in the ESIA
Construction and Decommissioning	This guideline provides additional, specific guidance on prevention and control of community health and safety impacts that may occur during new project development, at the end of the project life-cycle, or due to expansion or modification of existing project facilities. Cross referencing is made to various other sections of the General EHS Guidelines. The project will decommission several temporary facilities and structures, among others the camp sites, storage facilities, and batching plants. for the workers. Decommissioning of these structures and facilities have been considered in the ESIA as per this guideline.

### 3.5.1 Alignment of AfDB and Government of Kenya (GoK) Policies relevant to this ESIA

Both the AfDB safeguards and GoK laws are generally aligned in principle and objectives of environmental and social sustainability. The following table summarize the similarities/differences or gaps of the two policies.

Item	GoK Policies	AfDB Policies	Gaps
Environmental and Social Assessment	Under EMCA, all road projects falls under Schedule II and are required to go through full ESIA study during project design and development of an ESMP	Under OS 1, all projects under Category 1 should under EA project implementation leading to development of comprehensive Environmental and social Management plans to guide resolution of social and environmental impacts as anticipated	None
Public consultations and disclosure	EMCA requires full ESIA studies to undergo public consultations and disclosure during the ESIA process. The Kenya constitution, 2010, also provides for public consultation and participation	OS 1 requires all ESIA studies to undergo public	none
ESIA Disclosure	NEMA publish the NEMA report to encourage any concerned citizen to forward their concerns on the project	The AfDB will publish the report on the website as part of the public disclosure. The borrower will also advertise on its website the ESIA	None

## 3.6 International Treaties and Conventions

A treaty is a binding agreement under International Law concluded by subjects of International Law, namely states and international organizations. Treaties can be called by many names including; International Agreements, Protocols, Covenants, Conventions, Exchanges of Letters, Exchanges of Notes, etc. However, all of these are equally treaties and the rules are the same regardless of what the treaty is called.



Treaties can be loosely compared to contracts; both are means of willing parties assuming obligations among themselves, and a party to either that fails to live up to their obligations can be held legally liable for that breach. The central principle of treaty law is expressed in the maxim *pacta sunt servanda*, translated as "pacts must be respected."

Kenya has ratified the following Project-relevant international conventions:

### **3.6.1 The 1985 Vienna Convention for the Protection of the Ozone Layer**

The Vienna Convention for the Protection of the Ozone Layer, 1985 was adopted after consensus was reached on 22 March 1985. Kenya ratified the convention on November 9 1988. The overall objective of the Vienna Convention is to protect human health and the environment against the effects of ozone depletion. As a framework convention, it does not establish any specific controls on ozone depleting substances. Instead, it establishes a general obligation upon the parties to protect the ozone layer (article 2) and emphasizes the need for international cooperation.

#### **Relevance**

KeNHA and the contractor will be required to observe the above convention in all its operations throughout the project cycle in reducing emission of Greenhouse Gasses which could cause ozone depletion.

### **3.6.2 The 1987 Montreal Protocol on Substances that Deplete the Ozone Layer**

The Montreal Protocol on Substances that Deplete the Ozone Layer was adopted on 15 September 1987 and is a significant milestone in international environmental law, and Kenya ratified the agreement on 9 November 1988. It establishes firm targets for reducing and eventually eliminating consumption and production of a range of ozone depleting substances. These substances are enumerated in Annexes A-E to the Protocol and are to be phased out within the schedule given in article 2A-2I.

#### **Relevance**

The appointed project contractor will be required to observe the above convention in all its operations throughout the project cycle in reducing emission of Ozone Depleting Substances (ODS). The contractor will ensure he does not use equipment such as A/C units running on hydrochlorofluorocarbon (R22 gas) or other refrigerants with a high ozone-depleting potential.

### **3.6.3 The United Nations Convention on Climate Change ("1992 UNFCCC")**

The objective of the 1992 UNFCCC is to tackle the negative effects of climate change. The Conventions' stated aim is to stabilize greenhouse gas concentrations at a level that allows ecosystems to adapt naturally to climate change so that food production is not threatened, while enabling economic development to proceed on in a sustainable manner (article 2).

Kenya signed the UNFCCC on 12 July 1992, ratified it on 30 August 1994 and started enforcing it on 2 November 1994. In 2016, Kenyan parliament passed a law on climate change, the Climate Change Act further reiterating the country's commitment to this convention.

#### **Relevance**

KeNHA and the contractor will be required to observe the above convention in all its operations throughout the project cycle in reducing emission of Green House Gases leading to climate change.

### 3.6.4 The Kyoto Protocol

The Kyoto Protocol was adopted in December 1997 at the Third Conference of the Parties held in Kyoto. The Kyoto Protocol requires stronger commitments from Annex 1 parties to achieve quantified emission reductions within a specific timeframe. These commitments cover the six Green House Gases (GHGs) listed in Annex A of the Kyoto Protocol (Carbon dioxide, Methane, Nitrous oxide, Hydrochlorocarbons, Perfluorocarbons and Sulphur hexafluoride). Each Annex 1 party particular 'quantified emission reduction target' is listed in Annex B.

Kenya's accession was presented on 25 February 2005 and the Protocol acceded on 26 May 2005.

#### Relevance

The contractor will be required to carry out regular inspection and maintenance of construction equipment in order to reduce the levels of GHGs emissions into the atmosphere.

### 3.6.5 The Paris Agreement, 2015

The Paris Agreement was an agreement within the United Nations Framework Convention on Climate Change (UNFCCC), dealing with greenhouse-gas-emissions mitigation was adopted on 12 December 2015 and entered into force on 4 November 2016 requiring required both developing and developed nations to reduce their greenhouse emissions (Carbon dioxide, Methane, Nitrous oxide, Hydro chlorocarbons, Perfluorocarbons and Sulphur hexafluoride), to fight against rising global temperatures.

Kenya is a signatory to the agreement (April 2016) and submitted its Updated Nationally Determined Contribution (NDC) in December 2020 committing to abate Green House Gases (GHGs) by 32% by 2030.

#### Relevance

The contractor will be required to carry out regular inspection and maintenance of construction equipment in order to reduce the levels of GHGs emissions into the atmosphere.

### 3.6.6 Convention on Biological Diversity

The Convention entered into force on 29 December 1993, which was 90 days after the 30th ratification. The first session of the Conference of the Parties was scheduled for 28 November – 9 December 1994 in the Bahamas. Kenya is a signatory of the convention which has three main goals; namely;

- Conservation of biological diversity (or biodiversity)
- Sustainable use of its components; and
- Fair and equitable sharing of benefits arising from genetic resources

#### Relevance

The contractor and KeNHA should look out for species of conservation importance as established in the baseline environmental study in liaison with Kenya Wildlife Service. The design is to make provision for signages in sections of the road known to have wildlife presence.

### 3.6.7 CITES Convention (1975)

**CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora)** is an international agreement between governments (where Kenya signed as party in March 1979), which aim to ensure that international trade in specimens of wild animals and plants does not threaten the survival of the species. Although CITES is legally binding on the Parties – in other words they have to implement the Convention – it does not take the place of national laws. Rather it provides a framework to be respected by

each Party, which has to adopt its own domestic legislation to ensure that CITES is implemented at the national level

#### **Relevance**

The project will pass through areas with wildlife such as elephants and other species, and therefore the contractor and KeNHA should ensure that there will be no trade of specimens from wild animals and/or plants as a result of the project, including poaching.

#### **3.6.8 The international convention on the protection of the rights of all migrant workers and members of their families ,December, 1990**

This convention agreement was ratified by Kenya in July 2003. It is a comprehensive international treaty focusing on the protection of migrant workers' rights by emphasizing the link between migration and human rights—a policy topic that is drawing increasing attention worldwide. This convention opens a new chapter in the history of determining the rights of migrant workers and ensuring that those rights are protected and respected.

#### **Relevance**

Ensures that expatriate skilled workers whose services may be required by the contractor are protected from any kind of abuse and discrimination.

#### **3.6.9 Convention on the Rights of Persons with Disabilities (ICRPD), 2006**

This convention agreement was ratified by Kenya on 18th May 2008. The Convention is intended to be a human rights instrument with an explicit, social development dimension. It adopts a broad categorization of persons with disabilities and reaffirms that all persons with all types of disabilities must enjoy all human rights and fundamental freedoms. It clarifies and qualifies how all categories of rights apply to persons with disabilities and identifies areas where adaptations have to be made for persons with disabilities to effectively exercise their rights and areas where their rights have been violated, and where protection of rights must be reinforced.

#### **Relevance**

Compliance with this protocol will ensure that the rights and interest of Persons Living With Disabilities (PLWD) are factored at every step of the proposed road development. It is expected that the these interest will be factored in the design and implementation of the road.

#### **3.6.10 ILO Convention No. 182 Concerning the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labour, 1999.**

Article 3 of this convention agreement defines the worst forms of child labour as:

- all forms of slavery or practices similar to slavery, such as the sale and trafficking of children, debt bondage and serfdom and forced or compulsory labour, including forced or compulsory recruitment of children for use in armed conflict;
- the use, procuring or offering of a child for prostitution, for the production of pornography or for pornographic performances;
- the use, procuring or offering of a child for illicit activities, in particular for the production and trafficking of drugs as defined in the relevant international treaties;

- work which, by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of children.

### **Relevance**

The connection between this agreement and the proposed project is based on the prevailing socio-economic factors which can make it easier for the violation of the rights of children under this convention. This convention recognizes that child labour is to a great extent caused by poverty and that the long-term solution lies in sustained economic growth leading to social progress, in particular poverty alleviation and universal education.

#### **3.6.11 ILO Convention 138 on Employment Age, 1973**

This convention was ratified on 9<sup>th</sup> April 1979 by the republic of Kenya. The convention establishes a minimum age for which one is considered a worker. Article 3 of the agreement states that children below the age of 18 years are forbidden from participating or doing hazardous work.

Article 9 of the agreement also gives the state that is a party to the agreement the responsibility of ensuring that people who involve children in child labour are punished. In addition, the agreement mandates the state to define what hazardous work mean.

### **Relevance**

During project implementation, the contractor will require both skilled and unskilled laborers. Both the client and the contractor have a responsibility to ensure that children are not involved in the various work activities. Within this framework and the applicable labor laws reviewed in this report, an employer who violates the express provisions of this agreement is liable to punishment.

## 4 ENVIRONMENTAL AND SOCIAL SETTING

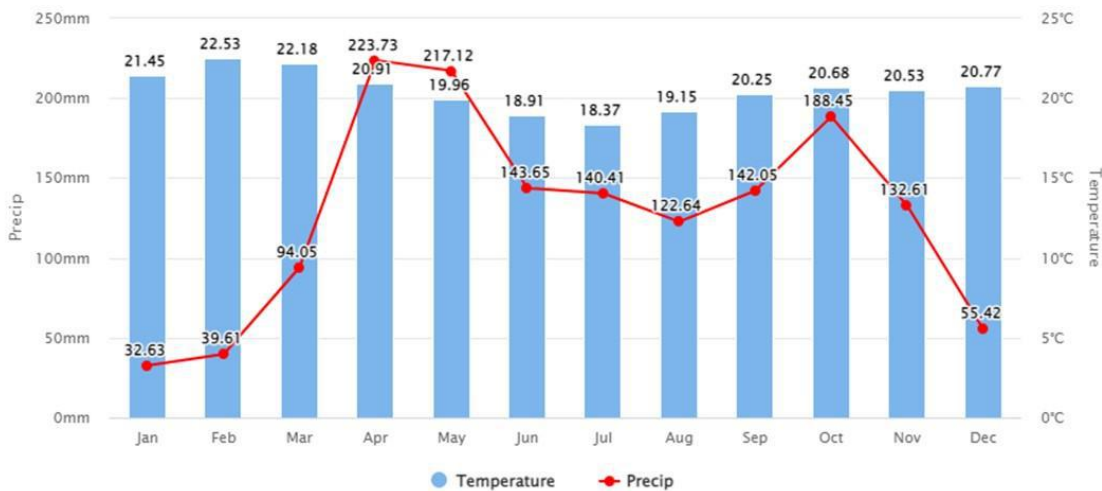
### 4.1 Physical Environment

#### 4.1.1 Climate

##### West Pokot

West Pokot County experiences moderate climatic and weather patterns due to the average altitude of the county. In the lowlands temperatures rise up to a high of 30°C while the high regions experience 10°C during the cold months. Rainfall in West Pokot is bimodal with the long rains falling between March and June and the short rains occurring between September and November. Annual rainfall varies from less than 400 mm in the lower altitude areas (1150-2000 m altitude) to the north, to slightly over 1500 mm in the high-altitude areas (2439-3370 m altitude) to the south. Like Turkana, unreliability and variability are more considerable in the lower altitude drier areas. Deviation from the yearly and monthly means can be considerable.

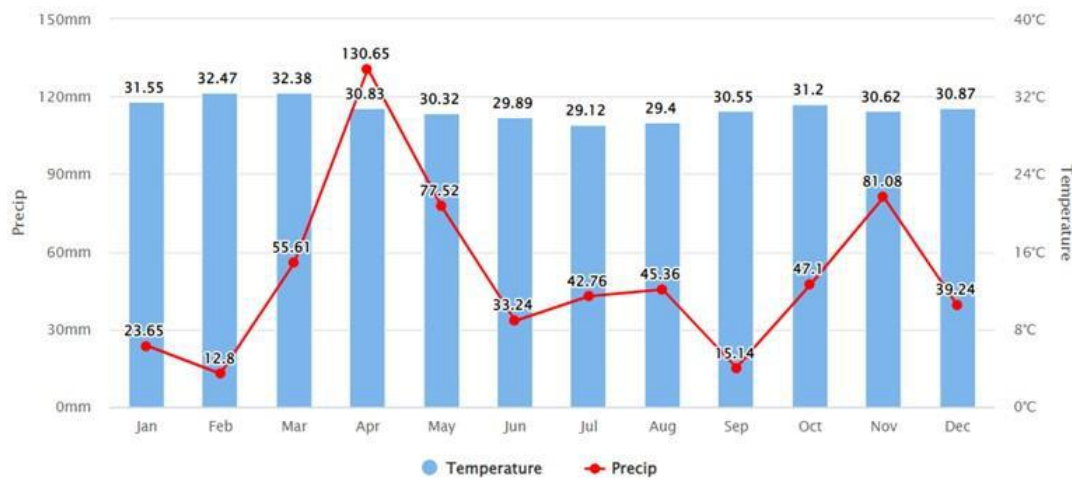
Figure 4-1 – West Pokot County Annual Average Rainfall and temperature data



##### Turkana County

Turkana County is hot and dry with high but fairly uniform temperatures throughout the year. Temperatures range from a low of 24°C to a high of 38°C with a mean of 30°C. The low-lying plains in Turkana are hot and dry, and temperatures are high and are seldom lower even at night. During the day, the extremely high temperatures are accompanied by strong easterly winds sweeping across the largely barren countryside, carrying large quantities of sand

Figure 4-2 – Turkana County Annual Average Rainfall and temperature data



#### 4.1.2 Topography

The proposed project starts at Morpus (Km0+000) at approximate altitude of 1,622m a.s.l., then dropping to about 1,422 m at Ortum, and 953m at Marich Pass. From Marich Pass (elevation 953 m) to Kainuk, the road traverses flat and slightly rolling terrain. The road descends gradually to reach Kainuk (elevation 832 m). From Kainuk to Lokichar, the road follows a gradual rise in elevation to a point 10 km north of Kainuk (elevation 950 m) and then begins a gradual descend to Lokichar (elevation 768 m). The topography of the project area is described below.

##### West Pokot Topography

The county can be generally classified into three topographic zones, namely; highland plateau (2500m-3500m a.s.l.), the steep escarpments (1200-2000m a.s.l) and the valley floor (300-900m a.s.l.) stretching from Pokot to Lake Turkana. The major topographic features include hills, dry plains, and rugged escarpments. The proposed project area has a wide variety of topographical features and contrasting environments occurring within short distances. For example, in the south-eastern section of the West Pokot are the Cherangani Hills with altitude of over 3,000 metres a.s.l. while on the Northern and North Eastern parts of Pokot are the dry plains of Turkana with altitudes of less than 900 metres above sea level. In West Pokot, mountain ranges with summits between 2000 and 2500 m, stretch from South to the North (Sekerr and Karasuk hills).

##### Turkana County Topography

The main topographical features in Turkana County are low-lying open plains interspersed with isolated mountain ranges and hills, Lake Turkana and the river drainage patterns. Most of the Turkana region consists of low-lying plains. The altitude rises from about 900 m at the foot of the escarpment marking the Uganda border to the West and then falls to 369 m to the shores of Lake Turkana in the East. The isolated mountains are mainly found in the central area with plains around Lodwar and more specifically the Lotikipi plains in the north.



**Plate 3: Showing topography of the project area (upper photo taken from the recently completed Kainuk Bridge and approaches and lower photo taken a few kilometres from Morpus Centre)**

#### **4.1.3 Soils**

The highlands south of the start of the project area in Pokot at Morpus are in the Modified Tropical Zone with soils that are generally well drained and fertile. This zone has high potential for agricultural and livestock development. The lowlands in a semi-arid climatic zone further north have complex soils with various textures and drainage conditions with deep alluvial deposits on the valley floors. Most of the soils in this zone are Saline, Sodic or Calcareous in nature. Crop production in these areas is possible through irrigation, though salinity would exclude

certain soil pockets. The zone is essentially range land, though there is a huge potential for large scale irrigation development. Soils in the region can be broadly classified into:- (a) Lava boulders and shallow stony soils, (b) Clay soils, (c) Loam soils and (d) Alluvial soils.

In Turkana, soils are highly variable and are mostly shallow and generally of light and medium texture. There are either constraints of a chemical composition, or physical limitations such as rockiness, mantle, slope, and depth. The soils are not well developed due to aridity and constant erosion by water and wind and are often capped by stone mantles.

Most of Turkana is covered by lava flows, which generally occur in a north-south direction and, because of their altitude, form the major central hills. The landscape is generally called uplands and peneplains. These features are covered with shallow, poor soil with no organic matter. Directly below the top soil is unconsolidated weathering rock. This means that middle soil between the top soil and the rock is lacking.

Due to the predominantly arid climate, there is relatively little vegetative cover to stabilize the soils and as a result, they are easily eroded. Wind erosion and deposition is an important feature in the county and areas of strong sheet erosion occur on all steep slopes where vegetation is removed by the grazing animals. There are local occurrences of highly saline soils and of soils with low mineral contents. Only a small part of the county's soils have potential for irrigated agriculture. Most of the cultivation is carried out communally along the Banks of River Turkwel.

#### **4.1.4 Geology**

A vast majority of the project area between Morpus and Lokichar is occupied by rocks of the Basement System with intrusive rocks, believed to be of Precambrian age, Miocene sediments, Tertiary volcanic rocks, Pleistocene lacustrine sediments, and Pleistocene to Recent superficial deposits. At most of the existing drifts, the transported material is overwhelmingly sandy. However, some of the hilly areas are characterized by rocky impermeable surfaces.

The project area passes through some red brown silty Sand soils. These are mainly residual soils which are underlain by the basement system rocks from which they are derived. The rocks comprise of plagioclase amphibolites and granitoid gneisses which has been extracted from the geological map of the Loperot Area. Typically the rocks of the main amphibolitic group are red-weathering black or greenish black, finely banded, fine-grained plagioclase amphibolites. On the other hand, the granitoid gneisses are homogeneous buff-colored and lack foliation but do retain a faint gneissic orientation of the constituent minerals. Quartz or quartzo-felspathic lenticles are fairly common and are often stained a pinkish color by iron oxide.

#### **4.1.5 Drainage and Hydrology**

The road corridor falls into Lake Turkana Drainage Basin influenced by Muruny River and Turkwel River systems. The Muruny River, which drains to Turkwell river has a catchment area of about 2700 km<sup>2</sup>. The main flow direction of the rivers is from west to east. Majority of catchments of the tributaries joining Muruny river are under 20 km<sup>2</sup> and are located on the Cherangani slopes, and are relatively steep.

The Turkwel River Basin covers a catchment area of 23,740 km<sup>2</sup> with its source at an altitude 4,320 m on Mount Elgon, on the Kenya Uganda border to the west. The Turkwel River runs a course of length 340 km, and there are three distinct catchment zones, as follows:

- The Suam River, catchment area 5,900 km<sup>2</sup>, which drains from the Uganda border in the west, to Turkwel Gorge where the river is dammed, joining the Turkwel.
- The Wei Wei and Morun rivers in Pokot, which drain the Cherangani Hills, with a combined catchment area of about 1,500 km<sup>2</sup> at Marich Pass, prior to joining the Turkwel River at Kaputir.



- The semi-arid plain of the Turkwel River forms the third part of the basin extending from Kaputir to Lake Turkana. The only flow is in the form of localized flash floods arising from storms. The major part of any water reaching Lodwar infiltrates or evaporates before the lake is reached.

#### 4.1.6 Water resources

Water resources along the corridor include surface water sources and limited ground water sources. Endowment of water resources for the corridor varies on the basis of climatic and relative elevation

The project area road is endowed with a significant number of rivers such as Ortum River, Kapro /Wakor River, Saya river, Sebit river, Morun River and Chepareria rivers. These rivers all are tributaries of Muruny river flowing westwards to constitute part of the Turkwel River Basin system in Turkana County. Muruny river flows almost parallel to the road corridor and generally defines the drainage characteristics of Marich Pass. Overgrazing in most areas, changing land use to food production in the flood plains and sand harvesting activities for construction is leading to serious water quality degradation.



Plate 4 Chepareria River



Sebit River



Muruny River

#### 4.1.7 Air Quality and Noise

##### a) Air pollution

Vast section of the project road are in rural areas which are very sparsely settled and have no major anthropogenic activities that contribute to air pollution levels beyond the natural background levels. The current source of air pollution is thus limited to occasional dust generated by traffic on the gravel or earth roads. Occasional whirlwinds sweeping across bare land also contribute to intermittently elevated dust levels. In the town centres, the air pollution is limited to local vehicular movements, market activities, and winds sweeping across the bare land. The towns have no major industrial activities that constitute major point sources of air pollution.

Random samples taken along the road indicates the particulate matter levels are below the occupational health standards (10mg/m<sup>3</sup>). There are lower levels in isolated sections of the corridor with low population and human activities with an average of 1 – 3.mg/m<sup>3</sup>. Sections of the corridor with high human habitation and economic activities, and particularly the town centres displays high concentration of particulate matter ranging between 3.5 – 7.5mg/m<sup>3</sup>, e.g. at Marich Pass and lokichar town centres. A significant of the particulate matter is associated with traffic on the road surfaces, especially during the dry seasons, where high concentrations were noted<sup>5</sup>.

<sup>5</sup> The random samples taken for air quality and noise cannot be used as baseline data because there is very high chance that the data will be obsolete because of dynamics in weather changes, maintenance regime of the road, and the time lag between when this ESIA was conducted and when the actual construction will commence

The pollution of dust material would increase during construction as a result of excavations and movement of construction vehicles and use by other motorists along the roads. The pollution can have an impact on public health, as well as soils, livestock, and water supplies in the areas along the road. Air quality samples to be used as baseline data will be collected before commencement of the civil works for regular monitoring during the construction period.

Air quality along project corridor is influenced by transport activities in addition to agricultural and urban related emissions (farm machinery and domestic emissions). With the high traffic volumes plying the route comprising partly of heavy trucks, vehicular emissions are expected to be relatively high. The key emissions associated with the project road include carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), Nitrogen Oxides (NO<sub>x</sub>), Sulphur Oxides (SO<sub>x</sub>) and Particulate Matter (PM<sub>2.5</sub>, PM<sub>5</sub> and PM<sub>10</sub>) which comprises of hydrocarbons, fuel aerosols and soot. However, due to the high dispersal rates and high tree cover in the entire corridor, the overall concentration in the air is expected to be fairly low.

#### **b) Noise Pollution**

Noise levels along the corridor is mainly ambient influenced by human settlement nature. Slight elevated levels are within markets and near urban centres where economic activities including workshops, commercial undertaking and entertainment points are located. Along the corridor, the main sources is vehicular traffic plying the corridor, and especially heavy trucks. The levels, however, are confined within the vicinity of the carriageway.

The main noise pollution is from the vehicles along the road, motorcycles, prayers from the churches, and human noise from traders and consumers during normal business hours.

The noise levels are extremely low throughout most of the road corridors save for areas close to the market centres, where the level increases, due to concentration of people, vehicles, motorcycles and businesses activities. There are a few key sensitive points such as schools located near the proposed project road, and this is expected to be critical during the construction and operation phases.

Spot checks of the area noise levels were done along the road and ranged between 25dBa to 67dBa, with the high noise levels observed at the town centre areas, eg at Ortum, Marich Pass, Kainuk, Kalemgorok, and Lokichar. The current levels of noise during the day and at night are noted to be below acceptable standard levels of 65dBa and 45 dBa respectively. Therefore, the current acoustic environment is considered good around the project area. The situation will be exacerbated temporarily during construction, but will also occur during operation, specifically to vehicular noise, as a result of anticipated increased traffic along the road. Noise quality samples to be used as baseline data will be collected before commencement of the civil works for regular monitoring during the construction period.

#### **4.1.8 Water Quality**

The main sources of water are rivers, natural springs, boreholes and earth dams for collection and storage of runoff water during the rainy season for both domestic and livestock use. During road construction, some of the identified sources may be affected due to their proximity to the road alignment or if utilised during construction.

## 4.2 Biological Environment

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### 4.2.1 Ecosystem

The project area falls in an ecoregion that is essentially dominated by a mixture of highland (around Morpus area towards Marich Pass in West Pokot) and drought-adapted and tropical savanna species (from Marich Pass to Lokichar).

The project area is dominated by wooded vegetation that host wildlife and livestock with one gazetted protected area South Turkana National Reserve. The culture and way of life of the native people contributes immensely to persistence of these floral habitats and wildlife, therein. These vegetation types are influenced by altitude, amount of rainfall, temperature, soils and partly by human activities and settlements.

Floral characteristics of the wildlife habitats closely resemble the Somalia - Masai *Acacia - Commiphora* deciduous woodland / shrubland and thickets (White, 1983). Woody species are dominated by shrubs forming scrubland that rise to heights between 3m to 5m but are interrupted by scattered emergent trees of over 9m in the hills and along permanent and ephemeral rivers..

The project road falls within agro-ecological zones IV- VI (that is transitional to arid zones). Therefore, vegetation cover provides browsing and grazing pasture for the pastoral community and resident wildlife. There is active competition for pasture between wildlife and pastoral livestock in the area.

The vegetation cover in the project area is mainly wooded / shrubby grassland. 64% of these species are palatable. They are browsed by camels and goats and to some extent by grazers. Some species provide forage long into the dry season in form of fallen leaves and seed ponds. Evergreens, which comprise only 10% of all woody species, have low palatability.

### 4.2.2 Flora Types and Diversity

The distribution and status of vegetation in Turkana and West Pokot is determined mainly by altitude, water availability, temperature and evaporation, topography, soils, and historical influences. The vegetation of the area is characterized by annual grasses and shrubs in the plains, and perennial grasses and large trees on the higher grounds. The lowlands are crosscut with many temporary stream and river courses. The larger of the river courses, the Muruny, and the Turkwel, support dense gallery forests, and *Acacia* trees grow along the banks of many smaller stream and river beds.

#### Turkana County

Tree vegetation mostly appears as riverine vegetation and although the numbers of tree species are fewer than in humid environments, they are well known and important to the local people, with *Acacia tortilis* (umbrella thorn, 'Turkana 'ewoi,' or "etir" when young) as the most valuable tree species. Rivers Muruny and Turkwel rivers have thick belts of riparian vegetation on either side, with deep-rooted *Acacia tortilis* forming a canopy forest with little understorey. The seed pods ("ngitit") are a prized feed for goats and the crushed seeds are also used as food for humans.

Further from the main rivers, there is a sequence of thickets of *Cordia sinensis* ('edome'), *Salvadora persica* ('Esokon' or 'toothbrush tree'), *Balanites spp* ('ebei', 'elemach'), *Acacia seyal*, and *Dichrostachys cinerea*. In areas distant from the water courses, the species vary, but include *Acacia nubica* ('epetet'), *Acacia mellifera*, *Acacia reficiens* ('eregae'), *Dobera glabra* ('edapal'), *Boscia coriacea* ('erdung'), *Commiphora africana*

(‘ekadel’), and *Euphorbia cuneata*. Near the lake and lower stretches of the rivers, *Hyphaena coriacea* (‘eengol’ or ‘doum palm’) is dominant.

In Turkana, *Prosopis* species has spread to the fringes of Lake Turkana, along some parts of the main rivers such as Turkwel. Despite this, there are programmes and interventions that are ongoing in the invaded areas that mainly involve thinning, singling and utilization. Poles, posts, charcoal and pods are some of the *Prosopis* products utilized locally.



**Plate 5 Showing river forest habitat and shrubland**

Forestry resources support a wide range of household activities – livestock production, honey, traditional medicines, shelter, charcoal production and foods. In some areas where infrastructure is better developed, forestry resources are becoming an important source of household income particularly through the sale of charcoal, gums and resins. Over 103 plant species in Turkana County are used as fruits, vegetables, food,

and medicine processing. *Hyphaena compressa* (Doom palm) for example produces edible fruits, is used for local brew production and blood preservation.

### **West Pokot County**

In Pokot, the vegetation ranges from grassland to the north to forest in the south and on hills, depending on the soil and water conditions. The middle and northern area consist of grasslands are characterized by sparse and stunted vegetation consisting *Acacia reficiens*, *Commiphora* spp and *Sansevieria* spp with floodplains consists of many species including *Salvadora persica*. In the middle areas, the vegetation is mainly acacia thickets and scrub bush with a poor ground cover except for the period after the rains when annuals appear. The bush is interspersed with taller woody species such as *Acacia tortilis*; *Balanites aegyptica* and *Terminalia* spp. Perennial grasses such as *Centrus ciliaris* and *Chloris roxburghiana* are dominant but disappear after rains due to overgrazing and harsh conditions. Along the rivers, *Ficus sycamoros* and *Tamarindus indica* grow.

Other species that occur in Pokot and highly valued for different uses include *Acacia mellifera*, *Balanites pedicellaris*, *Boschia coriacea* and *Diospyros scabra*, *Dodonaea viscosa*, *Euclea divinorum*, *Grewia bicolor*, *Olea africana* and *Zanthoxylum chalybeum*. *Cordia sinensis* is used for fruits, fodder (leaves), construction; *Maytenus heterophylla* is useful for fencing; *Tamarindus indica* and *Salvadora persica* as fruits, medicine for cold (fruits, roots), ash is used to protect wounds (on goats) from being affected by insects, toothbrush making, fodder (leaves), shade; *Acacia eliator* for tea (bark), fodder (fruits), firewood, construction; *Acacia nilotica* for fodder, fencing, construction

### **4.2.3 Fauna Types and Diversity**

The project area in West Pokot and Turkana counties has arid and semi-arid environment, in general with relatively few fauna outside the existing protected areas. The protected areas along the project road include: Nasolot National Reserve and South Turkana National Reserve. Wildlife crossing these two ecosystems sometimes cross the road in search of water and pasture.

#### ***Nasolot National Reserve***

Located in West Pokot, Nasolot is a small reserve covering 92 km<sup>2</sup> and is located in the hills to the south of the Lower Turkwel Dam. The Sarmach Gate to the reserve lies on the Turkwel road just 7km from the junction (with the A1 project road). Besides being a reserve for wildlife, it borders on part of the Turkwel lakeside helping to protect the slopes from human encroachment and erosion. It offers good views of the Gorge and its lakes and the prominent, rocky Nasolot Hill. Significant species to be found here include: buffalo, bushbuck, lion, leopard, hyena, baboon and the Lesser Kudu and Fringe-eared Oryx.

#### ***South Turkana National Reserve (STNR)***

South Turkana National Reserve covers 1,091 km<sup>2</sup> and is surrounded by the Masol Hills, Laiteruk Mountains and Kailongoi hills to the East, and has pure plains of Kaadengoi, and Kaakong and some interesting landforms between and around them. These are sensitive habitats as they are teemed with wildlife during the rainy season before they take refuge at the towering mountains during the dry spell. The reserve share the same eco-system with Nasolot, which is divided by A1 road in between the two reserves.

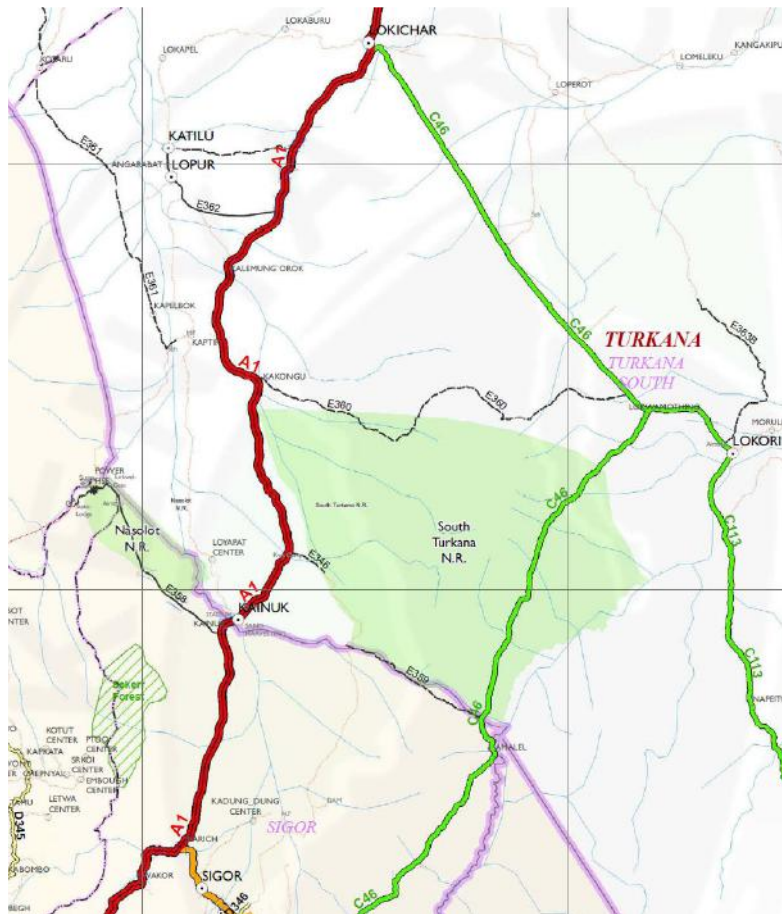


Figure 3 Map of South Turkana Reserve

Much of the STNR is dense thornbush which is a refuge for birds and animals, but there is some riverine forest (along banks of Kerio River), some salt springs and views of the Hills. There is abundant bird life. The reserve hosts several species of wild game such as elephants, buffalo, oryx, bushbuck, lesser kudu, grant gazelle, leopard, cheetah, jackal, lion, giraffe, spotted hyena, jackal and birds as well. The river bed on Kerio river are often sighted with crocodiles. There are Olive Baboon and Vervet Monkeys and crocodiles are found along the Kerio and Turkwell rivers. More so, there are more than 150 species of birdlife. It is important to note that whereas greatest population of these species are within the reserves, there is still wildlife that disperse across the entire project area.

### 4.3 Social Environment

#### 4.3.1 Administration

The project road traverses through two counties- West Pokot and Turkana, and through the following constituencies; Pokot Central in West Pokot, Loima and Turkana South in Turkana County.

Table 4-1: Administrative units along the road

County	Sub-County	Wards (along the road)	Population
West Pokot	Pokot Central	Sigor	30,142
		Chesogon	19,193
Turkana	Loima	Kainuk	33,979
	Turkana South	Lokichar	21,791

#### 4.3.2 Population

The Kenya Population and Housing Survey report (KPHC) 2019 showed that Turkana County had a population of 926,976 persons with an annual growth of 3.3%, while West Pokot county had a total population of 621,241 persons, with an annual growth of 1.9%. The Table below summarizes the counties' population by gender and annual growth rates according to the Kenya Population and Housing Census 2019 report:

Table 4-2: Demographic Features of the project counties

County	Population (2019)				
	Male	Female	Total	Avg No. of Households	population growth rate (%)
West Pokot	307,013	314,213	621,241	5.3	4.1
Turkana	478,087	448,868	926,976	4.3	0.8

Source: KNBS, 2019

#### Urban And Rural Populations

In West Pokot, only 5.1% of the population live in the urban areas, with the rest in rural areas. In Turkana county, 14% of the population lives in main urban areas of Turkana such as Lodwar, Lokichar, Lokichogio, among others'

#### 4.3.3 Population Structure and Land-use along the Target Road Corridor

##### Pokot People

The Pokots are the dominant ethnic group in the southern section of the project area northward to the Kainuk forest. They are Southern Nilotics of the Kalenjin group. The sedentary, agricultural Pokot occupy the Sekerr hills, along with the Cherangani hills, where they customarily raise rainfed and irrigated sorghum and finger millet. The crops have now been expanded to include maize, beans and cassava. In addition to cultivating, these Pokot kept small herds of livestock. This Pokot group is known as pipöpagh (people of the grains) or Hill Pokot.

The semi-nomadic, pastoral Pokot live in the western and eastern plains, the eastern plains part of the project-area. These Pokots herd cattle, sheep, goats, and, in smaller numbers, donkeys and camels. Persistent movement in search of pasture, water and saltlicks characterizes their lives. The herders travel long distances with their livestock, moving between dry and wet season grazing areas. This Pokot group is known as the pipötich (people of the cattle) or Plains Pokot.

The overwhelming majority population in Turkana County are the Turkana people (98 percent) while the remainder (2 percent) is made up of other ethnicities and/or nationalities. One prominent group in this 2 percent is Kenyan Somalis who operate local businesses.

### Turkana People

The Turkana are the third largest Nilotic ethnic group in Kenya. They are the principal tribe in the project area. They, like the Pokot to the south, are divided into two discrete groups: the forest people (nimonia) and the people of the plains (nocuro). These two groups are subdivided into about twenty clans with each clan linked to a unique livestock brand, facilitating the recognition of clan relationships. Each clan also occupies a defined territory. Although individual rights to forage do not exist, the clan elders must give permission to move into another's grazing territory. Each clan defends its territory, and during periods of stress such as drought, the elders may deny non-clan access to the grazing area or impose a toll in livestock.

#### 4.3.4 Vulnerable and Marginalized Groups<sup>6</sup> Project Area

The project area is inhabited by the Pokot and Turkana community who are considered vulnerable and marginalized as per the criteria of the AfDB Safeguards Policies<sup>7</sup> and by the Constitution of Kenya (CoK) 2012. The Pokot and Turkana communities; (a) self-identity as members of a distinct indigenous social and (b) cultural group and have collective attachment to geographically distinct habitats and ancestral territories in the project area and to the natural resources in these habitats and territories; (c) have distinct customary cultural, economic, social, or political institutions that are separate from those of the dominant society and culture and; (d) have their own distinct language, different from the official language. The above characteristics hence qualify them as vulnerable and marginalized groups and calls for the need to determine the impacts to these groups, and how the communities will benefit from the project activities.

The interpretation clause in the constitution of Kenya 2010 defines "Marginalized community" *to mean a traditional community that, out of a need or desire to preserve its unique culture and identity from assimilation, has remained outside the integrated social economic life of Kenya as a whole, or an indigenous community that has retained and maintained a traditional lifestyle and livelihood based on hunter or gatherer economy; or pastoral persons and communities whether they are nomadic or a settled community that because of its relative geographic isolation has experienced only marginal participation in the integrated social and economic life of Kenya as a whole.* Therefore, the Turkana communities, and some communities in Central West Pokot counties where the project traverses are recognized as Marginalized communities by CoK 2010.

To determine potential benefits accrued from the proposed project to the marginalized communities, the Consultant conducted wide consultations as part of ESIA, RAP and Gender analysis in the project area of influence. The Consultations ensured that they followed the Free, Prior, and informed consent (FPIC) principles (See Chapter 5 for more details). In addition, reference was made to a standalone Social Assessment (SA) report for the project prepared by KeNHA as part of the EARTTDFP in 2014.

The Tables below reflects a summary of the socio- economic characteristics of the Turkana and Pokot<sup>8</sup>.

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<sup>6</sup> For purposes of this social assessment, the terms "vulnerable and marginalized groups" and "marginalized communities" will be used instead of the term "Indigenous Peoples" to align the terminology with the language in the Constitution of Kenya. This in no way dilutes the application of the content of AfDB Policies.

<sup>7</sup> AfDB Safeguards and Sustainability Series, V2, issue 2, Aug 2016 -Development and Indigenous Peoples in Africa, p10

<sup>8</sup> SA, Lesseru – Lodwar rd, KeNHA, 2014



**Table 4-3: Socio-Economic Characteristics of Turkana**

Item	Characteristics
Social Structures	<ul style="list-style-type: none"> <li>• Social Organization is characterized as a patrilineal kinship system: property is transmitted in most cases from father to son, and the pattern of marital residence is patrilocal.</li> <li>• For the Turkana, the society is divided into clans, which are divided into sub-clans, and sub-clans subdivide into local patrilineal lineages. Each family is a member of a certain clan.</li> </ul>
Political Organization	<ul style="list-style-type: none"> <li>• Traditional leaders exist- Council of Elders.</li> <li>• However, power is now vested in national and county governments with political authority and administrative organizations representing the state.</li> </ul>
Language	<ul style="list-style-type: none"> <li>• Turkana tribe is part of the Nilotic tribes and constitutes the second largest pastoralist community in Kenya after the Maasais. They</li> <li>• speak the Turkana language, which is Nilotic and similar to the Maasai language.</li> </ul>
Religion	<ul style="list-style-type: none"> <li>• Close to 95% of the people living in Turkana County adhere to traditional beliefs while 5-10% of the residents are Christians. The Turkana believe in a Supreme deity called Akuj. They believe that Akuj created the world and that he is in control of the blessings of life. They also believe in the existence of ancestors, ngipean or nikaram. As in most African traditional religions, traditional</li> <li>• religious specialists in Turkana are present and play an active role in almost every community event.</li> </ul>
Occupation and Economy	<ul style="list-style-type: none"> <li>• The source of livelihood in all communities is livestock. Incomes from sale of livestock and livestock products play a significant role in their livelihood. Incomes increase during the rainy season in April to May and November from sale of animals. Similarly, salaries did not feature as a significant source of income with exception of communities at urban centres at Lokichar</li> <li>• Other livelihoods include farming along riverine, bee keeping, and weaving</li> </ul>
Cultural Identity	<ul style="list-style-type: none"> <li>• The Turkana have maintained their cultural identity, although majority are adopting the modern lifestyle. They practise several rituals during rights of passage including circumcision among others.</li> </ul>

**Table 4-4: Socio-Economic Characteristics of the Pokot**

Item	Characteristics
Social Structures	<ul style="list-style-type: none"> <li>• The homestead is the social center for the Pokot. Here a man lives with his wives, each having their own hut. All members of the family live here and the stock is corralled here at night. The man of the family rules the homestead, telling the others what duties they are to perform. The extended family (kapor) is the most important social grouping among the Pokot. Especially important are the relatives of the mother who are the most active in assisting with the bride price or feast contributions.</li> </ul>

Item	Characteristics
Political Organisation	<ul style="list-style-type: none"> <li>The clan is the primary political grouping among the Pokot. All livestock and shambas ultimately belong to the clan rather than to individuals and decisions regarding these and many other matters are made at the clan level. There are about 25 clans and 150 sub-clans among the Pokot. Clans meet and interact in the extended families.</li> </ul>
Language	<ul style="list-style-type: none"> <li>The Pokot language is one of the Para-Nilotic languages. The Para-Nilotic speaking peoples of Kenya include the Turkana, the Kalenjin and the Maasai groups. The Pokot language is included within the Kalenjin group though Pokot is the most different of all Kalenjin languages. The Pokot can communicate with other Kalenjin speakers, but only with great difficulty as many of their words are different. Alternate Language Names Pokot, Suk, Pakot.</li> </ul>
<ul style="list-style-type: none"> <li>Religion</li> </ul>	<ul style="list-style-type: none"> <li>In Pokot cosmology, the universe has two realms, the above and the below. The above, remote and unknowable, is the abode of the most powerful deities—Tororot, Asis (sun), and Ilat (rain); the below is the abode of humans, animals, and plants. Men and women are considered responsible for the peace and prosperity of the realm that they inhabit, but they must rely upon divine vitality and knowledge to achieve and maintain these conditions. The Pokot communicate with their deities through prayer and sacrifice: Tororot is said to listen to his creatures below, Asis to witness their activities, and Ilat to serve as a messenger between the two realms. Deities, in turn, communicate with humans, warning and rebuking them about their misconduct. Christianity has reshaped Pokot cosmology, primarily by reducing the number of deities, while augmenting their attributes.</li> <li><b>Religious Practitioners.</b> The divine messenger Ilat has a human counterpart called a werkoyon (prophet), who foresees disaster and recommends expiation, usually animal sacrifice, to alleviate it. A werkoyon may be either male or female; his or her ability to foresee and to advise is considered a divinely given gift, to be used on behalf of all Pokot.</li> </ul>
<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Most of the Pokots practice livestock keeping and farming, depending on the region they reside. Most households who practise farming also have cattle.</li> <li>Cattle have filled both an economic and social role among the Pokot and the more cattle one has, the better.</li> <li>Products and crafts- Some Pokots keep bees for honey production and wine made of honey is important in certain ceremonies like rights of passage.</li> <li>Pokots do some hunting, but not as a means of living. Some Pokots in living in the areas where there are mining like Gold have started engaging in these activities</li> </ul>
<ul style="list-style-type: none"> <li>Cultural Identity</li> </ul>	<ul style="list-style-type: none"> <li>There are some thirty-six named, exogamous patrilineal clans. Many of these clans are found among other Kalenjin groups; a few originated among the Turkana. Clan histories recount the movements of people from one locale to another, emphasizing the vulnerability of humans and their dependence upon supernatural benefactors to help them overcome hunger, thirst, and, ultimately, death itself; the attributes of these benefactors are praised in poetry and song.</li> <li>Clans are conceptualized as "pathways" and fellow clan members as children of the same "father" or "grandfather." Although members of the same clan are dispersed geographically and are differentiated internally, they are said to hold their herds in common.</li> <li>Unlike some East African cattle-keeping groups, the Pokot retain their clan affiliations throughout their lives; there is no ceremony to sever clanship in the event of marriage. Genealogical reckoning tends to be shallow, reaching back three to four generations.</li> </ul>

#### 4.3.5 Settlements

The Pokot population in Orwa sub location, where Marich Pass and Orwa Trading Centre are located, is divided between the Hill Pokots living in the rainy highlands and the Plains Pokots living in the dry plains.

The two groups normally intermingle because trading is concentrated in Marich Pass and Orwa Trading Centre. Marich Pass and Orwa Trading Centre are developed with residential structures used primarily for commercial purposes.

The most common businesses include retail shops for sale of food items such as sugar and tea along with imported cereals and fruits; eating establishments; and, locally produced charcoal. Buildings, structures and other properties located within the ROW for the project road are found, for the most part, in these two trading centres, which are situated about 2 km apart. After leaving the Moruny River near both centres, settlements are virtually non-existent until the Kainuk forest is reached.

By tradition, the Turkana people are semi-nomadic pastoralists whose settlement patterns depend on availability of pasture for their animals and their land requirements are extensive. However, these patterns are gradually changing due to their exposure to other lifestyles. The Turkana have been influenced by the inescapable benefits of urbanisation. Their settlements are concentrated around trading centers such as Kainuk, Kaakong, Kalemng'orok, Katilu and Lokichar where they can, at minimum, find work. Moreover, some of these centres have become densely populated because of increased government led security.

According to government estimates, the area's poverty level stands at 73 percent, but local informants-primarily local NGOs-estimate the rate at 94 percent. Because the Turkana pastoralist community is semi nomadic, they are not stationary, which partially accounts for high poverty rates.

The major settlements on the project alignment are Ortum, Sebit, Marich Pass, Kainuk and Lokichar, the road also links local communities with short length trips that cover only portions of the road. The average population density for West Pokot is 68 persons per Km<sup>2</sup>, while for Turkana County is 13.6 persons per Km<sup>2</sup>.





Plate 6 Showing trading centre along the project area

The main settlements along the road are;

Table 4-5: Markets Along The Project Road

S/N	Km	Market name
1	0+00	Mopus
2	10+00	Sebit
3	16	Ortum market
4	30	Wakor market
5	34	Marich Pass market
6	62	Kainuk
7	96	Kakongu
8	104	Kaputir
9	111	Kalemngorok
10	142	Lokichar

#### 4.3.6 Land Tenure and Ownership

All land in Turkana County is administered under the Community Land Act (2016). Community Land in Kenya is governed by the Community Land Act and this regulation provides for the allocation, management, and administration of community land. Community land follows a tenure system that defines land owned by the traditional community, identified based on ethnicity, culture or similar community of interests.

Because there have been no formal surveys or land adjudication, most of the land is still held communally by various communities under customary tenure, and is held under trust by the County Government on behalf of the communities. Formal allocations have been done at major centres like Marich Pass, Lokichar, Kainuk and Lodwar, and is still ongoing.. Land tenure in West Pokot County is a mixture of trust land, mainly in the pastoralist areas in the north, while land has been adjudicated in the highland farming areas to the south and central Pokot.

According to National Disaster Management Authority (NDMA)<sup>9</sup>, the Turkana County has four main livelihood zones. Nearly 60% of the population is considered pastoral, 20% agro-pastoral, 12% fisher folks and 8% are in the urban/ peri-urban formal and informal employments.

Turkana County is a drought prone area that experiences frequent, successive and prolonged drought and cattle rustling which leads to heavy losses of lives and livestock.

#### 4.3.7 Livelihood Activities

Livelihood activities of communities living along the project area of influence is discussed below.

##### **Turkana County**

The Turkana County is subdivided into four main livelihood zones based on their sources of income – pastoralism (64%), agro-pastoralism (16%), fishing based (12%), and peri-urban and urban (8%).

- *Pastoral*: covers most parts of northern and central divisions and supports 60% of total population. Main livestock kept are cattle, goats, sheep and camels.
- *Agro-pastoral*: located along the riverine areas of Turkwel and Kerio and supports 20% of the total population. The agro-pastoralists keep livestock and also practice small-scale farming. There are two rivers that support agricultural activities, Rivers Kerio and Turkwel
- *Formal and informal employment, trade*: mainly in urban and peri-urban centres support 8% of total population.
- *Fishing*: supports 12% of total population mainly practiced along the western shores of Lake Turkana

The Turkana people pursue irrigated farming, particularly around Kainuk and Katilu where food crops such as maize, sorghum, English /sweet potatoes, cow pea and green gram are raised along the riverine of R Muruny and Turkwell river. Horticultural crops-tomatoes, kale (sukuma wiki), spinach, pumpkins, bananas and other local vegetables are also grown.

Other income sources include charcoal trade, bars and guesthouses. Gold mining provides another source of income in the villages of Lochaang'ikamataak and Lochoromoit. Kenyan Somalis, in particular, have introduced new sources of income such as retail shops, welding, restaurants, woodwork, motor vehicle repair and petrol stations. As a consequence of these activities, the local Turkana have diversified their income generating behaviors. Recently discovered petroleum reserves in the Kainuk and Lokichar area as well as the Kainuk rural electrification project, funded jointly with GOK and Kenya Electricity Generating Company Ltd., are expected to boost local and national incomes.

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<sup>9</sup> Turkana County, Hazard Atlas, NMDA, 2016



Figure 4: Turkana livelihood map

### West Pokot County

The livelihoods in West Pokot takes three forms namely; pastoral, agro-pastoral and mixed farming. The agricultural and livestock sector is the most important segment of the overall West Pokot's economy. On average, 65% of the entire farm produce is sold, and 83% of households derive at least part of their income from on-farm activities.



Figure 5: West Pokot livelihood map

Mixed farming is largely practiced in West Pokot whereas Pokot Central (where the road pass) and Pokot North

practice agro-pastoralism and pastoral respectively. For the most part, the Pokots are semi-nomadic, pastoralists (pipötich), keeping sizeable herds of cows, sheep, goats and donkeys, but they also cultivate (pipötich) growing subsistence crops—mostly maize—along riverbanks and hill slopes. Nevertheless, wealth among both groups is measured by the number of cows one owns. Used for barter and, more importantly, bride price, cattle exchanges are the primary manner by which wealth and resources change hands in Pokot society.

Along with the subsistence maize they grow, the Pokot depend upon their cattle for their protein and dairy needs (milk, butter and cheese). The Pokots' diet consists largely of milk and porridge mixed with cow blood. But, like their neighbors, the Turkana, to the north, the harsh climate limits their ability to produce enough food to feed themselves. Consequently, they receive food relief from the government and World Food Programme (WFP), when and where necessary.

Gold mining also provides income for the Pokot; they dig for gold along riversides and on the lower slopes of the area's hills. After collection, the gold is sold to brokers. Pokot youth operate boda boda (for hire motorbike transport) businesses. These businesses are popular or income earning by the youth throughout the project area.

#### 4.3.8 Transport

Roads and means of transportation are essential to diffusing knowledge and technology, which facilitate the development of communities (either rural or urban). In both Turkana and Pokot Counties, the infrastructure is generally poor. The proposed project, A1 road, is the only major road linking the counties. As described earlier, this road section between Kitale and Lokichar is the only section that has not been rehabilitated along A1, after the WB funded the Lokichar – Nadapal Section.

The problem of poor roads and public transportation has negatively affected the livelihoods of people of the region, for example, it is hard to get supplies into rural areas, and this limits trade with other regions and even relief efforts when needed. For example, in the interior parts of Turkana, most of the roads and bridges are either damaged or destroyed and there is no reliable public transport system.

Turkana is served by 8 airports and airstrips, with the main airports being Lodwar and Lokichogio. Turkana County has a total road network of approximately 9,000 km. Of these, about 905 km are bitumen (main one being A1 road - Kainuk Nadapal) and the rest are dirt or gravel roads. A total of 5,100.2 km of roads in the county were reclassified by Kenya Roads Board in 2017 (2,131.2 km as national roads and 2,969 km as county roads).

The road network in West Pokot County is predominantly earth and gravel surface which makes up 87 percent of the road network. The gravel surface roads cover a distance of 349 km while the earth surface roads cover 697 km. The total length of bitumen surface (tarmac) road is about 201 km. The general status of the road network in the county is poor. The tarmacked road is poorly maintained while the earth and graveled roads becomes impassable during the rainy seasons. A rugged and hilly terrain within the county poses another challenge in road connectivity. The county has no rail network, ports and airports. The airstrips are completely inactive<sup>10</sup>.

#### 4.3.9 Education

School enrolment within the Counties has seen an improvement in the years between 2013 and 2017<sup>11</sup> due to improvement of infrastructure. The counties also have good number of institutions- from primary to tertiary level which has seen literacy levels of 14-24 years averaging over 46% in these counties. The pupil teacher ratio in Turkana is about 40%, while in Pokot is 48.5%.

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<sup>10</sup> West Pokot CIDP, 2018-2022

<sup>11</sup> Turkana CIDP 2018-2022, and West Pokot counties CIDPs, 2018-2022

The Turkana County has 175 pre-primary schools, 136 primary schools, eight secondary schools, two youth polytechnics and one medical training college. Enrollment in primary school is 122,883, with a teacher to pupil ratio of 1 to 51 while secondary school enrolment is 48,004 with a teacher to pupil ratio of 1 to 27.7. There are 2 tertiary institutions. Adult Literacy Classes have an enrolment of 562.

West Pokot on the other hand has 1,032 pre-primary schools, 554 Primary schools with an enrolment of 186,708 and a Teacher to Pupil Ratio of 1:52. The county has a gross primary school enrolment of 89 percent and a transition rate of 66 percent to secondary schools. Issues affecting primary school going school children in the county include lack of sanitary pads, inadequate teaching staff, early marriages, female genital mutilation, child labour, sexual abuse, inadequate learning and reading materials, inadequate access to water and healthcare, insecurity, high household poverty levels, inadequate parental care and lack of electricity connections in some schools.

There are 120 secondary schools with total enrolment of 156,272 students in the county. There are a total of 3005 teachers giving Teacher pupil ratio of 1:52. The county has a gross secondary school enrolment of 75 percent. Staffing and school infrastructure needs to be proved to enhance the learning environment and ensure quality education. There are six youth polytechnics in the County namely; Kapenguria, Chepareria, Ortum, Sigor, Sina and Kodich. Enrolment in county polytechnics is very low. Huge gender disparities also exist in enrolment in favor of males. (KNBS, 2019).

### **Literacy**

The literacy levels in the county stands at 40% and 20% for West Pokot and Turkana Counties, compared to 85% nationally. The low literacy rates are due to various factors such as nomadic lifestyles, negative cultural practices, inaccessibility and inadequate education facilities. Concerted efforts to address the root causes of low literacy are therefore needed. Areas of focus include: provision of adequate education facilities, addressing negative cultural practices namely; FGM, early marriages and cattle rustling and changing nomadic lifestyle of the community to permanent settlement through provision of water and pastures for animals and development of more adult education centres. Only 3% of Turkana County residents have a secondary level of education or above, compared to 6% of West Pokot County residents.

The road construction is expected to have a positive impact on education in that it will allow access to schools in the area, and also give an opportunity for students to access other schools outside the counties served by the road. This in turn will help in increasing enrollment rates for primary and secondary school students, especially the girls, and improve literacy rates in the project area of influence. The road will also ease in supply of much needed infrastructure in schools such as books and desks, and other materials such as laboratory equipments.

#### **4.3.10 Labour Availability**

Despite high unemployment rates, the culture of Pokot and Turkana people is mainly agro-pastoral (livestock keeping and some form of agriculture in the riverine), which due to the nature of nomadism (moving from one area to another seeking pastures) discourage young people from seeking other jobs. Although some young people might not be willing to seek employment in construction projects because they are engaged in livestock herding, they will be encouraged to seek employment in non-skilled jobs as much as they can to benefit from the project, especially on obtaining construction skills through the project.

#### **4.3.11 Public Utilities and Infrastructure**

The main public utilities include roads, water, telecommunication and other facilities such as sanitation. The distribution and access to public utilities along the project corridor are as presented in the table below:



Table 4-6: Access to Public Utilities

Access to Infrastructure	West Pokot	Turkana
Improved water (% households)	41	39
Improved sanitation (No of households)	14.5%	6.6%
Electricity (% households)	2.6	2.4
Paved roads (as % of total roads)	7.1	9.3
Good/fair roads (as % of total roads)	58.1	60

Source: Kenya County Fact Sheet 2011

#### 4.3.12 Energy

The main source of energy in the counties where the road transverse is fuel wood, which accounts to more than 90 per cent of the energy needs of the counties' population. Petroleum energy is another source accounting for 5 per cent energy needs. Despite the presence of Turkwel Dam, which generates electricity, connection is still low with only 2 per cent of the population accessing electricity and only the main trading centres are connected with power, with rural areas not connected. Electricity power outages are also prevalent in the counties. Paraffin, which is another source of energy, is used by 8 per cent of population. Other sources of energy in the county include charcoal and solar. The county has a high potential for solar energy, which remains untapped.

#### 4.3.13 Health

The health sector plays a critical supportive role in maintaining a healthy, working population, which is necessary for increased labour productivity. Most health services in the counties of West Pokot and Turkana remain inaccessible both in terms of personnel as well as physical distance. Along the road project, the public hospitals include 2 Sub-County hospitals at Lokichar and Sebit, with other centres served by health centres, dispensaries. The Sebit hospital does not have maternity ward, and the women tend to prefer going to Chepareria Hospital if they can, give birth at home, or use the mission hospital at Ortum - Ortum Mission Hospital. The Doctor to patient ratio is 1:63,747 with the average distance to the nearest health facility being 25 Km, this makes the health services in the county inaccessible to the population.

According to CIDPs of the countries the road serves, the five most common diseases in the Counties in order of prevalence are: Upper Respiratory Tract Infections (URTI), skin diseases, other diseases of the respiratory system, diarrhea and pneumonia.

Though with limited data, the road corridor is characterized with road safety hotspots while others were evidently observed. The areas noted to be of concern and reported to have high number of accidents are mainly within town centres located along the road, especially where markets are located very near to the road at Ortum, Marich Pass, Kainuk, and Lokichar. Analysis of these hot spots by the design engineer will determine the type of safety features that will be installed in these sections of the road to minimize accidents and injuries to pedestrians.

#### 4.3.14 Waste Management

There is a problem of waste management noted at all major centres along the road, with counties indicating they only collect less than 1% of the community waste. This contributes to water, soil and air pollution and poses a health threat to communities. A sustainable waste management strategy is urgently needed in Turkana especially

in line with rapid population growth and expansion of urban centres. and expansion of urban centres.

Areas with potential waste management challenges are urban centres and settlement areas (mainly organic matter, papers, plastics and polythene materials and fabrics. Others may include hazardous materials from health facilities, service stations and motor garages). It was also noted that none of the towns and markets are provided with effective solid waste management system or sewage disposal.

Road construction activities generates waste materials almost similar to urban and settlement wastes; and under the current capacity in the corridor towns, camp sites and other work areas would need to establish own sustainable waste management mechanisms.

#### **4.3.15 Tourism**

Tourism sites in the counties served by the road have largely remained unexploited. Key attractions in the area include Lake Turkana and Sibiloi National Park. Other attractions include: Nasolot Game reserve, South Turkana Game Reserve in the far south of the county; Lotikipi National Game Reserve in the west; the dry, desolate beauty of the Suguta valley south of Lake Turkana; archaeological sites like the Namorutunga standing stones in Kalokol; Lotubae in Lokori, Turkana East; Turkana Boy Monument in Nariokotome; and the science park still under construction in Turkana North.

Other tourist attraction sites in West Pokot County include scenic sites and escarpments (Marich escarpment, Kaisagat viewpoint, Mtelo and Koh hills), ecotourism and Turkwel Dam which remain untapped. Other tourism attractions include the rich Pokot Culture and artefacts in Kapenguria museum, curio shops and wildlife. Apart from these, the County is a proud home of the infamous “Kapenguria Six” Cells that is found in Kapenguria Museum.

#### **4.3.16 Conflict and Security Situation**

Frequent spells of drought force the pastoralists to migrate constantly in search of water and pasture across the region, sometimes even across the national borders, thus often leading to wars and conflicts over the scarce resources. Though most of the conflicts are local in nature, inter-ethnic conflicts arising from persistent droughts, food scarcity and changes in lifestyles are evident amongst the different nomadic groups. Other causes include traditional culture of cattle rustling, ethnocentrism, poverty, marginalization and proliferation of illicit arms.

The poor condition as well as civil conflict between the areas north and south of a notional line running through Kainuk. Border and land ownership disputes, grazing right conflicts lead to mistrust and occasional flare ups of localized conflict. Failure by the National and County governments to have coordinated policies and mechanisms to deal with cross-border insecurity in the area, and lack of coordinated efforts to deal with this recurring conflict have led the local communities to arm themselves, making the area more volatile, with local communities having a lot of mistrust on security agencies.

The local function of the project road is severely compromised due to insecurity along the road. Poor connectivity in the interior of the two counties make response by security agencies to conflict difficult. This hinders local economic growth and long-term development of the region, and the regional stability overall. The security situation also affects the local communities’ movement, and access to essential needs such as schools, health, jobs, and markets vital to building community resilience and consolidating community social cohesion.

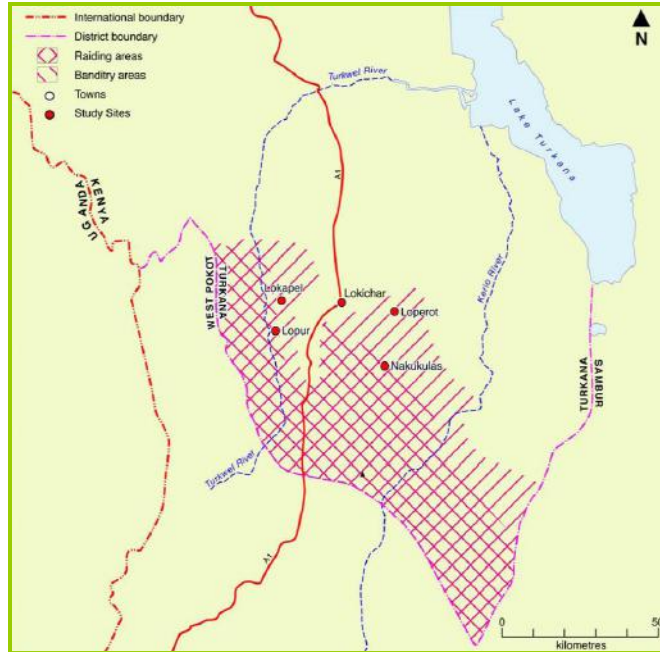


Figure 6: Areas of insecurity in Southern Turkana and West Pokot border

#### 4.3.17 Other Economic Activities

Other economic activities in the project counties include, mining where quarrying including sand harvesting, murrum/gravel, excavation of building blocks and ballast and extraction of clay soil for brick making and pottery. There is brick making as well as charcoal burning and limestone reserves at Sebit where a cement factory is being constructed. Oil discovery in Lokichar basin is also expected to spur other economic activities related to the oil industry. Charcoal is primarily produced along the Turkwel and Kerio Rivers and is sold along the main highway between Kainuk in Pokot and Lodwar in Turkana.

Beekeeping is the other major income generating activity and earns the households an estimated Kshs 3 million annually. Women weave baskets, work leather, and make milk gourds and unglazed pots for cooking and water storage. Men specialize in woodworking, making beehives, headrests, and the handles for spears, knives, and hoes.

Fishing in Lake Turkana is another, long standing economic activity in Turkana County. Fishermen along Lake Turkana migrate to follow the patterns of fish movement. Fishing supports 12% of total population and is mainly practiced along the western shores of Lake Turkana. The pastoralists also supplement their livelihoods by selling the fish.

### 4.4 Cross-Cutting Issues

#### 4.4.1 Poverty Analysis

The counties of West Pokot and Turkana are some of the poorest in Kenya, according to the Kenya Integrated Household Budget Survey 2015/16 Basic Report. They are constrained by an arid environment, remoteness from the capital and poor access to services, in addition to the underlying causes of poverty experienced elsewhere in Kenya.

#### 4.4.2 Development challenges

The following are the major development challenges as identified in the CIDPs of West Pokot and Turkana Counties:

- Nomadic pastoralism;
- Climate change impacts
- Poor road network;
- Inadequate water resources and facilities;
- Influx of refugees;
- Insecurity due to cattle rustling;
- Absolute poverty among the residents;
- Hunger
- HIV/AIDS;
- Gender inequality;
- Deficiencies in disaster management.

#### 4.4.3 Gender Issues

The main gender issues are contained under the customary practices where the male vests ownership and control of productive assets. Women in the counties are faced with a number of challenges including inadequate access to credit, lack of technical skills, multiplicity of roles for women and inadequate access to education and training. The tradition delineation of labour persists with women assuming the entire responsibility for childcare, provision of food, water and firewood collection and the general maintenance of the homestead among others. Other forms of gender issues that are rampant in these counties include but not limited to; discrimination against women and girls, harmful practices such as child abuse, early and forced marriages and Female Genital Mutilation (FGM).

#### 4.4.4 Project Affected Persons (PAPs) and Resettlement

A separate full resettlement action plan review is being undertaken separately for the Lesseru – Kitale – Lokichar road and a report will be produced. There is no land acquisition (private or community land) anticipated for entire section the road between Morpus and Lokichar. The main impacts in terms resettlement will be economic displacement of people trading along the road wayleave.

#### 4.5 HOUSEHOLD SURVEY

Quantitative survey data was collected using Handheld Assisted Personal Interviewing Technique. As part of quality control measures, all handheld devices were GPS-enabled so that the Monitoring and Evaluation Expert can view the locations where data will be collected.

The Population of the sub-counties in Turkana South and Pokot Central where the road transverses is estimated to be about 272,752 persons (Pokot Central – 119,016, and Turkana South- 153,736), and using the Raosoft sample size calculator ([www.raosoft.com/samplesize.html](http://www.raosoft.com/samplesize.html)), a sample size of 384 respondents (N) was targeted for this study at 95% level of confidence and 50% response distribution along the road. A total of 390 households were interviewed along the road, 49% in Turkana and 51% in West Pokot. The households also included some people who are directly affected by the project, such as those trading along the wayleave in major centres.

Table 4-7: Household Samples

Data Collection Site (Settlement)	County	No of Samples (N)	Percentage
Lokichar	Turkana	60	13%
Kaputir	Turkana	30	8%
Kakongu	Turkana	30	8%
Kalemng'orok	Turkana	30	8%
Kainuk	Turkana	40	13%
Chepkagkaun	West Pokot	30	8%
Wakor	West Pokot	40	10%
Ortum	West Pokot	60	15%
Sebit	West Pokot	40	10%
Morpus	West Pokot	30	8%
<b>Total</b>		<b>390</b>	<b>100%</b>

Table 4-8: Gender of respondents

Respondent Gender	Samples	Percentage of N
Male	234	60%
Female	156	40%

The majority of household heads (87. percent) is under 50 years of age with the remainder (16.1 percent) over 55 years of age. The mean age of the household head is slightly more than 39 years. Therefore, the preponderance of households is headed by a person under 50 years, an age group that falls within the active workforce and below the government's retirement age.

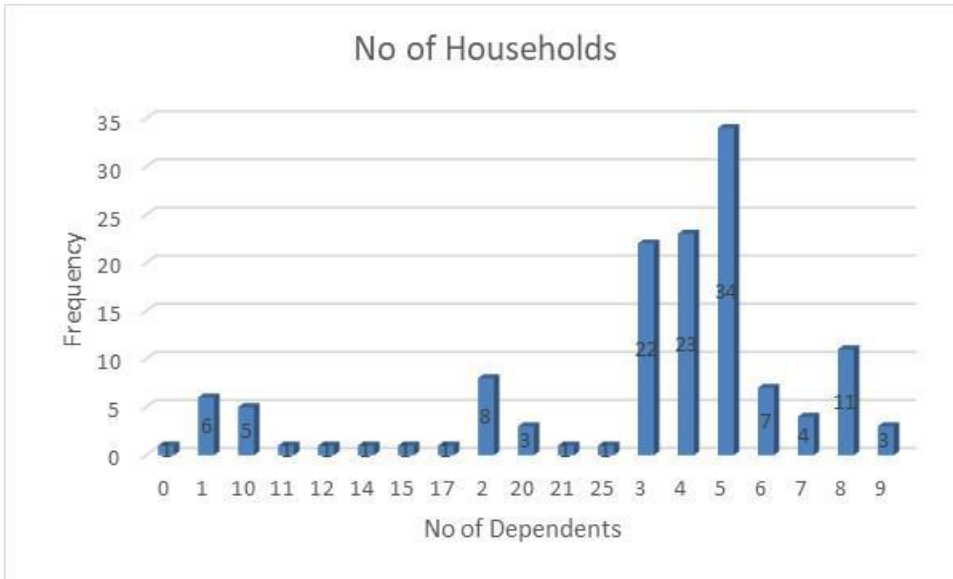
Table 4-9: Age of the Respondents

Age of respondents	% of total	N
Between 18 and 35 years	60%	235
Above 50 years of age	6%	23
Below 18 years	1%	5
Between 35 and 50 years	32%	127
<b>Total</b>	<b>100%</b>	<b>390</b>

#### 4.5.1 Household Size

Among interviewees, household size varies widely: some households had only one member whereas some had as many as thirty-four members, a number that reflects polygamous households and the resulting multi-

household family. The average household size in the project area of influence is seven.



#### 4.5.2 Livelihood

##### Turkana County

The main occupation of the head of household was livestock herding (25.7), farming 18.8%, trading 17.4% and casual labour 17 and trading in Charcoal and firewood 14.4%. Despite the livestock herding being the main occupation of households main providers it was not the leading income source for the households. The dominant source of income for the household is trading followed by casual labour indicating majority of household have no stable sources of income. Among the major petty trade were firewood/ charcoal selling which is destructive due to depletion of vegetation cover and exposure of the local communities to climate change impacts, and overall livelihoods of the local communities.

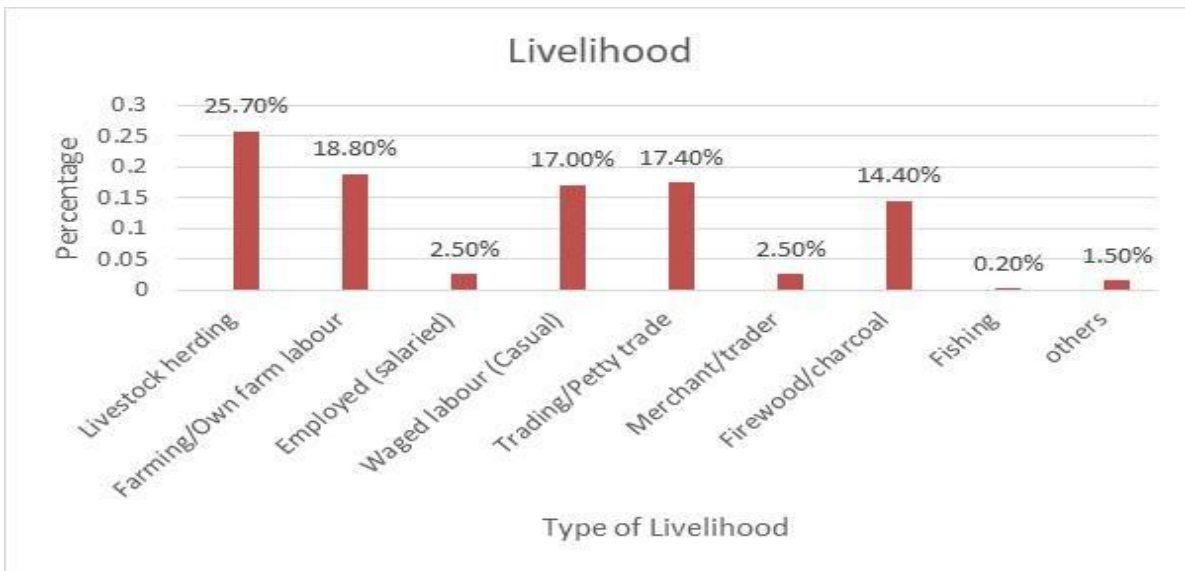


Figure 7: Source of Livelihood in Turkana

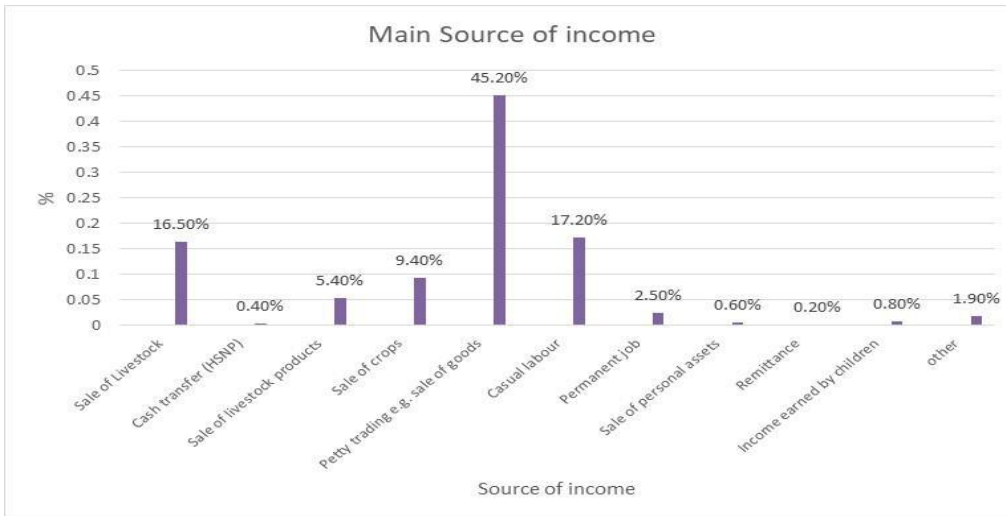


Figure 8 Main Source of Income in Turkana

**West Pokot**

The main occupation of the household heads in West Pokot where the road transverses is crop farming (29.8%) followed by livestock herding (25.5%), waged labor (17.2%), salaried/wages (11.3%) and the rest (petty trade, fire wood and charcoal burning and others) accounting for 16.0%. Like in Turkana county, the dominant source of income for the household is trading followed by casual labour, indicating majority of household have no stable sources of income. Among the major petty trade were selling vegetables and firewood/ charcoal selling which is destructive due to depletion of vegetation cover and exposure of the local communities to climate change impacts, and overall livelihoods of the local communities.

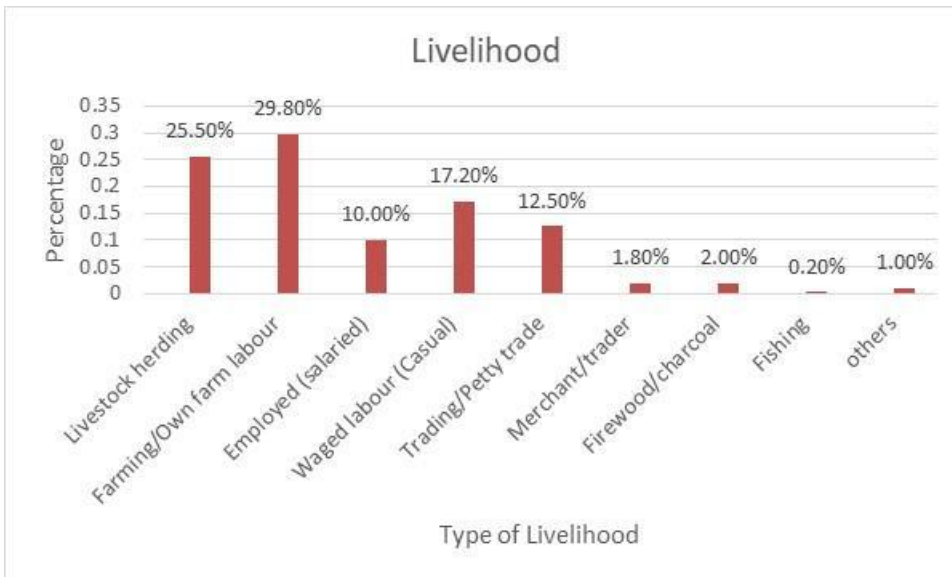


Figure 9: Source of Livelihood in West Pokot County

4.5.3 Education and Literacy levels

**Turkana County**

Literacy levels for the samples taken in Turkana shows 76% having no formal education. 13%, 5% and 4% had primary, secondary and Tertiary education respectively. . The findings on education level of household members and overall literacy rates are tabulated in the next page.

*School enrolment for age group 3 years to 18 years*

For respondents that were married and having (or should have) children in school, 79% said their children are enrolled in school. For those not enrolled in school, various reasons were given – 39.3% indicated there were no schools nearby, and 21.3% indicated kids are not enrolled because of family responsibilities, and 13.4% do not see value for schooling.

However, it worth noting that the people who answered that there are no schools nearby are those that practice nomadism, because when majority of the respondents were asked how far the schools are nearby to their homes, 76% indicated the schools are less than 1km away, and 21% ( between 1 – 3km) from where they live, with only 3% indicating the schools are far (more than 3km).

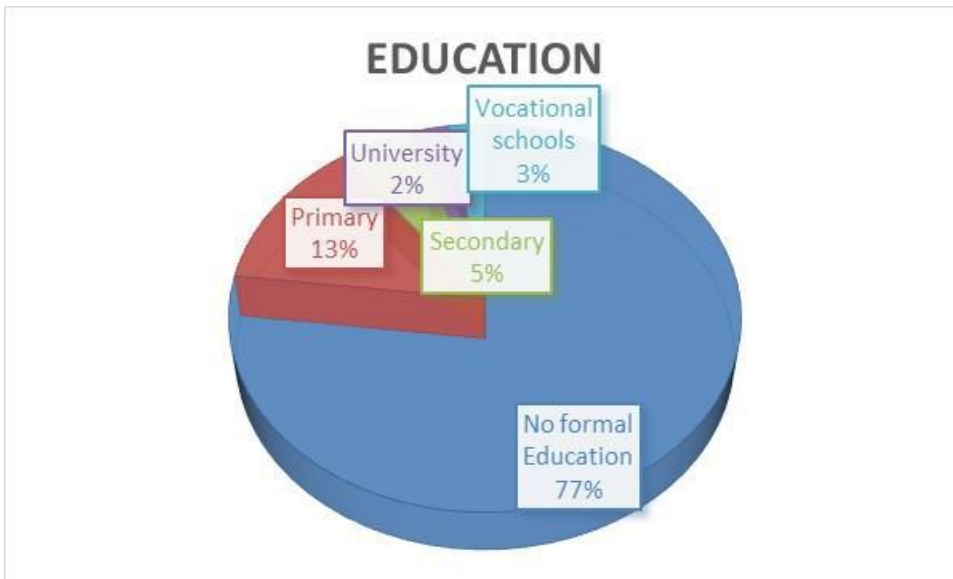


Figure 10 Education levels in Turkana County

**West Pokot County**

The findings on education level of household members and overall literacy rates are tabulated below. The proportion of adults assessed who had no formal education was 39%, with 29% of them having attained compulsory primary education, 17% secondary education and about 11% tertiary education.



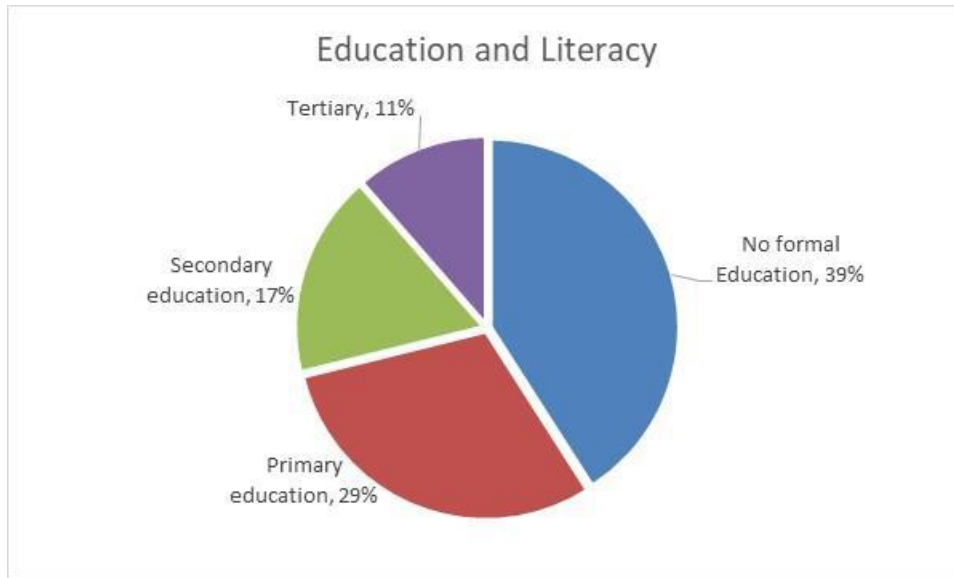


Figure 11 Education levels in West Pokot County

The assessment showed that majority (80%) of the children aged between 5-17 years were enrolled in school with lack of school nearby 33.4%, family labor responsibilities (involvement in family labor like herding and fetching water/firewood (15.4%) and not seeing the value of school (15.1%) being some of the main reasons cited for the rest of the children (19.9%) not attending school

Only 31% of all household heads have attained primary school education and just 8.8% have secondary school education. None of the female heads of households surveyed have received formal education. Similarly, 55% of the population have not been formally educated.

#### 4.5.4 Water Sources

A household's water is supplied from one or more of three systems—groundwater (boreholes and wells), public and surface water (rivers and streams). The degree to which households uses one or more of these water sources is dependent upon whether or not they reside within a centre or town, or near a community project or rivers. Larger centres like Lokichar, Kalemngorok and Kainuk have some form of piped water although not regular from nearby community boreholes. The road project pass between Kerio and Turkwell river in Turkana South, and although distance to sources of water maybe a problem, it is much shorter compared to other sub counties in the county.

#### 4.5.5 Cooking Energy

The survey also established the energy sources used for household cooking. The majority (60%) uses fuelwoods, which are readily available because of the current abundance of surrounding vegetation. Charcoal, which must be purchased or where few households make their own), is used by 30% percent of surveyed households. That said, commercial establishments such as hotels and restaurants use the bulk of purchased charcoal. The household balance (7% percent) uses paraffin (1%) and gas (6%).

#### 4.5.6 Lighting Energy

Household energy sources for lighting is largely shared between solar and electricity in the project area of

influence, with many households having both sources. The majority those surveyed indicated that besides having electricity in their houses, they also use solar panels to save on the cost of electricity in their houses. 60% indicated they have solar power, and 28% of the HH have electricity connection as a source of lighting.

Solar panels are becoming more widely used because of abundant solar energy in the project area; and many companies are offering pay-as-you-go options to enable people to access solar panels. The cost of solar panels has also gone down due to government removal of tax to solar panels. Because of small size houses, the wiring is also not much and is affordable to many, and cheaper than electricity. The government has also expanded power connection through its last mile program which has enabled connection to electricity to many households in many parts of the county (and country at large).

Those households that indicated torches are used explained that this lighting source is mainly relied upon to move about in the dark. The use of candles is rare, normally relegated to the least preferred option.

#### 4.5.7 Health Status

##### Disease Prevalence

The most prevalent diseases in the project area of influence are malaria (30.3 percent), typhoid (23.1 percent), cholera (17.6 percent) and diarrhea (14.8 percent). Other fairly common diseases are skin infections (9.6 percent) and amoebiasis (4.6 percent).

Table 4-10 Disease Prevalence among Surveyed Households

Type of Disease	Frequency	Percentage
Amoebiasis	38	04.6
Cholera	145	17.7
Diarrhea	122	14.8
Malaria	249	30.3
Skin Infections	79	09.6
Typhoid	190	23.1
<b>TOTAL DISEASE INCIDENCE</b>	<b>823</b>	

Less common illnesses include asthma, brucellosis, chicken pox, eye infections, HIV/AIDS, kala-azar,<sup>12</sup> pneumonia, snakebites, tetanus and tuberculosis.

##### 4.5.7.1 Access to Healthcare Facility

89 percent of the respondents indicated that the nearest health facilities is located less than 3km from their houses, and take less than 1 hour to reach these health facilities. The remaining 11% indicated that health centres are more than 3 km away, and it takes more than 1 hr to reach these health facilities, especially for those that stay in the far interiors.

<sup>12</sup> A chronic and potentially fatal parasitic disease of the internal organs, particularly the liver, spleen, bone marrow and lymph nodes, because of infection by a parasite, Leishmania donovani, the agent of kala-azar that is transmitted by sand-fly bites.

Table 4-11 : Time it takes to access Healthcare Facility

Time to health facility	Number of Households	Percentage of N
Less than one hour	347	89%
One to three hours	35	9%
More than three hours	5	1%
Never visit a healthcare facility	3	1%
<b>TOTAL</b>	<b>390</b>	<b>100</b>

#### 4.5.8 Access Challenges by women in the area

When the respondents were asked the special challenges faced by women compared to men, access to health facilities, water, job opportunities, and access to financial capital/products topped the list.

Table 4-12 Access challenges by women

QUESTION	RESPONSE	Frequency
What are the special access challenges faced by women compared to men?	Access to health facilities	64
	Access to water	46
	Access to food	17
	Access to job opportunities	16
	Access to capital/income	16
	Insecurity	10
	Access to reliable maternal care	8
	Access to affordable transport services	4
	Marginalization or being isolated due to gender inequality	7
	Access to rescue centers after domestic violence, rape, or abandonment	5
	Good quality goods and services	2
	Wider market	3
	Sexual immoralities such as rape	2

#### 4.5.9 Environmental and Social Impacts Survey

When prompted to state the potential environmental and social impacts associated with the road during and after construction, the respondents indicated the following impacts and proposed mitigation impacts in order of importance.

Table 4-13 Environmental and Social impacts by respondents

QUESTION	RESPONSE	Frequency
The kind of training women/men/youth like to be associated with the project	Construction activities	107
	Training on Machine/equipment	92
	Driving skills	87
	Financial management training	20
Recommendations to be considered during the design of the road	Widen the road	94
	Provide a bus park	90
	Provide a market in the area in form of CSR	56
	Provide a walking pavements	45
	Provide service lanes in the town center	39
	Provide a trailer parks along the road	31
How will the road project benefit you	Provide street lights	11
	Improve trade	126
	Improve transport	118
	Improve security	81

QUESTION	RESPONSE	Frequency
	Reduce time spent on the road	27
	Reduce vehicle cost of maintenance	25
	Improve regional trade for Uganda and Southern Sudan	26
	Reduce soil erosion and improved bridges	5
Anticipated positive environmental and socio-economic impacts during the construction phase	Employment opportunities	145
	Increases trade	93
	Skills transfer to local people, especially youth	42
	Improved security	37
Anticipated negative environmental and socio-economic impacts during the construction phase	Increased drug abuse	103
	Increases pregnancy in young girls	95
	Increased accidents	61
	Increased HIV/AIDS	61
	Influx in population	39
	Accidents from construction vehicles	37
	Increased hazards from oil spills	24
	Diversions on the road	20
	Increased conflict due to natural resources such as water	15
	Road accidents	10
	Loss of trees and vegetation cover	9
	Soil erosion and flooding	8
Mitigation measures on selected impacts	Creation of awareness and sensitization to local people	24
	Raise areas prone to floods	93
	Enforcement of environmental mitigation measures	13
	Creation of awareness on family planning	1
	Watering dusty diversion routes	2
	Environmental conservation	5
	Good diversion routes	3
	Safety measures to be incorporated in the design	12
	Install bumps and other road signs	3
Anticipated positive socio-economic and environmental impacts after completion of the road project	Good road network that will encourage investments in the area	95
	Improved security	94
	Save travel time	70
	General development of the county	65
	Development of the county's national and regional trade	61
	Interaction with other communities due to new business opportunities	20
Anticipated negative socio-economic and environmental impacts after completion of the road project	Increases prostitution	105
	Increased pollution especially from the many trucks	52
	Conflicts between road users and pastoralists due to livestock road kills	54
	Increased communicable diseases	48
	Wildlife kills due to fast-moving vehicles	32
	Influx in population	32
	Road maintainable problems	20
	Insecurity	21
	Increased accidents	35
	Vandalism of the road signage	11
Mitigation measures for the negative impacts after completion of the road project	Sensitization of community on safety road usage	125
	Construction of wide roads	76
	Ensuring animals and wildlife crossing areas are well marked	75
	Public sensitization on caring for the road infrastructure	74
	Increase security along the road	31

## 5 STAKEHOLDER CONSULTATION AND PUBLIC PARTICIPATION

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### 5.1 General Information

This chapter describes the process of public consultation and participation that were followed to identify the key issues and impacts of the proposed project. Stakeholder consultation is an important process through which stakeholders including beneficiaries and members of public living in project areas (both public and private), are given an opportunity to contribute to the overall project design by making recommendations and raising concerns projects before they are implemented. In addition, the process creates a sense of responsibility, commitment and local ownership for smooth implementation.

Stakeholder Engagement and Public Participation Process is an integral aspect of successful decision making in the ESIA processes for major developments. Public participation is a key requirement as stipulated in Article 69 Section 1 of the Kenyan Constitution, 2010, Legal Notice 101 of the Environmental Management and Coordination Act (EMCA), 1999, Section 3 of the EIA/EA regulations, 2003 and Section 87 & 113 of the County Governments Act, 2012.

Stakeholder Engagement and Public Participation is also necessary for Category '1' projects provided under AfDB Safeguards Policies. OS 1 Environment and Social Assessment requires stakeholder engagement with project affected persons (PAPs) and other stakeholders in the preparation/designing and implementation of AfDB financed projects. To fulfil this condition, consultations were done by the design engineer during initial ESIA preparation, and further consultations done by the Independent Consultant. Further consultations have been done by the Design Review consultant as part of this ESIA updating.

Disclosure requirements will also be met by disclosing the ESIA on the KeNHA's website and AfDB external website.

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### 5.2 Objectives of Public Participation

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The public participation program undertaken during the ESIA and RAP Studies was guided by the following considerations:

- Structured community engagement to, as far as was possible, facilitate discussions on and record consent on:
  - General project acceptance;
  - The proposed project design with practical considerations on the alignment design and related footprint of the right of way for the project;
  - In the case of persons to be relocated, options on the relocation process and acceptance of relocation in itself;
- Participation in the identification of both positive and negative impacts of the project with focus on the bio-physical and socio-cultural environment vis a vis the project as guided by the proposed design;
- Provision of a platform to identify the need for alternative alignments and design approach in particular areas as well and an opportunity to influence the proposed project design;
- Provision of a platform to inform the study team of potential risks that the project may face from an environmental and social perspective;
- Opportunities to discuss and record expected project benefits from the perspective of communities and larger stakeholder groups;
- Discussions on possible and practical mitigation measures as informed by the experience of the community, government agency officials and civil society representatives who are based on location;
- Discussions on aspects specific to land take and resettlement including:

- Disclosure of information on land take for the proposed road alignment;
- Disclosure of information related to the RAP studies;
- Possible grievances that will arise from the land take of the proposed road alignment and practical modalities for resolution;
- Existing and emerging issues related to land tenure, land use and land management within the project area, with focus on the proposed road alignment; and
- Status of land adjudication and registration in the area.

## 5.3 Methodology

### 5.3.1 Stakeholder Identification and Mapping

### 5.3.2 Stakeholder Identification

In general, the following steps were followed in carrying out the entire consultation process: -

- Courtesy visits at the County Government and Assistant County Commissioners offices;
- Courtesy visits to CECs of the counties;
- Identification of institutions and individuals interested in the process and compiling a database of the interested and affected parties;
- Setting dates for public barazas and technical meetings at various levels and with different target groups;
- Administration of questionnaires to different target groups and local community members within the proposed project site.

Consultations and meetings were also held with other government departments represented in the area and the local Civic Society Organizations (CSOs) that have a role to play in the realization of a smooth implementation of environmental and social issues and other issues related to the project such as the resettlement plan. These forums were held jointly with the team dealing with RAP consultations.

The table below summarizes stakeholders identified and how they were consulted.

**Table 5-1: Identified Stakeholders and Modes of Consultation Used**

Stakeholder	Identified Stakeholders	Consultation Method
National Government	<ul style="list-style-type: none"> <li>• County Commissioners</li> <li>• Assistant County Commissioners</li> <li>• Sub County Administrator</li> <li>• KPLC</li> <li>• NEMA</li> <li>• Kenya Wildlife Service (KWS)</li> <li>• Kenya Forest Service (KFS)</li> <li>• National Drought Management Authority (NDMA)</li> </ul>	Introduction letter and one-on-one Interviews
County Government	<ul style="list-style-type: none"> <li>• Governors</li> <li>• CEC Members for Lands, Housing, Physical Planning and Urban Development</li> <li>• Chief Officer in charge of Land</li> </ul>	Introduction letter and one-on-one Interviews

Stakeholder	Identified Stakeholders	Consultation Method
	<ul style="list-style-type: none"> <li>• District Administration Police Commandant</li> <li>• Chief Officer - Transport</li> <li>• Sub-county Lands Officer</li> <li>• Sub-county Adjudication Officer</li> <li>• Sub-county Surveyor</li> <li>• District Medical Officer for Health.</li> <li>• Sub-county Social and Gender Officers</li> <li>• County Public Health Officers</li> <li>• Sub-county Livestock Development Officer</li> <li>• Sub-county Water Officer</li> </ul>	
Project areas residents and PAPs	<ul style="list-style-type: none"> <li>• Locations of public meetings (all settlements along the road).</li> </ul>	Public Meetings ( <i>Baraza</i> ) Small Group Meetings Focus Group Discussions
Sample groups representing vulnerable and marginalized groups among residents and PAPs	<ul style="list-style-type: none"> <li>• Location of FGDs</li> </ul>	FGDs
Advocacy and Lobby groups	<ul style="list-style-type: none"> <li>• NGOs and CSOs</li> </ul>	Small group meetings one-on-one Interviews

#### 5.4 Free, prior and informed Consent (FPIC) framework during consultations for vulnerable and Marginalized groups

The road traverses through an area where the local communities (Pokot and Turkana) are recognized as Vulnerable and Marginalized groups by AfDB Safeguards Policies<sup>13</sup>. Therefore, the principle of Free, Prior and Informed Consultation (FPIC) had to be used during consultations with these communities.

The objectives of free, prior and informed consultations was to: (i) inform affected vulnerable indigenous peoples about the proposed project; (ii) assess in a participatory manner the possible project benefits and adverse impacts; and (iii) agree on measures to enhance benefits or mitigate adverse impacts that will be incorporated into the project's design.

The methodology used to ensure FPIC principles were followed were;

- Information about the project, information on public meetings and consultations were disseminated in advance to the vulnerable groups before consultations;
- Information included the objective of the meetings or discussions, the agenda and venue/locations, the time among others;
- Consultations were held in a language the communities could understand - local Pokot and Turkana language and/or in formats decided by the participants

<sup>13</sup> AfDB Safeguards and Sustainability Series, V2, issue 2, Aug 2016 -Development and Indigenous Peoples in Africa, p10

## 5.5 Key Informant Meetings

### 5.5.1 Approach

Stakeholders' consultations for the proposed road were carried out in November and December 2021, and further consultations were held by the consultant updating the ESIA in January and February 2022, to update data and information collected in earlier consultations. Information collected in the updating of the ESIA were found to correspond to the information collected in the initial consultations by the previous consultants. Other Focused Group Meetings (FGDs) and KI interviews were held between January and March 2022, focusing on consultations in regard to gender analysis, which included key players in the gender sector such as NGOs/CSOs, PLWD, government departments, women, men, youth, among others in the area. More information on Gender Analysis is provided on a standalone Gender report.

The consultations were done through courtesy calls, questionnaires and one-on-one meetings. However, there were other stakeholders who were not available at the time of consultation, mainly the NGOs and CSOs in the area, and were contacted by phone for their views. Below is a list of the stakeholders who were consulted regardless of whether they signed the attendance list or not.

#### **During design and initial ESIA**

The design consultant held public meetings at pre-selected sites along the project route, which included:

- a. Sebit;
- b. Ortum; and
- c. Marich Pass
- d. Kainuk
- e. Kaakong'u
- f. Kalemng'orok'
- g. Lokichar

#### **By Independent Consultant in 2015 during Updating of the ESIA**

Overall, the community consultations were held from 18th to 24th June 2012. The Consultations were held at the following locations, namely

- Marich-Pass - Marich Pass and Orwa Trading Centre Communities , 19 June 2012 by the local assistant chief
- Kainuk - Kainuk Community attended by 120 people on 20 June 2012.
- Kaakong'u Kaakong'u Community on June 2012.
- Kalemng'orok' Kalemng'orok Community on 20 June 2012 -
- Lokichar on 21 June 2012



By the Design Review Consultant in 2021 and 2022 during review and updating of the ESIA

## 5.5.2 Consultations with County Governments

### *West Pokot County*

S/n	Name	Designation	Organization
1.	H.E Governor John Lonyangapou	Governor	West Pokot County Government
2.	Mr. Luka Chepelion	County Executive Committee (CEC), Department of Water, Environment and Natural Resources	West Pokot County Government
3.	Eng Nelson Maritim	CECM Lands, Housing, Physical Planning and Urban Development	West Pokot County Government
4.	Mr. Abraham Powon,	Director of Water	West Pokot County Government
5.	Mr. Cliff Barakach	County Director	NEMA
6.	Stephen K Kihara	Deputy County Commissioner	National Government
7.	Johnathan Karita	County Secretary	West Pokot county
8.	Linus Losialima	Chief Officer Civic Education	West Pokot county
9.	Partson Lipa	Security advisor	West Pokot county

### *Turkana County*

S/n	Name	Designation	Organization
1.	Josphine Ekal	Snr. Chief	Lokichar
2.	Henry Etabo	Chief	Kalemongorok
3.	Patrick Longit	Ass. Chief	Kaptir Junction (Katilu Location)

The consultant held meetings at all towns along the road which included;

MEETING DATE	COUNTY	VENUE	MALE	FEMALE	TOTAL
30/11/2021	Turkana	Lokichar	50	33	83
30/11/2021	Turkana	Kalemngorok	19	12	31
2/12/2021	West Pokot	Wakor	11	6	17
2/12/2021	West Pokot	Marich Pass	18	13	31
3/12/2021	West Pokot	Sebit	19	11	30
3/12/2021	West Pokot	Ortum	27	33	60
3/12/2021	West Pokot	Mopus	21	9	30
24/03/2022	West Pokot	Ortum	47	73	120
25/03/2022	Turkana	Cradle Hotel	24	12	36
25/03/2022	Turkana	Cradle Hotel	24	12	36
28/3/2022	Turkana	Kainuk	27	18	45
28/3/2022	Turkana	Kakong	17	9	26
<b>Total</b>			<b>304</b>	<b>241</b>	<b>545</b>

The records of consultation including the signed attendance list for those consulted, filled questionnaires, minutes of meetings attached in the Annex.

Table 5-2 : Summary of General Comments and Concerns from sample stakeholders

Stakeholder Name	Institution/Organization	Comment	Response
Governor	West Pokot	The Governor indicated the road serves as the important linkage of west Pokot and Turkana and beyond. He noted that improvement of the road will develop the area, and help alleviate poverty and incidences brought about by this poverty such as cattle rustling and tribal warfare. In addition, he noted that opening up the area and the region will also integrate other culture into the Pokot and Turkana people, which will help in eliminating some bad cultural practices such as early marriages, FGM, among others.	The Consultant noted that cooperation of the County with the national government during implementation will be important, especially in assisting those who have already encroached the road.
Jonathan Karita	County secretary- West-Pokot County	Assured that the county government shall provide the necessary support throughout the process. Requested that KeNHA work closely with the county administration and reach out to the ward administrators and sub-county administrators during the community engagement processes	The Consultant informed the meeting that the Ward administrators and other county officials in the region will be very helpful, especially during RAP implementation because they know the area residents well, and will play a key role in assisting the team conducting and implementing the RAP
Linus Losialima	Chief officer civil education and public participation- West Pokot	Retaliated the importance of community education since the Pokot are among the marginalized groups. Requested that community engagement to be a continuous process. Requested that the terrain at Kamatira area be included in the component during construction	The consultant noted that the area of Kamatira is on a different project undertaken by KfW, On the issue of civic education, the consultant noted that this is one of the biggest challenges especially along the road because of illiteracy levels, and lack of knowledge on how RAP is conducted and implemented. The consultant indicated he will work with the Civic education office throughout the project implementation period to assist in sensitization and disseminating information to the members of the public



Lokichar.



Kalemongorok



Ortum



**Wakor**



**Sebit**



**Morpus**



**Marich Pass**

Plate 7 Sample photos of public consultation along the project area.

Table 5-3 Summary of comments and issues raised from Public Consultations on the Road Project

	ISSUES	COMMENTS	RESPONSE TO COMMENTS
1.	Road Safety	<ul style="list-style-type: none"> <li>The design should incorporate road safety especially at main centres along the road</li> </ul>	The participants were informed that during the design, the consultant will identify areas with high accidents and risks and incorporate road safety measures in the road design, including installation of speed calming measures, foot bridges, and signage. In addition, footpaths and service roads will be constructed in major centres to ease traffic flow at these areas
2.	Environmental and Social mitigation measures	<ul style="list-style-type: none"> <li>The meetings highlighted the need for proper environmental and social mitigation measures, for issues like dust, safety of community members, drainage, among others to be incorporated and enforced during construction</li> </ul>	The Consultant is conducting the ESIA (and RAP) to identify impacts of the project, and will come up with mitigation measures to eliminate or minimize negative impacts of the project. The Contractor will be required to adhere to the mitigation measures proposed throughout the project duration.
3.	Awarding of Road Construction Tender	<ul style="list-style-type: none"> <li>The Community requested that the contract for construction of this road be given to a reputable company for purposes of getting a quality road done, and on time to avoid inconveniences</li> <li></li> </ul>	The contractor to be mobilised for the construction assignment will be awarded through a competitive tendering process. The contractor will be required to comply with national engineering and construction regulations as well as industry best practices. The procuring of the contractor will also be transparent.
4.	Employment of local staff during road construction	<ul style="list-style-type: none"> <li>The locals requested that their youth get formal and casual employment in the project so as the community can benefit further economically.</li> <li>The community asked that the government give their youth priority.</li> </ul>	<p>At the construction phase, the Contractor will be required to have a policy that prioritizes qualified locals and that they get:</p> <ul style="list-style-type: none"> <li>Casual Labor opportunities as supplementary income sources;</li> <li>Equal opportunities to both men and women as the women are very interested in these jobs;</li> </ul> <p>For women who would like to provide support services to the construction workers, they will be assisted to understand the procedures required to legalize their small businesses.</p>
5.	Compensation of traders and construction of a market	<p>Participants wanted to know whether those doing business along the road will be compensated. Similarly, they wanted a clarification whether markets and market structures will be valued for compensation. The community asked that the project uplift their livelihood means and not leave them with worse off conditions and it was agreed that the community would be consulted as to the mode of livelihood restoration engagements that they would like to ensure that this project leaves them in a better place.</p> <p>The traders at Ortum, where there are a lot of traders along the road reserve requested for a market to be constructed for them, and a bus-park to be</p>	<ul style="list-style-type: none"> <li>The traders were informed that those trading along the road reserve will not be compensated but will be assisted in moving out of the road reserve.</li> <li>The traders were assured that the National Government, together with the county government will consult to find land suitable for their relocation, which can fit a bus stop also, to minimize losses of businesses for the traders.</li> <li>The re settlement of these traders will require participation from the County Physical Planning, and Markets and Trades and other relevant Departments;</li> <li>This RAP has included the County Government as a key member of the RAP Implementation Unit (RAPIC). They should be actively involved in the monitoring and</li> </ul>

	ISSUES	COMMENTS	RESPONSE TO COMMENTS
		constructed adjacent to the proposed market so that they don't lose customers when the road is constructed	evaluation of livelihood restoration of traders who were relocated from the project RoW.
6.	Timing of relocation	The community requested that other than the compensation being done properly and prior to relocation, that the public be consulted prior to it for there to be adequate time and resources to assist those moving to make a move that's not coerced or forced.	The community was assured of constant engagement with regards to such important information as this was their right. They have as Kenyan citizens a right to free and all access to information relevant to them with regards to this project.  In addition, the outcomes of RAP survey and documentation will undergo disclosure to inform the community before the implementation the report.
7.	Decision making	Involvement of the local leadership when coordinating issues affecting the locals is very critical. Chiefs should be involved in coordinating any involvement with the community since they are impartial.	On discussions with PAPs on grievance resolution, GRC will comprise of administration, and members to be selected by the affected persons, with representatives of women, men, youth and PLWD. This system has been adopted into the project's grievance resolution mechanism as presented in both the RAP and ESIA Reports.
8.	Population influx	The communities acknowledged that with road construction there was bound to be population influx of people from other areas coming in search of jobs during project construction.	Contractor shall be encouraged to local labour as feasible. An open and transparent employment policy especially for semiskilled and unskilled workers shall be required of the contractor.



## 5.6 Disclosure and Consultation During Project Duration

Disclosure involves making the ESIA available to the public, and any interested persons. Disclosure of the ESIA report will be done in country at the KeNHA's website and in the AfDB external website which can be accessed by interested parties. The ESIA will also be available at NEMA county offices for viewing by any interested parties. Since the project area is in a rural area, where majority of the residents have limited access to the Internet, printed reports will be given to the local administration for use by the local community. (See Sect 5.7 below).

Continuous consultation shall be carried out throughout the construction phase of the project using focus group discussions and public meetings when necessary to ensure stakeholders are aware of construction procedures and provide a forum for feedback and recommendations for implementation in the construction. The consultation will occur during the environmental supervision, monitoring, and evaluation which will be carried out every three months, or when necessary. A Stakeholder Engagement Plan (SEP) has been developed as a separate document for the project is attached to this report as an annex. A proposed grievance redress procedure is also provided in chapter 9 of this report.

Project information will be translated into local dialects and indigenous languages and special efforts made to reach vulnerable groups lacking access to public media and information exchange.

## 6 POTENTIAL IMPACTS AND MITIGATION MEASURES

This chapter highlights significant impacts which may arise due to proposed road improvement activities of the proposed Road project.

To this end, the focus of this Chapter will be:

- To identify and analyse the extent of the environmental and social impacts from the project;
- To assess the environmental impacts of the operation and maintenance activities,
- Propose mitigation measures; and
- To discuss the decommissioning of the project.

### *Preliminary Identification of VECs*

During the ESIA study, the Consultant identified the key Valued Ecosystem Components (VECs) that are potential receptors expected to be affected during the implementation of proposed project.

### **Potential environmental and social receptors during and after Implementation of proposed project**

**Table 6-1 Key Environmental and Social Receptors for the Project Road**

Project activities	Impact	VECs	Phase
			Construction (C) Operation (O)
Typical Project activities including: <ul style="list-style-type: none"> <li>• Access road construction or upgrade</li> <li>• Site preparation and development</li> <li>• Removal of select vegetation</li> <li>• Grading and excavation of soils</li> <li>• Land clearing for projects rights-of way</li> <li>• Dismantling of damaged equipment</li> <li>• Equipment staging areas</li> <li>• Trenching and excavation works</li> <li>• Storage of materials and Chemical / oil</li> <li>• Vehicle and equipment operation and maintenance.</li> <li>• Land Use &amp; Land Acquisition</li> <li>• Demolition, lifting and transporting of debris and rubbles</li> <li>• Repair, reconstruction and rehabilitation of damaged infrastructure/buildings;</li> <li>• Drilling activities, eg for Water</li> <li>• Running of AC and concrete batching plants</li> <li>• Sourcing of materials</li> <li>• Disposal of wastes/spoils</li> <li>• Creation and maintenance of deviations</li> <li>• Maintenance works such as repair / overlay of pavement</li> </ul>	Air Quality degradation and pollution	Public institutions, community members	Construction Operation
	Noise pollution	Public institutions, community members	Construction Operation
	Soil contamination and erosion	Soils, water resources, local communities, livestock	Construction Operation
	Loss of land (mainly during construction)	PAPs	Construction
	Generation of Solid and hazardous waste as well liquid waste	Local communities, water sources, soil	Construction Operation
	Water pollution	Water resources eg Rivers, Muruny, Ortum, Sebit local communities	Construction Operation
	Vegetation clearance Disturbance and/or	Flora, Fauna, and Sensitive (critical, natural etc.) habitats	Construction Operation

Project activities	Impact	VECs	Phase
			Construction (C) Operation (O)
	displacement of wildlife		
	Increase in Traffic Congestion and Detours	Local communities, institutions	Construction Operation
	Impact on socio-economic activities of the area, such as impact on business, change in pricing of commodities etc	Local communities, institutions	Construction Operation
	Health and safety	Workers, local communities, livestock	Construction Operation

## 6.1 Construction Phase Impacts

### POSITIVE IMPACTS

#### 6.1.1 Employment Opportunities

Construction activities for this project road will have employment opportunities for workers at the international, national and the local community levels. The contractor will require skilled, semi-skilled and unskilled labour force to undertake various activities. Skilled labour will be required especially in the final design interpretation and supervision of construction works. Manual work will be required during enabling works (clearing the right-of-way, material loading and delivery, moulding works among others). Some of the equipment likely to be deployed on site include excavators, wheel loaders, reclaimer, graders, rollers, tippers, and water bowsers. Truck drivers, machine operators, site agent, foreman, security personnel among others form part of the skilled manpower that may be hired.

During the public meetings, the community members requested that all the community members who are qualified, willing and able be considered for the available job opportunities and that they should not be discriminated against on the basis of their age or gender. These include jobs as night guards, casual labourers, cleaners, sweepers, etc. The women requested to be considered for cleaning, sweeping, cooking, collecting firewood, etc. from the FGDs.

The contractor shall be highly encouraged to hire staff locally during the construction period. Site clearance, traffic management and diversions, earthworks, concrete works as well as road furniture installation and marking will require both skilled and semi-skilled labour.

### Impact Analysis Matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	+3
Spatial scope of impact	+4
Duration of impact	+4
Frequency of activity / duration of activity	+3
Frequency of impact	+4
<b>Result</b>	<b>+77 Medium – High</b>

### ***Enhancement Measures***

- Require the contractor have an employment policy that covers local communities as an affirmative action that ensures marginalised communities, disability groups and gender sensitive groups are not side-lined. The policy should also have security screening measures to confirm originality and conduct of potential employees during recruitment;
- Mixed communication strategies and instruments should be used to effectively relay information on employment opportunities to the community such as local public administration officers' desks, public notice boards as well as public address platforms and gatherings in churches and mosques;
- Furnish relevant authorities (police and other security organs) with details and number individuals working and living at the camp especially immigrant workers; and
- As part of induction, immigrant workers should be encouraged to adhere to the code of conduct, as well as respecting traditions and managing relations with host communities.

### **6.1.2 Business Opportunities for Local Suppliers and Service Providers**

The road construction activities involve a capital expenditure that requires a range of inputs comprising of machinery/plant and spares for plant and machinery, tyres for plant and machinery, gabions, concrete additives, reinforcement bars, posts and other consumables (wood formwork, bricks, cement, sand, aggregate, oils and lubricants) among others. The contractor will have to procure locally or regionally from credible suppliers creating business opportunities for dealers. Most of the potential borrow and quarry materials have been identified in close proximity of the project road. Some transport services may also be leased from local service providers.

### **Impact Analysis Matrix**

<b><i>Impact without Mitigation</i></b>	
Severity of impact	+4
Spatial scope of impact	+3
Duration of impact	+4
Frequency of activity / duration of activity	+3
Frequency of impact	+3
<b>Result</b>	<b>+66 Low – Medium</b>

### ***Enhancement Measures***

- Local sources of supplies and services should be prioritized, as far as feasible, as a way of boosting local economy and building capacity of local businesses.

### **6.1.3 Knowledge and skills transfer**

Majority of rural residents in the project area will be witnessing construction of bitumen road for the first time in the region. Through staff interaction, the locals employed in the project will have an opportunity to learn from some of the specialised skilled and semi-skilled personnel that will be involved during the project

construction. This may enhance their knowledge in construction of bitumen standard roads and associated facilities and their ability to access similar opportunities in future even beyond the counties. The works will also invoke interest in youngsters to participate in such project in future and their career goals.

### Impact Analysis Matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	+3
Spatial scope of impact	+2
Duration of impact	+3
Frequency of activity / duration of activity	+3
Frequency of impact	+2
<b>Result</b>	<b>+40 Low</b>

#### *Enhancement Measures*

- KeNHA should make deliberate requirements on both appointed contractors and construction supervising consultants to employ and accommodate local people during construction works
- Training of local people (including women and persons with disability) should be designed as part of the project for technology and knowledge/skills transfer. Local institutions such as TVETs and Polytechnics located in the counties the project is located should be used for training local workers to be integrated into the project activities.

## 6.2 Negative Impact During The Construction Phase

### Environmental Impacts

#### 6.2.1 Vegetation Loss

The project road will be confined to the existing road reserve. However, it is anticipated there will be some form of vegetation clearance to pave way for diversions, near drainage sites, and clearing vegetation that might be on the way leave. Some vegetation might also be lost in areas while establishing camp sites, borrow sites, quarry sites, construction sites and associated plants.

However, the diversity of natural vegetation in the project area is low, suggesting that vegetation clearance will not be in large scale. The impact of vegetation clearance for construction is therefore likely to be minor.

#### **Impact Analysis Matrix**

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-3
Spatial scope of impact	-2
Duration of impact	-4
Frequency of activity / duration of activity	-1
Frequency of impact	-3
<b>Result</b>	<b>-36 Low</b>

### **Mitigation Measures**

- Restrict vegetation clearing to project sites by clear demarcation of areas to be used;
- Thickets and bush shrubs should be preserved wherever possible through selective clearing, especially along the seasonal riverine areas;
- Siting of camp sites should be done away from densely vegetated areas;
- Compensate for the valuable trees to be felled within the settlements as per the project RAP recommendations;
- Consultations with the local people should be done to ensure that trees with historical, cultural or ornamental values, endangered species are preserved.
- Beautification using trees that will not damage the infrastructure to maintain the beauty of the trees to be done as part of the project

### **6.2.2 Habitat Loss and Disturbance**

Construction activities such as vegetation clearing, access to/operation of material sites and excavations along the road corridor will lead to wildlife displacement from their natural habitat. Some of the wildlife such as birds with territory and home ranges will have to abandon the disturbed habitats and re-establish elsewhere leading to increased inter and intra-species competition for preferred sites.

#### **Impact Analysis Matrix**

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-3
Spatial scope of impact	-3
Duration of impact	-3
Frequency of activity / duration of activity	-3
Frequency of impact	-3
<b>Result</b>	<b>-54 Low-Medium</b>

### **Mitigation Measures**

- Where practical, locate project temporary features like camps and batching plants in areas already disturbed or outside of wildlife habitat. Construction activities should be confined on the demarcated corridor and discourage movement or intrusion into wildlife habitats;
- Throughout the construction cycle, project staff should be sensitized regularly on nature conservation. Local conservation agencies can occasionally be engaged to conduct the sensitization;
- The Contractor policy should discourage unauthorised intrusion or destroying of the wildlife habitats through signed code of conduct;
- To avoid random off-road driving that leads to trampling of vegetation in sensitive habitats, especially for vehicles collecting borrow materials, vehicles should be provided with designated routes. Existing diversions and diversions should be considered before opening up new ones during construction.

### **6.2.3 Workmen's and Storage Camp**

Camps for this type of road would generally require approximately 5 to 10 acres of land, with offices for contractor and resident engineer, housing for migrant workers, area for materials storage, garage and service bays, parking for staff and construction vehicles, materials laboratory, among others.

Construction camps may put pressure on fuel sources such as kerosene or gas to be used for heating and cooking purposes. Strain on major utilities like water can also cause social unrest along the road

project. Sewage, solid and oil/petroleum wastes also produced at the camps could also pollute sources of water, land and soil.

Sanitation and hygiene in the workmen's camp are also issues of concern, and if not properly addressed may lead to outbreaks of illnesses such as cholera, hepatitis, typhoid etc.

In setting up the workmen's camps, consideration will be given to water availability and other resources such as energy and security. Water supplies are a problem for the area, and permission will be needed before the water can be accessed. Water in the camps is important in terms of maintaining hygiene and sanitary conditions. With the area having security challenges, the campsites shall be located in an area where security will be of importance to the workers.

#### Impact significance Matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	+4
Spatial scope of impact	+4
Duration of impact	+4
Frequency of activity / duration of activity	+4
Frequency of impact	+4
<b>Result</b>	<b>+96 Medium - High</b>

#### ***Mitigation measures***

- Locate camp sites away from residential areas and settlements;
- Consult local authorities on a plan for usage of utilities to avoid strain on local residents;
- Ensure that the campsites are guarded 24 hours by armed personnel;
- Contractor shall also provide clean drinking water at the campsite for his workers
- Contractor to prepare a Solid Waste Management Plan for all worksites, especially the campsites
- Provision of adequate sanitation (fixed toilets with running water and changing rooms) at the campsites, separate for men and women;
- Pay special attention on waste generation and disposal, sanitary conditions at the sites, which includes exploring an option of having a third party to manage the various waste generated at the campsites;
- No waste at the campsite shall be buried or burnt; all waste to be segregated and reused, composted, or collected by licensed waste handler for disposal;
- Proper and adequate waste management facilities shall be provided at all contractors' camp
- Treatment of the campsite for rodents and other pests shall be done regularly;
- Completely remove the camp including permanent foundations and floors to discourage future informal settlement at the campsite

#### **6.2.4 Noise pollution - Excessive Noise and Vibration**

The current road use by buses, lorries and private cars is the main source of existing noise along the project road. The main receptors identified along the road will be settlements, mosques, schools, hospitals, other institutions and administrative offices that will most likely be affected by the noise generated from the construction works.

Construction activities generate noise from vehicles used for transportation of material and workers to site, earthworks using heavy equipment and machinery for site preparation and facility erection and diesel generators used for on-site power generation.

Workers at construction site are likely to be exposed to increased noise levels as they operate the noisy equipment or work close to the noise sources. Workplace noise situation have already been envisaged and regulated as follows:

- Motor vehicles should not exceed 84 dB(A) noise levels as required in the EMCA (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009.
- The Factories and Other Places of Work (Noise Prevention and Control) Rules L.N 25 Of 2005, requires:
  - The continuous equivalent of 90dB(A) in 8 hours within any 24 hours duration;
  - 140dB (A) peak sound level at any given time;
  - Noise transmitted from workplace shall not exceed 55dB(A) during the day and 45dB(A) during the night;
  - Anybody working in an area involving exposure to noise, needs Audiometric examination and internal examination (pre-employment and annual) to determine deafness, cases with deterioration of hearing loss of 20dB(A) or more in two successive examinations within two weeks.

The noise and vibration may cause temporary reduction of use of nearby habitats by wildlife around the South Turkana Reserves

#### Impact Analysis Matrix

<b>Impact without Mitigation</b>	
Severity of impact	-3
Spatial scope of impact	-3
Duration of impact	-3
Frequency of activity / duration of activity	-3
Frequency of impact	-2
<b>Result</b>	<b>-54 Medium</b>

#### Mitigation Measures

- Monitor environmental and occupational noise levels as per the NEMA Environmental Management and Coordination Act (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009 & OSHA, 2007 requirements respectively;
- The noise emission characteristics should be considered during selection and mobilization of construction equipment;
- Where feasible, fit equipment with mufflers, sound insulations, silencers to lower the levels of noise emission;
- Sensitize construction workers to switch off machinery and vehicles when not in use;
- Staff on active project sites with continuous exposure should be provided and encouraged to fit in their Personal Protective Equipment (PPEs);
- Locate noisy operations like batching plant away from the densely settled areas;
- Where noisy activities must be undertaken near sensitive receptors, the neighbouring occupants must be informed in advance and works limited to day time only.
- Noise quality samples to be used as baseline data will be collected before commencement of the civil works for regular monitoring during the construction period at various sensitive areas to be agreed upon with the RE.

#### 6.2.5 Construction dust and Air quality

Air quality will be affected during construction during;



- Earthworks, grading, ground levelling and soil compaction;
- Frequent truck movements on the earth roads;
- Wind blows on uncovered or partially covered trucks delivering borrow material and ferrying out cut-to-spoil material;
- Wind blows on stockpiled mounts of soil for reuse or disposal from the site.

The construction dust may cause reduced visibility, respiratory problems to exposed workers and community members and discolouration of adjacent vegetation and buildings. In addition, construction machinery will emit exhaust fumes contributing to air pollution.

Because of the settlement patterns, the most likely receptors of dust pollution are located in the urban and town centres along the road, with the other receptors being roadside vegetation and wildlife.

### Impact Analysis Matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-4
Spatial scope of impact	-4
Duration of impact	-4
Frequency of activity / duration of activity	-4
Frequency of impact	-4
<b>Result</b>	<b>-96 High</b>

### Mitigation Measures

- Unnecessary vegetation clearance to be avoided through clear demarcation of construction areas;
- Where practicable, re-vegetate disturbed areas to minimize ground exposure;
- Sprinkling water (at least twice a day) on the accesses and excavated surfaces during the construction period to suppress dust generation within settled areas;
- Limit the speed of construction vehicles (maximum speed limit 40 kph/25 mph) on earth road;
- Provision of appropriate protective personal equipment (PPEs) including respirators and dustcoats to exposed workers;
- Ensuring the location of material stockpiles are away from human settlements and business premises;
- Covering loaded trucks during the transportation of material;
- Maintenance of vehicles and machinery in accordance with the equipment specifications and manufacturer's standards;
- Sensitize workers on best practice on management of air pollution from vehicles and machinery;
- All records on dust-related complaints should be submitted to Resident Engineer for appropriate action;
- Demolition of existing structures shall be done in a manner that the dust from demolitions can be controlled;
- Undertake regular air quality (dust level) monitoring and conduct corrective adjustments where necessary based on the baseline data collected before project commencement
- Noise quality samples to be used as baseline data will be collected before commencement of the civil works for regular monitoring during the construction period at various sensitive areas to be agreed upon with the RE.

#### 6.2.6 Generation of Solid Wastes

A range of solid waste, both hazardous and non-hazardous, are likely to be generated during road project implementation. Wastes emanating from construction phase will mainly come from:

- Site clearance (vegetation) and excavation works (cut-to-spoil);

- Construction support activities and machinery maintenance and repair works such as used lubricant cans, packaging wrapper, worn-out tyres, and replaced equipment parts;
- Consumables (such as wood formwork, metal cuttings);
- Material testing and trial laboratories such as lab material rejects, test specimens for disposal, excess lab sample materials and grounded equipment or spares;
- Discarded material from handling losses;
- Residential camp sites wastes such as leftovers/food scraps, bottles, cans, clothing, food packaging, newspapers and magazines.

Improper waste disposal is likely to affect the aesthetic value of the surrounding as well as the local community. The waste may attract scavengers and breeding pests, informal recycling or pollution of sensitive resources (such as water sources) triggering community health and safety issues.

Improperly managed waste (unattended landfills or pile of waste on site) may pose risk to resident wildlife. Scavenging wildlife (in dire search of food) may be attracted to or stray on heaps or landfill with used plastics and tin cans, wrappers and/or containers causing spillages of contained fluid substances or chemicals. Animals poisoning may occur as they sniff or leak substances in the containers or bags. Contamination of surfaces/habitats may incidentally occur as fluids flow away from the source.

**Impact Analysis Matrix**

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-3
Spatial scope of impact	-3
Duration of impact	-4
Frequency of activity / duration of activity	-3
Frequency of impact	-3
<b>Result</b>	<b>-60 Low – Medium</b>

**Mitigation Measures**

- Waste shall be managed as per Environmental Management and Coordination (Waste Management) Regulations 2006, e.g. No waste shall be buried underground or burned on open air
- Contractor to develop a waste management plan;
- Manage and control waste generation at the various project sites and stations through standard operating procedures (SOPs) and Solid Waste Management Plan;
- Reduce generation of solid waste at the source through proper planning and procurement of construction materials;
- Segregation of solid wastes and provision of suitable and well labelled waste receptacles within the camp and at other active construction sites;
- Reuse excavated top soil for landscaping of the site as far as practical;
- No waste at the campsite shall be buried or burnt; all waste to be segregated and reused, composted, or collected by licensed waste handler for disposal;
- Prioritize options of waste reduction, reuse and recycling, particularly papers, polyethene plastic wrappers and containers as well as other materials that can possibly be recycled; and
- Sensitize resident workers and visitors (especially those operating food catering services) at project sites on proper waste management practices especially hazardous materials and risks of contaminations.

**6.2.7 Increased Soil Erosion Incidences**

Sections along the project road have already been affected by erosion an indication of high erosion potential of soils. Soils comprise mainly of high proportions of sandy, silty and gravel that are loosely detached and

carried away during run off, especially in bare and sloping terrains. Animal movements in large herds loosens soil particle has also increased the chances of erosion along the road. Sporadic intense rainfall is also a major agent of soil erosion in the arid areas.

Project implementation activities such as material borrowing and earthworks (surface scarring) will loosen soil material, which will expose to agents of soil erosion, especially in sloppy and bare areas. Active construction sites may have piled batches from borrow areas as fill material.

**Impact Analysis Matrix**

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-2
Spatial scope of impact	-3
Duration of impact	-2
Frequency of activity / duration of activity	-3
Frequency of impact	-2
<b>Result</b>	<b>-40 Low</b>

***Mitigation Measures***

- Excavated material should be properly piled, sprinkled with water and covered (where possible) to prevent possible wash-out into seasonal watercourses. Stock piling areas should have levelled ground and away from sensitive areas like slopes, water courses;
- Material excavation should be minimized and restricted to designated locations;
- The contractor should ensure that construction related impacts like erosion and cut slope destabilization should be addressed through rock pitching;
- Re-vegetation should be done in tandem with construction activities to avoid exposure of bare ground to agents of erosion;
- Enforce landscaping and restoration of the construction site prior to decommissioning of the construction site.
- As part of enhancing environmental protection in the region, the contractor should start a tree planting campaign for reforestation by incubating a tree nursery programs along the road. The types of trees to plant shall be through the guidance of the local KFS or through involvement of the Ministry of Agriculture

**6.2.8 Contamination by Liquid Waste and Hydrocarbon Spills**

Previous experience has shown poor management of liquid waste at camp sites, oil spills at garages, and poor maintenance of construction equipment by road contractors in Kenya. Construction activities will require assembling several machinery and equipment (including excavators, graders, excavators and tippers). This will require a maintenance and repair area as well as some on site storage of fuel. Routine cleaning and maintenance will generate washdown water containing sediment (soil, clay, gravel, sand, concrete, etc), detergents and automotive fluids, all of which are pollutants. This may contaminate the receiving soils and surface water environment if not managed properly. Other sources of liquid contamination include release of untreated camps’ sewer or grey water, leaks and spills from hydrocarbon containments including stored bitumen.

**Impact Analysis Matrix**

<i>Impact without Mitigation</i>	
Severity of impact	-4
Spatial scope of impact	-4
Duration of impact	-3
Frequency of activity / duration of activity	-3
Frequency of impact	-2
<b>Result</b>	<b>-84 Medium - High</b>

**Mitigation Measures**

- Machinery maintenance should be done only on purpose-built garages that meet hydrocarbon containment measures and controlled drainage, including banding all areas prone to spills;
- Contractor will be required to have an emergency spill containment and response plan;
- Minor service and washing areas placed/ constructed with containment basins to ensure that the surrounding areas (including groundwater) are not polluted;
- All grey water runoff or uncontrolled discharges from the site/working areas (including wash down areas) to any water courses shall be contained, treated and properly channeled;
- Flash toilets at camp sites should be connected to septic tanks or other treatment facilities approved by the county government and NEMA;
- Water containing such pollutants as cements, concrete, lime, chemicals and fuels shall be discharged into a conservancy tank for removal from site.

**6.2.9 Impacts on Materials Borrow Sites**

During the construction phase, the contractor will have to source construction materials from various material sources. While potential material sites have been identified in the project design report, the actual sites to be exploited will be decided by the appointed contractor. Cases of over extracting these materials from few sites beyond their regenerative capacity may arise if not done in a sustainable manner. The contractor will thus be expected to undertake detailed environmental and social impact assessment before commissioning the selected individual material sites.

**Impact Analysis Matrix**

<i>Impact without Mitigation</i>	
Severity of impact	+4
Spatial scope of impact	+4
Duration of impact	+4
Frequency of activity / duration of activity	+4
Frequency of impact	+4
<b>Result</b>	<b>+96 Medium - High</b>

**Mitigation measures**

- Selection of material sites will ensure that the handover will not cause any social conflict within the communities;
- All material sites shall be selected in consultation with the county governments and the local communities, and rehabilitation plan agreed. If borrow sites will be converted to water pans, proper communities and stakeholder engagement shall be conducted and agreed upon (through signing of agreements to exclude any future liability by the contractor) if such usage will be proposed by the community members.

- The contractor shall prepare and seek approval from NEMA all proposed material sites to be used for construction works; all borrow sites must have approved environmental and social impact assessment (ESIA) reports, incorporating rehabilitation procedures upon decommissioning;
- Construction materials including sand, stones and borrow materials must be sourced from duly approved sources only;
- Materials haulage routes must be pre-determined to avoid unnecessary off road driving;
- Contractor to develop a system of tracking materials received viz a vis utilization to ensure proper materials management to avoid wastage;
- The contractor shall endeavor to locate material sites away from settlements if possible;
- Where material sites are located near settlements, the contractor shall carry out baseline studies of structural integrity assessments of nearby structures;
- The contractor shall develop safety management plans for any blasting which shall require the blasting to be done by qualified experts, sensitization and notification to locals on blasting times;
- All material sites shall be fenced with controlled entry.

#### 6.2.10 Increased incidences of poaching and human-wildlife conflicts

With presence of wildlife in areas along the project road, the following activities will increase human - wildlife interaction:

- Construction vehicles knocking wild animals;
- Wildlife poaching or collection of trophies by construction staff. The target prey may also retaliate injuring or killing the poacher;
- Construction staff working at night in areas with poor visibility may be accosted by nocturnal wildlife especially predators (lions, hyaenas);
- Some of the wildlife may be attracted to the contractor's camp (staff quarters) as prey and forage availability are on the decline. In the event the animal may leave behind a trail of destruction or may be hurt (entangled, electrocuted, poisoned, human persecuted, vehicle run-over) as they forage within the human environment.
- Active animal burrows and dens as well as ground nests (especially for the aardvark) occur within the project area and may be buried or collapsed during compaction along the project road corridor or vehicle off road driving through into wildlife habitats.

#### Impact Analysis Matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-2
Spatial scope of impact	-3
Duration of impact	-3
Frequency of activity / duration of activity	-3
Frequency of impact	-2
<b>Result</b>	<b>-40 Low</b>

#### Mitigation Measures

- Engage KWS to monitor wildlife movement in relation to the project during construction and subsequent stages to advise accordingly;
- Construction camps should be done with minimal clearance of vegetation not to interfere with wildlife habitats.
- Liaison with KWS on handling dangerous wildlife like snakes, wild carnivores upon encounter. Contractor should liaise with KWS to capture reptiles (especially snakes) hiding under rocks and sheltered terrains and safely release them in suitable habitats;
- Sensitize staff on wildlife encounters and discourage animal persecution or provocation through pre-informed code of conduct and also during scheduled daily tool box talks;

- Sensitize construction staff against wildlife poaching and enforce strict code of conduct (especially prohibit wildlife poaching/unreasonable persecution). Any cases on wildlife poaching should be forwarded to KWS for further action.

### 6.2.11 Spread of invasive and alien species

Small pockets of invasive and alien floral species are established along the project road and pose a threat of colonizing native species leading to vegetation succession. The spread of novel habitats along the project habitats may be as a result of ongoing road maintenance and rehabilitation, drainage flows leading to dispersal of seeds or endozoochory by livestock or wildlife.

*Calotropis procera* and *Prosopis juliflora* were readily identified along the project road.

Implementation of the project road may enhance the threat of invasive species:

- Reuse of equipment and machinery that are already contaminated with invasive propagules may lead to further spread or introduction;
- Excavation and material borrowing in already affected areas for use in the construction works; and
- Improper handling or disposal of uprooted or cleared plant material that have invasive propagules leading to translocation.

### Impact Analysis Matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-3
Spatial scope of impact	-3
Duration of impact	-4
Frequency of activity / duration of activity	-2
Frequency of impact	-3
<b>Result</b>	<b>-50 Low</b>

### Mitigation Measures

- Borrow sites should be inspected for invasive species. Invaded areas avoided;
- Sensitize workers on invasive alien species, some of which they may improperly handle or transfer to other locations such as *Prosopis juliflora* and *Calotropis procera*;
- Areas along the project road invaded by *Prosopis juliflora* and *Calotropis procera* should have all cuttings or clearing burnt on site than disposed into un-invaded areas. Soil should also not be transferred from those areas into other areas of the project road or outside the region;
- Uproot any invasive/exotic plants and burn on site after construction;
- Re-vegetate bare surfaces with native species as soon as possible, in order to avoid colonization by opportunistic and invasive species. Monitor re-vegetated sites including borrow pits in liaison with KFS and county government to ensure survival of the seedlings.

### 6.2.12 Land take and disruption of livelihoods

Land take is an anticipated impact of the proposed road project. It is anticipated that the road project development will disrupt livelihoods and cause loss of properties following displacement of people currently settled along some sections of the alignment. It is important to note that most of this land is community land. However, there are community members claiming ownership of some plots of land but there is no official ownership documentation presented other than receipts to show payment of land rates to the

respective County government. It is anticipated that the land take will disrupt their livelihoods in the sense that their houses and business structures will be demolished during construction.

The proposed project road will have a width of 60 m as is the standard requirement for a Class A road. The proposed alignment mainly lies within the existing alignment with the exception of some sections where there had to be deviation from the existing alignment in order to meet the design standards including the allowed curve radius for the given design speed. However, as it is, there is encroachment onto the existing RoW especially where there are settlements therefore resettlement will be necessitated where livelihoods are disrupted.

From RAP studies, the valuation roll yielded at **277 PAPs** (mainly for properties affected excluding affected livelihoods) who are mainly in the urban centres traversed by the road. Ortum registered the highest number of PAPs, due to the number of roadside traders located in this centre.

**Table 6-2 Project Affected Persons (PAPs)**

Affected Towns/Centres	Business Structures	Tenants	Mobile Road Vendors	TOTAL
Mopus	15	0	0	15
Sebit	29	2	0	31
Ortum	98	27	53	178
Wakor	12	2	29	43
Chepgaun	10	0	0	10
<b>Total</b>	<b>164</b>	<b>31</b>	<b>82</b>	<b>277</b>

To minimize the resettlement impacts, the road construction will be limited to the existing road corridor. A RAP study report has been compiled as a separate Report describing the type of impacts and entitlement of each affected PAP.

**Table 6-3 RAP Implementation Costs**

Item	Estimated Total Value (Kshs)	15% Statutory allowance	Total Value (Kshs)
Structures Values	4,977,300	746,595	5,723,895
Land Values			
Tree Values			
<b>Sub-Total 1</b>			<b>5,723,895</b>
Estimated expenses of KeNHA and Other Relevant Government Agencies			<b>10,000,000</b>
Estimated expenses of Mopus -Lokichar (A1) RAP implementation and Monitoring cost			10,000,000
Financial Management Training & Counselling for PAPs			5,000,000
<b>Sub-Total 2</b>			<b>25,000,000</b>
<b>GRAND TOTAL (Estimated)</b>			<b>30,723,895</b>

Source, RAP Report, January 2022, CGP Consulting Engineers

Table 6-4 Structures Compensation Costs

Town	Structures Compensation
Ortum	3,326,260.00
Sebit	933,731.00
Morpus	484,219.00
Wakor	294,975.00
Chepkoghin	684,710.00
<b>TOTAL COST OF COMPENSATION</b>	<b>5,723,895.00</b>

**Impact Analysis Matrix**

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-3
Spatial scope of impact	-3
Duration of impact	-3
Frequency of activity / duration of activity	-3
Frequency of impact	-3
<b>Result</b>	<b>-54 Medium -</b>

Mitigation Measures

- Project RAP Study Report should be implemented to guide the compensation and resettlement process;
- Compensation for all affected properties should be done before construction commences;
- KeNHA to liaise with the county government of West Pokot and Turkana in re-establishing affected markets and other public facilities along the road while ensuring safety of populace in the new locations;
- Continuous complaints and grievance management system should be maintained throughout the project implementation phase as proposed in the RAP report. All pertinent stakeholders should be involved in the compensation and grievance redress mechanism during implementation of RAP.

**6.2.13 Increased Water Demand**

Due to high water demand for construction works, sometimes it is difficult to meet the water demand for construction works, local community domestic uses and for livestock from the existing resources. Without participatory exploitation of alternative sources of construction water, conflicts may emerge between the contractor and the local communities.

**Impact Analysis Matrix**



<b><i>Impact without Mitigation</i></b>	
Severity of impact	-4
Spatial scope of impact	-4
Duration of impact	-4
Frequency of activity / duration of activity	-4
Frequency of impact	-3
<b>Result</b>	<b>-84 Low</b>

### ***Mitigation Measures***

- The contractor will need to develop independent construction water sources, with potential to abstract water from groundwater resources. The area is endowed with various rivers and streams, but drilling of boreholes is ideal as it will also support the locals after the road construction works are complete;
- The Contractor must adhere to the Water Act, 2016 and associated rules and regulations as administered by WRA and NEMA. Relevant water abstraction permits must be obtained from these authorities to minimize competition or conflict with existing water rights/ resource uses;
- Contractor shall employ water efficient and conserving technologies to minimize on water usage;

### **6.2.14 Impacts on Traffic and associated accidents**

Much of the design road has been aligned within the existing road reserve. The section from Morpus Centre to Kainuk Centre has settlement and centres next to the road. Of importance to note is that livestock (goats, sheep and cows) are grazed freely (untethered) along the road reserve or areas just abutting the road reserve. Accesses to centres, homes and other facilities abutting the road will be temporarily interrupted within the settlement areas, leading to traffic inconveniences and interference with normal operations.

During construction, the dust from construction activities can hamper visibility for oncoming traffic and other road users and potentially lead to accidents. Further untethered grazing livestock crossing the road could also lead to accidents and conflict with the locals (given the high value attached to livestock by the locals).

Impacts on traffic in areas outside the centres is not expected to be significant. However, during the rainy seasons, diversions away from existing routes may still pose serious challenges when such diversions are not properly done and maintained. Similarly, most of the identified material sources are far away from the project site and impacts on haulage routes may extend well beyond the immediate project area.

### **Impact Analysis Matrix**

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-4
Spatial scope of impact	-4
Duration of impact	-3
Frequency of activity / duration of activity	-4
Frequency of impact	-4
<b>Result</b>	<b>-88 – High - Moderate</b>

### **Mitigation Measures**

The contractor shall be required to formulate and implement a traffic management plan incorporating:

- Provision and maintenance of alternative routes in areas where accesses have been disrupted. Such diversion routes should consider road safety in case of flash floods depending on the locations;
- Dust suppression measures to enhance visibility at construction sites for oncoming traffic and road users;
- Plans for short diversion routes which should be well maintained by regular sprinkling to reduce dust. Adhere to road reserve if possible;
- Provision and maintenance of clear traffic signages of ongoing construction works, regulate speed limits and diversion signage to notify approaching traffic;
- In urban areas, schedule delivery of materials to the sites during periods of light traffic between 9.00am - 12.00 pm and 2.00 pm - 4.00 pm during week days;
- Project vehicle should have and only use designated parking areas;
- Sensitize workers and area residents on the importance of exercising care in the project area in as far as traffic movement and other safety issues are concerned;
- Ensuring that trained traffic marshals are posted around settlement areas and around public institutions
- Ensure that all haulage trucks drivers are assigned an assistant (turnboy) and well prepped banksmen are posted on all active sections
- Reinstatement of diversion routes (and old tracks) to original condition;
- adequate temporary signages and flagmen as necessary;
- Traffic signs should be largely pictorial and easy to understand as the literacy level in the region is very low;
- Strictly ensuring that mobile equipment and vehicles are only operated by duly qualified personnel;
- Ensuring vehicles and other mobile equipment allowed on the roads are roadworthy through undertaking regular machinery and equipment inspection;
- The supervising consultant should retain a traffic safety engineer to oversee the implementation of traffic management plan.
- Maintaining a fleet control and management system to ensure that utilisation of project vehicles is not abused.
- Transportation of workers to and from site should be via NTSA approved buses/ minivans and not at the back of dump trucks, pickups or other light/ heavy commercial project vehicles

### 6.2.15 Disruption of Public Utilities

There will be requirements for relocation of public utilities such as water, electricity, and sewer lines in some sections of the road away from the road reserve, thereby affecting supply for the local residents, especially at major towns. In addition, construction activities might interfere with the underground fibre optic cables running along the road which could disrupt communication networks. Trucks with heavy loads of construction materials may also damage roads and footpaths, and other public utilities during the construction process.

#### Impact Analysis Matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-4
Spatial scope of impact	-4
Duration of impact	-3
Frequency of activity / duration of activity	-2
Frequency of impact	-3
<b>Result</b>	<b>-55 Low - Medium</b>

#### *Mitigation Measures*

- Contractor to undertake inventory of existing utilities in the project area before beginning construction
- Liaise with relevant service providers to identify and map affected sections of alignment of the services and provide cost to cover the relocation of the existing infrastructure;
- Relocation plans shall include adequate notification of affected customers and residents whose access foot paths might get disrupted
- Relocation of services is provided for in the BOQs

### 6.2.16 Spread of Communicable Diseases

The arrival of new population from other parts of the country as a result of good economic conditions in the area due to the development of the road may lead to spread of new communicable diseases to local population and immigrant workers, eg Tuberculosis, Cholera, Malaria, Meningitis. In addition, sanitation and hygiene along the project area during the construction (and even operation) of the road is also an issue of concern. If these are not properly addressed, they may lead to outbreaks of new illnesses in the area, which might spread to the local community and road workers.

The road construction activities are likely to cause particulate emissions (PM2.5, PM10) such as dust leading to Upper Respiratory Tract Infections (URTI) complications among local community and workers if not well managed. Particles less than 10microns (PM10) and finer ones PM2.5 in diameter bypass body's usual defenses against dust, penetrating and lodging deep in the respiratory system (WHO, 2011). These infections occur within the upper respiratory tract (nose, throat, ears and sinuses) leading to common colds, influenza and respiratory distress syndromes. The infections are mainly caused by airborne agents or contaminated surfaces. Sources of dust include:

- Material sites (borrow pits and quarries);
- Excavations and enabling works along the Right of Way (RoW);
- Road diversions;
- Batching plant (dust and hydrocarbon aerosols).

### Impact Analysis Matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-3
Spatial scope of impact	-4
Duration of impact	-4
Frequency of activity / duration of activity	-3
Frequency of impact	-2
<b>Result</b>	<b>-55 <i>Medium</i></b>

### ***Mitigation Measures***

- Apply dust suppression measures - sprinkling water on the accesses and excavated surfaces – this shall be determined by the RE depending on the prevailing weather conditions;
- Regular maintenance contractors' equipments
- Maintain a grievance register to log any complaints from local community;
- Active construction sites should have controlled access and repulse by standers likely to be exposed to emissions;
- Hold inductions for staff and people visiting the construction sites on the health and safety aspects;
- Provide proper PPEs (dust masks, clothes, etc) for all staff and visitors to active construction areas;

- The Contractor should plan work program's activities and timing to avoid emission impact on sensitive receptors, especially urbanized areas
- Install screens and scrubbers on crusher sites to minimize dust emissions;
- Locate ancillary facilities away from residential/institutional to minimize dust or other emissions to the residents;
- Conduct regular checkups for workers, and offer local community free monthly medical camps for testing and treatment through cooperation of local medical health facilities and county government.

#### 6.2.16.1 Spread of HIV/AIDS and Other STDs

During project road construction, it is likely that a significant increase in population along the project area as they are attracted to the project activities. The influx is likely to include people from outside the areas of counties served by the road. Construction workers could increase or create the demand for casual sex with local residents leading to the emergence or increase in sex work near the construction sites. Sex workers are a key bridging population for HIV transmission because their customers in many cases have spouses. The HIV prevalence rates among sex workers is usually about 2-3 times that of the general population, and have been researched and found to increase in areas which migrant and mobile populations live, work, pass through, or originate. This group of individuals are mostly truck drivers and other employees who work for the contractor and are brought in as skilled labourers. The project implementation thus poses such risk to the local communities.

The average HIV prevalence among adults in the Turkana and West Pokot counties is 4% and 1.6% respectively<sup>14</sup>, showing Turkana having a higher prevalence close to that of the national average of 4.3 percent. In Turkana, women have higher prevalence, 4.5% compared to men with 2.7%, while in West Pokot, infection among women stands at 2.2%, compared with men at 1.3%.

According to the County government of Turkana, 42% of the newly infected with HIV are youth aged 15-24 years where most of the infected young girls/women get pregnant as well. The counties indicate that HIV and AIDS among adolescents is driven by vulnerability caused by lack of opportunities. These opportunities relate to access to education and socio-economic empowerment. Certain traditions, especially those which lead to marginalization of certain groups as well as lack of information, contribute significantly to the burden.

Turkana is now considered a high-risk county and, although other factors may have contributed to the rising prevalence rate, traditional practices like polygamy and widow inheritance, coupled with belief in traditional medicine, have greatly promoted the spread of HIV. In West Pokot, culture, the nomadic way of life of pastoral communities, women giving birth at home and retrogressive practices like female circumcision have dealt a blow to the war against HIV and AIDS<sup>15</sup>

#### Impact Analysis Matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-3
Spatial scope of impact	-4
Duration of impact	-4
Frequency of activity / duration of activity	-3
Frequency of impact	-2
<b>Result</b>	<b>-55 Medium</b>

#### ***Mitigation Measures***

<sup>14</sup> Kenya HIV Estimates, report 2018, www.nascop.or.ke

<sup>15</sup> <https://nation.africa/kenya/healthy-nation/why-hiv-cases-are-not-going-down-in-west-pokot-213222>

- KeNHA/Contractor should, in liaison with approved local non-governmental organizations (NGOs) or approved HIV/AIDS service providers, conduct awareness training to staff and the locals and monitor the efficacy of the awareness created during the project implementation period;
- Sensitize workers on the need to refrain from risky behaviors;
- Provision of condoms both male and female in the sanitary facilities;
- Encourage workers and local communities to go for regular HIV voluntary screening/testing, counseling and referral services;
- Contractor should arrange for quarterly medical camps to benefit workers and local communities through cooperation with county government health departments and local medical facilities;
- The unskilled workers should, as far as feasible, be recruited from among the local residents of the project area and its immediate neighborhood;
- Workers should be given regular leave, preferably monthly to cool off and join their families.
- Implementation of HIV prevention measures and communication, and Monitoring of outcomes, should be done in collaboration with National AIDS Control Council (NACC).

### 6.2.17 Workers Welfare

Project workers such as construction workers face the risk of exploitation, discrimination and other forms of unfair treatment by employers/contractors, eg. exposure to poor health and living conditions, poor sanitation, being overworked with no compensation, low wages, improper provision of proper PPEs and equipment for the works assigned, among others.

#### Impact Analysis Matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-3
Spatial scope of impact	-3
Duration of impact	-2
Frequency of activity / duration of activity	-3
Frequency of impact	-3
<b>Result</b>	<b>-48 Low</b>

#### Mitigation Measures

- The contractor shall comply with the required Law of Kenya under DOSHS and Labour requirements
- Have stocked clinic with a fulltime nurse on the campsite;
- In collaboration with local health facilities, ensure that the workers have access to health facilities in the area;
- Contractor to ensure that first aid facilities are available at all times at the work sites, and arrangement to access to ambulance service;
- The contractor shall provide mobile toilets for the workers at all worksites along the road (for women and men separately);
- The contractor has to also ensure that for any accommodation for personnel, suitable arrangements are made for welfare and hygiene requirements and prevention of epidemics, taking into consideration issues like harsh weather conditions in the region, sanitation, etc.

### 6.2.18 Community Health and Safety

During road construction, the general public may be exposed to injuries from various construction activities like accidents involving construction trucks or other mobile equipment, falls or slips into unprotected trenches/ditches etc.

Accidents involving community members may strain relations between project implementers and host community members and even disrupt programs. Similarly, the contractor may be subject to litigation enjoining even the implementing agency. The contractor thus needs robust safety and health management plan that covers not only workers but the general public as well. Some areas where serious precaution is needed include towns and centres, market areas, areas with institutions such as schools and hospitals, and mosques where community members tend to cross the roads regularly.

Children have low conscience of the inherent risks present at construction projects such as abuse, accidents and exploitation. Children are easily attracted around active construction sites to watch ongoing activities obliviously.

#### Impact Analysis Matrix

<b>Impact without Mitigation</b>	
Severity of impact	+4
Spatial scope of impact	+4
Duration of impact	+4
Frequency of activity / duration of activity	+4
Frequency of impact	+3
<b>Result</b>	<b>+88 Medium - High</b>

#### Mitigation measures

In addition to measures for workers safety, the contractor shall:

- Establish and maintain continuous liaison with the host communities including sensitisation on safety and health issues on construction sites;
- Prepare and implement construction traffic management plan, incorporating safety of other traffic;
- Install and maintain appropriate safety and warning signages along road sections and other construction sites like quarries, batching plants and camps where works are undergoing.
- Use of local language and images for signage shall be encouraged;
- Ensure that all potentially dangerous work areas have controlled access limited to authorised persons only;
- Ensure proper and adequate provision of proper sanitation and waste management facilities at all construction sites;
- Maintain a system of receiving and responding to any safety concerns by the communities;
- Undertake general and third-party insurance liability covers as appropriate.

#### 6.2.19 Conflicts between construction workers and local communities

While employment opportunities from construction is a positive impact, consultation feedback pointed out that there is a very high expectation on employment opportunities and supply of materials for local people during project implementation. Coupled with existing inter-clan conflicts, labour imbalance can create conflicts between the contractor and local communities if not well managed.

#### Impact Analysis Matrix

<b>Impact without Mitigation</b>	
Severity of impact	-3
Spatial scope of impact	-3
Duration of impact	-3
Frequency of activity / duration of activity	-3
Frequency of impact	-3
<b>Result</b>	<b>-54 Low-Medium</b>

**Mitigation measures**

- Contractor to formulate a labour management plan for his workforce;
- Contractor will be required to have a transparent external communication plan covering among others, how available opportunities will be advertised;
- The Contractor should prioritize employing locals as casuals to reduce the need for labour influx;
- Consultations with the local council of elders to ensure that available opportunities are fairly distributed across different clan members;
- Maintain a grievance register to log any complaints from local community.

**6.2.20 Labour Influx and Social Change**

During construction phase it is expected that there will be an influx of workers from varied cultures and social practices. The project area on the other hand can be categorized into rural, peri-urban and urban settlements hence resulting in a range of cultures from homogenous conservative communities to metropolitan/cosmopolitan communities in the major towns. Influx of workers triggers the mushrooming of slums as workers opt for low-cost accommodation. Construction camps are set up by the contractor to provide living and eating areas for workers and also have separate areas for storing equipment and stockpiling material.

Interaction with the project staff can lead to positive influences in the form of promotion of diversity in ways of thinking, experience of new cultures and exposure to new expectations in goals and achievements. On a higher level, these influences can result in adoption of new trends in social interaction, modes of dressing, leisure time activities and spending habits.

Similarly, interaction between workers and young girls from the local communities is a point of potential conflict as the communities abhors such relations. It will therefore be important to sensitize non-local workers on local cultural expectations. These interactions can lead to negative perception for the project if it is perceived that the new trends have resulted in vices and deviant behaviour such as improper sexual relationships between immigrant workers and local girls/women (including married women), which can also lead to gender-based violence.

**Impact Analysis Matrix**

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-3
Spatial scope of impact	-3
Duration of impact	-3
Frequency of activity / duration of activity	-3
Frequency of impact	-3
<b>Result</b>	<b>-54 Low-Medium</b>

**Mitigation measures**

- The contractor shall develop a labour management plan for all his project activities;
- The Contractor should prioritize employing locals as casuals to reduce the need for labour influx;
- Ensure there is adequate security and reasonable controlled access to project offices and residential quarters of immigrant staff to discourage deviant behaviours at workers campsites;

- Employment policy of the contractor should prohibit deviant behaviours at the workplace among staff such as cultural profiling, sexual exploitation, child labour and gender-based violence;
- Workers will be sensitized on the different cultural practices in the region and for immigrant workers, respecting different cultural, religions and beliefs, including behaviours and norms of the local people;
- Contractor to establish a grievance management system to handle internal and external complaints. This system will include establishment of a community liaison desk that is easily accessible by the community representatives and their leaders;
- Workers will be sensitized and sign code of conduct in regard to interactions, behaviours and relations with the local communities.

**6.2.21 Child Protection, Sexual exploitation and abuse (SEA) of under-age girls**

There is potential of the contractor employing children who have not reached the employment age, therefore violating the child labour laws of the borrower. The laws of Kenya prohibit contractors from “employing children in a manner that is economically exploitative, hazardous, detrimental to the child’s education, harmful to the child’s health or physical, mental, spiritual, moral, or social development.

In addition, there is a potential risk of project workers engaging in illegal sexual relations with minor girls, leading to HIV infection, teenage pregnancy, early child marriage, illegal and risky abortions, school dropout, etc.

**Impact Analysis matrix**

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-4
Spatial scope of impact	-4
Duration of impact	-3
Frequency of activity / duration of activity	-3
Frequency of impact	-3
<b>Result</b>	<b>-99 High</b>

***Mitigation measures***

- Workers will be educated by relevant agencies such as police and probation officers on the relevant laws and polices protecting children
- Reach out to children in and out of school in the vicinity of the construction sites with a life skills program focusing on HIV/AIDS and sexual abuse prevention among others areas
- Mobilize and strengthen child protection institutions and structures near construction sites
- Reach out to school authorities and parents near construction sites on paying special attention to child protection in light of labour influx
- Partnerships will be established with relevant government agencies and NGOs to ensure children access survivor centred services such as medical care, psychosocial support, legal redress, safety, etc as and when necessary
- Ensure no children are employed on site in accordance with national labor laws
- Ensure that any sexual exploitation and abuse (SEA) of children by the contractors’ workers are promptly reported to the police
- Popularize /put in place confidential mechanisms for reporting child abuse cases
- Enforce the child protection related clauses in the Code of conduct signed by all workers
- Ensure visibility of signage and information, education and communication materials on such issues in the construction sites
- Liaise with the administration units (County and sub County governments, Police, DO, chiefs, etc.) to provide regular surveillance and patrols to protect workers and unacceptable behavioral interaction of children and workers



### 6.2.22 Gender Equity and Mainstreaming in employment

There is potential that gender inequality might occur during project construction through unequal distribution of work, discrimination against women, and unequal pay for women, lack of provision of separate facilities for women, among others. Sexual harassment against women or men might also happen for those seeking employment through for example sexual favours for exchange of employment.

Turkana and Pokot culture requires women to head house chores and be home early to take care of the family, such as cooking and carrying out other household chores, failure to which may cause social tension within the families. Women therefore finds it difficult sometimes to seek work that will not enable them to carry out cultural mandates to avoid conflict with their husbands. In addition, many new mothers may not seek employment outside their homes because they cannot afford to employ a househelp, and therefore might not participate and benefit in the road construction works.

A Gender report has also been developed for the project which highlights the key components to include in the design and implementation process to ensure gender mainstreaming is incorporated into the project.

#### Impact Analysis matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-3
Spatial scope of impact	-3
Duration of impact	-3
Frequency of activity / duration of activity	-3
Frequency of impact	-3
<b>Result</b>	<b>-54 Low-Medium</b>

#### ***Mitigation Measures***

- Contractor and implementing agency to prepare and implement a Gender Action plan to include at minimum, in conformance with local laws and customs, equal opportunity for employment (min 30% of labour should be women);
- Ensure that women are given adequate employment opportunities during recruitment and job postings, including equal payment;
- Regular sensitization and awareness campaigns to the workers should be done to promote gender equity in employment during the construction works and during operation;
- Provision of gender disaggregated accommodation, bathing, changing, sanitation facilities;
- The contractor shall build a Child centre /creche at the camp site to provide new mothers with a place for breastfeeding and/or leave young children to participate and benefit from the project fully;
- The contractor shall also provide transport services to women to enable them to get to work and arrive home early to ensure cultural values of the Turkana and Pokot culture are maintained
- Zero tolerance on sexual harassment during employment.

### 6.2.23 Gender Based Violence (GBV), Rape and Sexual harassment

Due to labour influx for some project activities such as construction works, the project could exacerbate GBV, sexual harassment and other sexual offenses such as rape. Construction workers may engage in

sexual fraternization with locals. In addition to this being a driver of HIV infection, it will lead to domestic conflicts, GBV and domestic violence at household level. Women who seek employment may also face demands for sexual favors before being employed which amounts to sexual harassment. Even when employed, women may face continuous and unwanted demands for sex and risk losing their jobs if they do not give in.

Women in the community and places of work may also face the risk being subjected to verbal harassment in the form of insults and demeaning comments in addition to unwanted gestures and touches by construction workers. Sexual harassment of women and girls might also happen as a result of mixing of women and men at worksites and campsites. Outright rape is also a risk some female employees may face when employed at construction sites. As a result, domestic violence and gender-based violence in homes, where it might have an impact to children who are likely suffer physically and emotionally.

Local women from the communities seeking employment at the construction sites may lead to abandonment of their cultural practices and responsibilities of fetching water, gathering firewood, herding, etc. Neglect of their normal social responsibilities commonly-accepted by the local communities may lead to social unrest among families, and also lead to increase in gender-based violence by their spouses.

### Impact Analysis matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-3
Spatial scope of impact	-3
Duration of impact	-3
Frequency of activity / duration of activity	-3
Frequency of impact	-3
<b>Result</b>	<b>-54 Low-Medium</b>

### ***Mitigation Measures***

The proposed measures shall include but not limited to:

- KeNHA will engage services of a local Community Service Provider (CSP) to carry out sensitization on GBV during the construction period;
- All workers and nearby communities and stakeholders will be educated on preventing and responding to sexual harassment and GBV ahead of any project related works;
- Contractor to prepare and enforce a No Sexual Harassment Policy in accordance with national laws;
- The community within the vicinity of the road where construction will take place will also be educated on gender-based violence and sexual offenses such as sexual harassment, rape and defilement in the context of labor influx and the prevention and response measures;
- Involvement of women in the periodic dialogues/consultations with contractors and host communities during construction;
- Strategies such as male involvement will be employed in preventing and responding to GBV and sexual harassment. The strategy involves promotion of the role of men and boys in confronting and transforming their own male privilege, power and status that perpetuates GBV. This includes mobilizing men in their different positions as rights holders and duty bearers to prevent and respond to cases of GBV;
- Establish partnerships with relevant government agencies and NGOs to ensure survivors of GBV and sexual offenses access survivor centred services such as medical care, psychosocial support, legal redress, safety, etc as and when necessary;
- Provision of gender disaggregated facilities, separate bathing, changing, sanitation facilities for men and women;
- Impose zero tolerance on sexual harassment, all forms of gender-based violence and discrimination at all phases of the project;

- Grievance redress mechanisms including non-retaliation should be set up for the workers;
- Liaise with the administration units (County and sub County governments, Police, DO, chiefs, etc.) to provide regular surveillance and patrols to protect workers and unacceptable behavioral interaction of local communities and workers

#### 6.2.24 Alcohol and drug abuse

The presence of migrant construction and other project workers in the community may lead to the emergence of small business hubs with kiosks for selling foodstuffs, cigarettes, alcohol, e.t.c to serve the workers and other members of the community. These business hubs may also engage in selling illegal drugs to project workers and other members of the community. The overall effect may be an increase in consumption of alcohol and illegal drugs in the community.

#### Impact Analysis matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-2
Spatial scope of impact	-2
Duration of impact	-2
Frequency of activity / duration of activity	-3
Frequency of impact	-3
<b>Result</b>	<b>-36 Low</b>

#### ***Mitigation Measures***

- The Contractor shall require his employees, sub-Contractors, sub-Consultants, and any personnel thereof engaged in construction works to individually sign and comply with this Code of Conduct.
- Removing any employee who persists in any misconduct or lack of care, carries out duties incompetently or negligently, fails to conform to any provisions of the contract, or persists in any conduct which is prejudicial to safety, health, or the protection of the environment.
- Taking all reasonable precautions to prevent unlawful, riotous or disorderly conduct by or amongst the Contractor’s personnel, and to preserve peace and protection of persons and property on and near the site.
- Prohibiting alcohol, drugs, arms, and ammunition on the worksite among personnel.
- Liaise with the administration units (County and sub County governments, Police, ACC, chiefs, etc.) to provide regular surveillance and patrols to protect workers and unacceptable behavioral interaction of local communities and workers

#### 6.2.25 Complaints and Grievances/Social Conflicts

During construction, the local communities and workers may have complaints and grievances regarding the ongoing activities. There is also potential for social unrest among the local population if they are not considered for employment. This can bring negative publicity during construction including stoppage of work and can delay the projects progress. Against the background of this knowledge and expectation, there is a risk of dissatisfaction if procedures of allocation of workforce are not adequately applied, or if they are seen to be applied in an inequitable manner, especially due to local clan political dynamics. See GRM section on this document.

### Impact Analysis matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-3
Spatial scope of impact	-3
Duration of impact	-3
Frequency of activity / duration of activity	-3
Frequency of impact	-3
<b>Result</b>	<b>-54 Low-Medium</b>

#### ***Mitigation Measures***

- Provide grievance redress mechanism for the local communities and workers;
- Advise the public and workers on where to report grievances;
- Consider prioritizing the local manpower for both skilled and unskilled labour.
- Implement proposed grievance resolution mechanism
- Grievance redress mechanisms especially for workers should incorporate non-retaliation policies

#### 6.2.26 Security challenges

The general project area experiences security challenges with sporadic incidents of attacks by armed gunmen due to regular cattle rustling and tribal warfare. Security incidences may pose challenges to contractors' workforce, discourage potential workers from working in the area and also risk of loss of construction equipment like vehicles and other valuable inputs. These may affect overall project delivery and also subject affected workers or their relative to psychological stress. Closer liaison between the implementing agency, the contractor and government security agencies are thus crucial to managing this risk.

#### **Impact Analysis Matrix**

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-4
Spatial scope of impact	-4
Duration of impact	-3
Frequency of activity / duration of activity	-4
Frequency of impact	-4
<b>Result</b>	<b>-88 – High</b>

#### *Recommendations for security management*

- KeNHA, in conjunction with the Ministry of Interior and National Coordination shall develop a Security Management and Emergency Plan before commencement of the works. The developed plan should be a confidential document to forestall incidences of attacks and instances of security breach if all the strategies proposed and implemented are out there in the open ;
- The contractor shall develop his own Security Management and Emergency Response Management Plan for his employees, and conduct regular briefs on security emergency, including drills on worksites and campsites;
- KeNHA to support the contractor in liaison with government security agencies for security planning and continuous surveillance;
- Contractor to appoint fulltime security coordinator to coordinate with security agencies in the area on issues related to security for the construction workers;
- Workers should be sensitized on security arrangements with regular updates as necessary;

- Travel plans to remote locations like off-road borrow sites and quarries should be discouraged based on the prevailing security situation;
- Emergency contact list shall be maintained on site and by various teams. This should incorporate satellite communication services between camp-based and Nairobi based offices;
- Enough security should be provide 24/7 at all worksites and campsites, including use of armed policemen.

### 6.2.27 Occupational safety and health hazards

Construction activities will expose staff to risks of accidents and incidents while undertaking excavations and trenching, installation of contractor facilities, operating mobile machinery, electrically powered equipment and materials delivery vehicles. Occupational health and safety measures should be undertaken to avoid falling from heights, heavy lifting activities and electrical shock, exposure to excessive body vibrations and noise, fire hazards, hot bitumen, wildlife attack and snake bite etc. which can result in injures or even fatalities. Working in high temperatures and humidity may have health impacts on construction workers such as dehydration, heat stroke, and other heat related illnesses. Adherence to AfDB ISS and OSHA and its regulations will significantly reduce occupational safety and health risks associated with the project implementation.

#### Impact Analysis Matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-4
Spatial scope of impact	-3
Duration of impact	-4
Frequency of activity / duration of activity	-3
Frequency of impact	-3
<b>Result</b>	<b>-99 High</b>

#### Mitigation Measures

- Contractors' selection criteria should include ability to demonstrate having some defined minimum requirements for Safety and Health Management System.
- Comply with the OSHA 2007 requirements can be used as minimum requirements and WBG EHS Guidelines;
- Contractor will prepare a site-specific Health and Safety Plan and implement it throughout the construction period;
- Contractor must obtain a registration of workplace certificate from DOSHS and comply with the subsequent requirements of the Health and Safety Committee Rules 2004 of the OSHA Act;
- Enforce use of defined standard operating procedures for handling various activities, depending on risks levels;
- Ensure adherence to Health and Safety Policy during construction activities;
- Establish an Emergency Response Procedure and display on all work areas;
- Provision of a standard first aid kit at active construction sites at all times;
- Designate qualified first-aider as per the OSHA requirements;
- Regular trainings to workers on OHS and first aid administration;
- Contractor to provide for ambulance vehicle for emergency evacuations
- Contractor (s) to maintain an accident register; carry out accident and incidents investigations and implement corrective actions;
- Undertake staff and visitor safety induction;
- Establish a Health and Safety Committee for the project construction team as per the Health and Safety Committee Rules 2004 of the OSHA Act
- Contractor to have a full time Health and Safety advisor on site;

- Have a stocked clinic with fulltime nurse on the main campsite;
- Engage a qualified Health and Safety auditor to conduct routine and annual Health and Safety (H&S) audits; Fire Safety Audit, and a Risk Assessment
- Provide appropriate and adequate Personal Protective Equipment (PPE) to workers;
- Abide by standard best practice health and safety provisions in the construction contract;
- Establish and enforce a strict code of conduct for all project drivers including outside suppliers delivering materials. The code shall focus on safety, especially speed, and loading, especially banning all carriage of staff, workers and passengers except in seats;
- Provide medical care for all staff as necessary as allowed in the Kenyan Law including securing a worker insurance cover as required under WIBA;
- Implement road safety campaigns addressing construction zone dangers and encourage motorists to exercise caution when driving through work zones.
- Conduct daily toolbox and monthly safety meetings;
- Conduct risk assessment before commencing new assignments/tasks;
- Undertake routine worksites safety inspections.
- Contractor must ensure Project staff have access to adequate potable water;
- Provisions should be made for adequate ventilation and air conditioning for in-house work spaces and campsites
- Sensitize staff on health concerns and avoiding heatstroke, dehydration and fatigue;
- Work schedules should be such that workers are allowed adequate break durations in between working sessions.

#### **6.2.28 Social change**

During construction phase it is expected that there will be an influx of workers from various cultures and social practices. The project area on the other hand can be categorised into rural, peri-urban and urban settlements hence resulting in a range of cultures from homogenous conservative communities to metropolitan/cosmopolitan communities in the major towns.

There shall be an influx of people in the project area in search of employment, most of whom shall be unskilled and semi-skilled. The contractor(s) are also expected to come with a team of skilled personnel to carry out various specialized tasks during the entire construction phase. However, this influx shall be restricted to the construction phase. Once construction is completed, workers are expected to go back to their respective places of origin. During implementation of the project, the contractor(s) will build temporary camps in different places along the proposed route. This could add pressure on the existing social amenities and may also exacerbate social conflicts. However, the camps will not alter the settlement patterns in the areas because they will be demolished upon completion of the project construction. Interaction with the project staff can therefore lead to positive influences in the form of promotion of diversity in ways of thinking, experience of new cultures and exposure to new expectations in goals and achievements. On a higher level, these influences can result in adoption of new trends in social interaction, modes of dressing, leisure time activities and spending habits.

These interactions can however lead to negative attitudes if it is perceived that the new trends have resulted in vices and deviant behaviour among community members.

#### **Impact Analysis Matrix**

<b><i>Impact without Mitigation</i></b>	
Severity of impact	+4
Spatial scope of impact	+3
Duration of impact	+4
Frequency of activity / duration of activity	+3
Frequency of impact	+3
<b>Result</b>	<b>+66 Low - Medium</b>

Mitigation measures:

- The Contractor will establish a community liaison system to handle complaints from the community. This system will include establishment of a community liaison desk that is easily accessible by the community representatives and their leaders.
- A Labour Influx Management Plan will need to be prepared and implemented to define labour practices in line with international standards that will need to be applied by the Contractor(s) and their subcontractors.
- Ensure there is adequate security and reasonable controlled access to project offices and residential quarters of immigrant staff;
- The contracts for project employees will detail codes of conduct with regard to interaction with the local community, use of public and social amenities in the locality, handling of complaints from the local community; and
- Contractor to establish a grievance management system to handle internal and external complaints throughout the implementation period.

**6.2.29 Construction works induced traffic and inconveniences**

During the road construction works, it will be necessary to have some deviations in order to allow uninterrupted traffic flow. The road corridor is wide enough, and deviations shall remain within the road reserve. However, deviations if not well maintained have negative environmental and social impacts such as generating dust, blockage of accesses, increase in soil erosion, and potential to damage vehicles, thereby increasing maintenance costs to the users of the road.

Much of the road design has been aligned along the existing road reserve. Accesses to facilities abutting the road will be temporarily interrupted within the settlement areas, especially in centres along the road leading to traffic inconveniences and interference with normal operations. In many of these centres, access to the market place and other businesses may be interrupted during construction affecting business operators and their patrons.

Impacts on traffic in areas outside the centres is not expected to be significant. However, during the rainy seasons, diversions away from existing routes may still pose serious challenges when such diversions are not properly done and maintained. Similarly, most of the identified material sources are far away from the project site and impacts on haulage routes may extend well beyond the immediate project area.

**Impact Analysis Matrix**

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-3
Spatial scope of impact	-3
Duration of impact	-3
Frequency of activity / duration of activity	-3
Frequency of impact	-3
<b>Result</b>	<b>-54 Low-Medium</b>

Mitigation Measures

The contractor shall be required to formulate and implement a traffic management plan incorporating:

- Provision of alternative routes in areas where accesses have been disrupted;
- Provision and maintenance of clear traffic signages of ongoing construction works, regulate speed limits and diversion signage to notify approaching traffic;
- In urban areas, schedule delivery of materials to the sites during periods of light traffic between 9.00am - 12.00 pm and 2.00 pm - 4.00 pm during week days;
- Create awareness and sensitize workers and area residents on the importance of exercising safe driving behaviours, taking caution and care in the project sensitive areas in as far as traffic movement and other safety issues are concerned;
- Obtain permission from inhabitants and county government if diversion routes go beyond the Right of Way;
- Ensuring that trained traffic marshals are posted around settlement areas and around public institutions
- Ensure that all haulage trucks drivers are assigned an assistant (turnboy) and well prepped banksmen are posted on all active sections
- Maintaining a fleet control and management system to ensure that utilisation of project vehicles is not abused.
- Reinstatement of diversion routes (and old tracks) to original condition;
- Institute a traffic management plan incorporating adequate temporary signages and flagmen as necessary.
- Local language shall be used in signage to ensure the people in the area understand their meanings due to low literacy rates in the region.

**6.2.30 Spread of Covid 19 among workers and community members**

Project Construction will attract various categories of workers drawn from local, national and international markets. If occurring within the COVID-19 pandemic period, this may pose risk of spread of COVID-19 which is a highly infectious disease.

Some construction activities including implementation of some environmental and social safeguards actions may be done during the COVID-19 pandemic era. Since consultations are required e.g during RAP update and implementation and sensitisation on E&S issues, these may pose a potentially high risk of infection to and among communities.

**Impact Analysis matrix**

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-3
Spatial scope of impact	-3
Duration of impact	-3
Frequency of activity / duration of activity	-3
Frequency of impact	-3
<b>Result</b>	<b>-54 Low-Medium</b>

## Mitigation measures

- The Contractors will develop SOPs for managing the spread of Covid-19 during project execution and submit them for the approval of the Supervision Engineer and the Client before mobilization. The SOPs shall be in line with the WHO Guidelines, AfDB Protocols on COVID-19, Ministry of Health Directives and site-specific project conditions;



- Avoid concentrating of more than 15 persons or workers at one location. Where two or more persons are gathered, maintain social distancing of at least 2 meters
- Ensure routine sanitization of shared social facilities and other communal places routinely including wiping of work stations, door knobs, hand rails etc;
- Install hand washing troughs and soap at strategic points in the camps and common areas.
- Make sanitisers available to workers
- Limit movement in and out of the camps; unnecessary contact between workers and community members should be discouraged.
- All workers and visitors accessing worksites every day or attending meetings shall be subjected to rapid Covid-19 screening which may include temperature check and other vital signs. Insist that workers and locals working on the project have face masks at all time.

### 6.2.31 Crime management

The influx of labour a specific project area or site especially during construction, and the settlement changes due to economic development of the area after project completion has the potential to lead to a number of negative socio-economic impacts, including increased insecurity and community conflicts, increased incidences of diseases (as mentioned above); increased risk of accidents and occupational hazards. Crimes might occur in the project area during the construction and operation such as stealing of construction materials or individual property, fighting, petty crimes such as pick pocketing, drug abuse and alcoholism among others. Migration and settlement by new people could lead to increase of negative vices in the project area during operational stages of the road.

#### Impact Analysis matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-2
Spatial scope of impact	-2
Duration of impact	-2
Frequency of activity / duration of activity	-3
Frequency of impact	-3
<b>Result</b>	<b>-36 Low</b>

#### Mitigation measures

- The Contractor and Supervision Consultant should report all activities of a criminal nature on the worksite or by the Contractor's employees (whether on or off the worksite) to the police and undertake the necessary follow-up.
- Provision for fencing along the contractor's camp boundary designed to control entry and exit points.
- Crime reports should include nature of the offense, location, date, time, and all other pertinent details
- Sensitize the construction workers, locals, and security to be on the lookout on suspicious activities near the site
- The contractor and Supervision Consultant should register in a log all events of a criminal nature that occur at the worksite or are associated with the civil works activities.
- Enforce the crime related clauses in the Code of conduct signed by all workers
- Liaise with the administration units (County and sub county governments, Police, DO, chiefs, etc.) to provide regular surveillance and patrols to protect workers and visitors.

### 6.2.32 Absenteeism in schools

School children who live near construction sites are likely to be absent from school many times or will perpetually report late to school because of engaging in petty business activities of vending eats and other

items to construction workers, or being lured by workers into sexual relationships that would encourage dropping out or being absent from school.

### Impact Analysis matrix

<b>Impact without Mitigation</b>	
Severity of impact	-2
Spatial scope of impact	-2
Duration of impact	-2
Frequency of activity / duration of activity	-3
Frequency of impact	-3
<b>Result</b>	<b>-36 Low</b>

#### Mitigation Measures

- Contractor and local NGOs to conduct a program to strengthen school based and school led life skills programs targeting any schools near construction sites to discourage dropping out of schools for school children;
- Ensure no children are employed on site in accordance with national labor laws;
- The Contractor should develop and implement a child protection strategy
- The contractor shall sensitize the workers not to engage with children conducting business activities near the worksites of campsites;
- Impose zero tolerance for employees on sexual relationship with students that would encourage dropping or being absent from school

### 6.2.33 Increase in the prices of goods and services in the community

Increased demand by migrant labor may affect the local economy positively for producers and providers of some goods and services. This may lead to prices of rent, food and other commodities to rise. This may negatively affect other households who have a fixed income or those who are already barely managing to survive.

#### Impact Analysis Matrix

<b>Impact without Mitigation</b>	
Severity of impact	+3
Spatial scope of impact	+2
Duration of impact	+3
Frequency of activity / duration of activity	+3
Frequency of impact	+2
<b>Result</b>	<b>+40 Low</b>

#### Mitigation Measures

- The contractor will develop and implement project labor and influx management plan
- The contractor should ensure his workers appropriately mix the use of locally and non-locally procured goods to allow local project benefits to balance the local economy while reducing risk of crowding out of and price hikes for local consumers.
- The contractor should source for alternative sources of goods and services that are in high demand to cushion local consumers from price hikes.

### 6.2.34 Impacts on Vulnerable Groups

The project will have some impacts on project affected persons, especially men and women who heads households individually. This will mainly be roadside traders and other businesses which might be affected

as a result of the project implementation. This will require KeNHA to fulfil the requirements of ensuring these groups are catered for, from a short term (eg employment benefits during construction period) and long term (eg strategies and projects that target poverty reduction) perspective of the project.

During initial design and appraisal of the project financed by the World Bank in 2014, a standalone Social Assessment (SA) report for the project to determine the impacts to the Vulnerable groups, and how the communities will benefit from the project activities. Some of the impacts highlighted in the report included but not limited to; loss of land, loss of identity, culture, and customary livelihoods, as well as exposure to disease. Others include increase in resources competition, increase in gender-based violence (GBV), Sexual Abuse and Exploitation (SEA), among others to the vulnerable and marginalized groups (VMGs) in the region<sup>16</sup>.

The reports proposed various recommendations including but not limited to; continuous engagement with the communities, ensure the communities benefit from the project (through construction of ancillary facilities such as water, schools, education, etc), provide special opportunities to the local communities such as job training, special access to jobs, among others.

### Impact Analysis Matrix

<b>Impact without Mitigation</b>	
Severity of impact	-3
Spatial scope of impact	-1
Duration of impact	-5
Frequency of activity / duration of activity	-2
Frequency of impact	-3
<b>Result</b>	<b>-55 Low -Medium</b>

#### Mitigation measures for impacts on vulnerable groups

- The recommendations from the Social Assessment (SA) will be incorporated to the project design to determine how the communities will benefit from the project activities;
- The project will make the development process more inclusive of vulnerable groups by meaningful consultations and incorporating their perspectives in the design of development programs and poverty reduction strategies;
- Conduct of Free, Prior and Informed Consultation in order to achieve broad community support, during implementation;
- Provide the VGs with opportunities to benefit more fully from development programs associated with the project, such as employment, community driven projects along the road project.

## 6.3 Operation Phase Impacts

### 6.3.1 Positive impacts

#### 6.3.1.1 Spurred Economic Development

The project road will also improve connectivity between other parts of Kenya, and as far as South Sudan. Improved road connectivity will spur economic development as creation of opportunities to invest and spend increase with the volume of goods and services accessible to local population and on transit. The

<sup>16</sup> Social Assessment for The Proposed Lesseru – Kitale (B2) Kitale - Marich Pass – Nadapal (A1) Road Corridor, 2015

project road development is within the national Vision 2030 and is also serves as a connection for the Turkana and West Pokot counties, and connecting to the LAPSSET Corridor project hence will be important trade route with the neighbouring South Sudan.

In addition, the upgraded road will provide faster movement of people, goods and services in the area, which will likely stimulate more public and private investments such as facilities which include but not limited to schools, health centres, water, energy, and sanitation mainly in the urban centres. This growth means the social and economic conditions of these people will grow, improving and uplifting the standards of living along the proposed road project.

#### **6.3.1.2 Reduced Vehicle Operational costs**

The reduced vehicle operating and maintenance costs due to improvement of the riding quality and surface of the road compared to the current road situation greatly enhances accessibility to basic facilities, for the local communities and others served the road corridor. Therefore, the development of the road will also be an opportunity for the area to be opened up for other opportunities and development in other commercial sectors by outside investors, since more investors will deploy their vehicles along the road due to reduced costs of maintenance and operations.

#### **6.3.1.3 Improved Travel Comfort and Response**

The road project will generally increase travel safety and comfort. With the improvement of the road, public transport business will be more competitive and it is likely that transporters may opt for better and bigger public transport buses. In addition, an improved road will allow quicker response by medical and security personnel to the areas served by the road, thereby improving service delivery of the area.

#### **6.3.1.4 Reduced travel time and cost**

The development of the project road will reduce travel time and cost associated with the current poor road conditions. Paving the project road will improve travel experience by reducing the travel time for users. The cost of travel is deemed to decline with reduced wear and tear due to the paved conditions. This will trickle down to reduced cost of living (access to social and economic services) within the project area.

##### ***Enhancement measures***

- Routine inspection and proper maintenance of the project road

#### **6.3.1.5 Improved health benefits**

The health benefits associated with the proposed road at operation phase include:

- Improved access to health facilities and health services especially for pregnant women during labour.
- Improved traveling experience especially for the aged who previously suffered joint, back and head injuries when traveling on the rough roads;
- Improved access by health specialists who are willing to give service but are currently hindered by the poor road network. The challenges they currently face include time wastage on the road, the stress of traveling, loss of productive time and inconsistent transport.
- ;

#### **Impact Analysis Matrix**

<b><i>Impact without Mitigation</i></b>	
Severity of impact	+5
Spatial scope of impact	+4
Duration of impact	+4
Frequency of activity / duration of activity	+4
Frequency of impact	+4
<b>Result</b>	<b>104 high</b>

Enhancement measures:

- Routine inspection and maintenance of the project road.
- Improvement of feeder roads in the area to link with the proposed road.

**6.3.1.6 Cultural integration due to influx of people**

The improvement of the project road will improve connectivity of counties to the rest of the country. The number of people from other parts of the country willing to exploit opportunities due to the connectivity will increase. As people of different cultural background, lifestyles and ethnicities stream-in along the project road it will enhance the cultural integration and coexistence within the local communities. However, this may be a gradual process.

**Enhancement measures**

Awareness campaign to encourage cultural coexistence and appreciate diversity

**6.3.1.7 Reduced Vehicle Operational costs**

The reduced vehicle operating and maintenance costs due to improvement of the riding quality and surface of the road compared to the current road situation greatly enhances accessibility to basic facilities, for the local communities and others served the road corridor. Therefore, the development of the road will also be an opportunity for the area to be opened up for other opportunities and development in other commercial sectors by outside investors since more investors will deploy their vehicles along the road due to reduced costs of maintenance and operations.

**Impact Analysis Matrix**

<b><i>Impact without Mitigation</i></b>	
Severity of impact	+4
Spatial scope of impact	+4
Duration of impact	+4
Frequency of activity / duration of activity	+5
Frequency of impact	+4
<b>Result</b>	<b>+108 High</b>

**6.3.1.8 Improved Travel Comfort and Response**

The road project will generally increase travel safety and comfort. With the improvement of the road, public transport business will be more competitive, and it is likely that transporters may opt for better and bigger public transport buses. In addition, an improved road will allow quicker response by medical and security personnel to the areas served by the road, thereby improving service delivery of the area.

**Impact Analysis Matrix**

<b><i>Impact without Mitigation</i></b>	
Severity of impact	+3
Spatial scope of impact	+2
Duration of impact	+4
Frequency of activity / duration of activity	+4
Frequency of impact	+4
<b>Result</b>	<b>+72 Low-Medium</b>

### 6.3.2 Negative Impacts

#### 6.3.2.1 Increased Vehicle Accidents

Improved road conditions will attract more traffic volume and increase incidences of vehicle over speeding considering the road has a maximum design speed of 100km/hr. Under these circumstances, a combination of reckless driving and ignorance of local communities of road safety requirements and basic rules may result in accidents. In Kenya, road accidents are a safety concern causing disability and death of victims. The design has incorporated the following for safety purposes:

- Traffic calming structure like bumps and zebra crossings near settlements and institutions;
- Road furniture like crash barriers in dangerous curves and elevation and signages to alert the drivers and other road users of what to expect ahead

#### Impact Analysis Matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-4
Spatial scope of impact	-3
Duration of impact	-3
Frequency of activity / duration of activity	-5
Frequency of impact	-5
<b>Result</b>	<b>-100 Medium-High</b>

#### Mitigation measures:

- The public should be sensitised on safety measures to observe while using the road;
- KeNHA to liaise with NTSA for close monitoring of the road usage and impose penalties on those going against the set roads usage rules;
- KeNHA should ensure maintenance of installed road furniture and safety signages along the road;
- Undertake periodic roadside bush clearance that may reduce visibility clearance or obstruct critical signages.

#### 6.3.2.2 Increased Wildlife and Livestock Accidents

Over 90 percent of the project road traverse areas of natural vegetation that are important foraging ground for local livestock and wildlife. The animals also cross the road from time to time especially when moving to the forage sites or the water access points. Some of the wildlife inhabiting the project area are of conservation interest and feature in the IUCN Red List Database and the Sixth Schedule of the Wildlife Conservation and Management Act 2013. Livestock keeping (herding) is the mainstay of the rural communities within the project area.

Livestock populations are concentrated in between Morpus -Centre to Kianuk, and around Kainuk area.

The concentration of wild animals along the project area is relatively low compared to that of Livestock with instance of wildlife crossing the road being encountered around South Turkana National Reserve.

Due to high concentration of especially livestock in the project area, especially where there are permanent water sources such rivers and settlement it is necessary to enhance safety through provision of appropriate signages and crossing structures.

### Impact Analysis Matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	+5
Spatial scope of impact	+4
Duration of impact	+4
Frequency of activity / duration of activity	+4
Frequency of impact	+4
<b>Result</b>	<b>+108 High</b>

#### Mitigations to consider for wildlife structures include:

- The public should be sensitised on safety measures to observe while using the road;
- Implement pedestrian and livestock safety management strategies such as provision of safe corridors (side roads) along the road alignment and construction areas, including bridges and safe crossings for pedestrians and livestock,
- Installation of barriers (e.g. guardrails, fencing, plantings) to deter pedestrian and animals access to the tarmacked roadway except at designated crossing points;
- Installation and maintenance of speed control and traffic calming devices at pedestrian crossing areas such as bumps, ramble strips in all the villages along project road;
- Installation and maintenance of all road signs, signals, markings, and other devices used to regulate traffic, specifically those related to pedestrian, wildlife or livestock;
- Installation and maintenance of all signs, signals, markings, and other devices used to regulate traffic, including posted speed limits, warnings of sharp turns, or other special road conditions;
- Installation of measures to reduce collisions between animals and vehicles (e.g. use of signs to alert drivers on road segments where animals frequently cross).
- Wildlife crossings are considered to provide safe and convenient road crossing locations, and this should be achieved in the type and design of the structure. The structures should have shorter length and wider width; fences are important to guide animals to the structures as well as for problem animal control.

#### 6.3.2.3 Increased Deadwood Collection and Charcoal

Increase in road connectivity will lead to more access to areas previously considered remote along the project road that have intact and close stands of tall naturally occurring trees (such as *Acacia*, *Balanites*, *Commiphora*, *Maerua*, *Grewia*, *Combretum*, *Delonix* and *Boswellia*). These may be a target for charcoal burners and timber dealers causing accelerated loss of vegetation cover critical for wildlife browsing and livestock herding. Being an arid area, the recruitment rate for plants is slow thus some wildlife may disappear due to exposed cover or loss of certain preferred tree species.

### Impact Analysis Matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-3
Spatial scope of impact	-1
Duration of impact	-5
Frequency of activity / duration of activity	-2
Frequency of impact	-3
<b>Result</b>	<b>-55 Low -Medium</b>

#### Mitigation measures

- KWS and KFS should conduct routine habitat surveillance and patrols as well as thorough inspection of vehicles by security personnel at manned roadblocks (at the exit points) to rid off illegal loggers and timber dealers;
- Multi government agencies should institute campaigns on sustainable charcoal production, incorporating revegetation of affected areas with native species;
- Locals should be sensitized on the importance of conserving woody vegetation.

#### 6.3.2.4 Human Encroachment along the Project Roads

After construction of the project road is complete and operational, there is the possibility of encroachment of various informal businesses along the project roads due to the increase in traffic and improved business opportunities. The encroachment increases the possibility of road side accidents and makes road maintenance difficult and an expensive activity due to the compensation demands from destruction of properties and disruption of livelihoods for the encroachers.

### Impact Analysis Matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	+4
Spatial scope of impact	+3
Duration of impact	+4
Frequency of activity / duration of activity	+3
Frequency of impact	+3
<b>Result</b>	<b>+66 Low - Medium</b>

#### Mitigation measures

- KeNHA in consultation with the county governments should enforce development control by not allowing for any development approvals on the road reserve to ward off potential encroachers and to allow for easy implementation of future road maintenance or expansion plans;
- Install and maintain road reserve boundary posts at appropriate intervals;
- Conduct awareness talks and presentations about the road reserve.

#### 6.3.2.5 Road Maintenance Impacts



During road maintenance, solid waste generation may include road resurfacing waste (removal of the old road surface material), road litter, illegally dumped waste, or general solid waste from rest areas, vegetation waste from right-of-way maintenance; and sediment and sludge from storm water drainage system maintenance. Paint waste may also be generated from road and bridge maintenance (due to removal of old paint from road stripping and bridges prior to re-painting).

### Impact Analysis Matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	+4
Spatial scope of impact	+3
Duration of impact	+4
Frequency of activity / duration of activity	+3
Frequency of impact	+3
<b>Result</b>	<b>+66 Low - Medium</b>

#### Mitigation measures:

- Incorporate recycling of road resurfacing waste where possible;
- All vegetation cuttings for road clearance maintenance suspected to be from invasive alien species should be burnt on site translocated to minimize dispersal;
- Manage sediment and sludge removed from storm water;
- All removed paint materials suspected or confirmed as containing lead should be treated as a hazardous waste.
- 

#### 6.3.2.6 Increase in Communicable Diseases

Once operational, the project road will experience increase in vehicle traffic, including long-distance drivers who will be making stop-overs in different towns along the road. Areas where truck drivers usually stop have been known to have high number of sex workers, who are likely to include those from outside the project areas. Truck drivers could increase or create the demand for casual sex leading to the emergence or increase in sex work at the centres along the road. Sex workers are a key bridging population for HIV transmission because their customers in many cases have spouses.

With increased vehicle traffic, there will be a proportionate rise in emission levels. Human exposure to these emissions has health impacts. Some of the pollutants contained in vehicular emissions include particulate matter (PM2.5), ozone, Volatile Organic Compounds (VOCs), carbon monoxide, oxides of nitrogen and benzene (WHO, 2011). Health problems associated with the vehicle related pollutants include cardiovascular and respiratory diseases and cancer.

### Impact Analysis matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-3
Spatial scope of impact	-3
Duration of impact	-3
Frequency of activity / duration of activity	-3
Frequency of impact	-3
<b>Result</b>	<b>-54 Low-Medium</b>

Mitigation measures:

- KeNHA/Contractor should, in liaison with approved local non-governmental organizations (NGOs) or approved HIV/AIDS service providers, conduct awareness training to truck drivers and the locals and monitor the efficacy of the awareness created during project operation period, through the performance-based contractors selected to do maintenance of the road;
- Sensitize truck drivers on the need to refrain from risky behaviours;
- Provision of condoms both male and female in the sanitary facilities located at truck stops;
- Encourage truck drivers, conductors, workers and local communities to go for HIV voluntary counselling, testing and referral services;
- Monitoring of outcomes, in collaboration with National HIV/AIDS Authorities;
- Vehicles to adhere to emission criteria set under the Environmental Management and Co-ordination (Fossil Fuel Emission Control) regulations, 2006.
- Vehicle maintenance and servicing of vehicle engine.

**6.3.2.7 Drainage and Storm water Management**

During the operation of the road, storm water will be generated as a result of an increase in paved sections of the roads, meaning that there will be more runoff than normal, which will affect the drainage systems, hydrological regimes and storm drains of the project area. In addition the project area is prone to flash floods which is associated with land use changes.

There will be also be an increase in drainage speed which in turn will create heavy outfalls and worsen soil erosion cases along the drainage systems and area of project influence.

**Impact Analysis matrix**

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-3
Spatial scope of impact	-3
Duration of impact	-3
Frequency of activity / duration of activity	-3
Frequency of impact	-3
<b>Result</b>	<b>-54 Low-Medium</b>

Mitigation measures

- Design should ensure efficient drainage structures (culverts, mitre drains, scour checks etc) to take care of the increased drainage;
- Proper construction of erosion protection measures such as cascading gabions and distribution channels to protect soil erosion along the road;
- Enhance measures that control erosion and land degradation measures such tree planting;
- Regular maintenance of structures is required to ensure the drainage structures are functioning properly

**6.3.2.8 Spread of Invasive species**

*Prosopis juliflora* and *Calotropis procera* are some of the invasive species recorded along the proposed road alignment. They are gap colonizer widely associated with ecosystem disturbances. Spread of such invasive species will mitigated by:

- Reducing open gaps in road reserves by planting appropriate tree species suitable for highway or road side tree planting that can flourish under arid conditions;
- Carrying out routine road reserves maintenance mainly to clear bushes that may harbour invasive species;
- Monitoring composition of species regenerating along road reserves and taking prompt actions in case of emergence of invasive species;

### 6.3.2.9 Solid Waste

During operation period, road users spilling materials (oils, foodstuffs, plastic materials, and other wastes), tends to leave pollutants on the road reserve, bus stops and the adjacent lands compromising the natural resources and people's health.

#### Impact Analysis Matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-3
Spatial scope of impact	-1
Duration of impact	-5
Frequency of activity / duration of activity	-2
Frequency of impact	-3
<b>Result</b>	<b>-55 Low -Medium</b>

#### Mitigation measures

- Enforcement of laws and by-laws for buses and other motorists on improper disposal of solid waste from vehicles;
- No vehicles should be serviced along the roads or at bus stops – all should be in a licensed garages or service stations;
- Road signage prohibiting disposal of waste especially inside wildlife zones;
- Regular cleaning, collection and disposal of solid waste by the local authorities (at bus stops), and performance-based contractor that will be assigned on the road for maintenance (along the roads)

### 6.3.2.10 Transport of Dangerous Goods

Dangerous goods are frequently transported in bulk presenting a potential risk of release to the environment in the event of accidents. Additionally, there is a potential for the release of diesel during fuelling operations. The recommended measures to prevent minimize, and control releases of hazardous materials during road transportation and use include the following:

- Use of tank cars and other rolling stock that meet national and international standards (e.g. thermal protection and puncture resistance) appropriate for the cargo being carried, and implementing a preventive maintenance program;
- Preparation of spill prevention and control, and emergency preparedness and response plans, based on an analysis of hazards, including the nature, consequence, and probability of accidents.

Based on result of the hazard analysis, implementation of prevention and control measures may include:

- Requirements for authorization and obtaining of permits before transporting dangerous goods along the road;
- Routing and timing of hazardous materials transport to minimize risk to the community (e.g. restricting transport of hazardous materials in certain hours)
- Limiting the general speed of vehicles in developed areas
- Construction of protective barriers and other technical measures (e.g. guardrails) at sensitive locations (e.g. water resources and settlements)

- Dissemination of emergency preparedness and response information to the potentially affected communities (e.g. emergency notification systems and evacuation procedures);
- Implementation of a hazardous material security plan and security awareness training, including provisions for personnel security, prevention of unauthorized access, and measures to reduce risks during storage and transport of hazardous materials;
- Use of standardized fuel spill prevention systems.

#### 6.3.2.11 Fire

If vegetation growth is left unchecked or slash/waste from routine maintenance is left to accumulate within the right-of-way, sufficient fuel can accumulate that may promote forest fires. In addition, vehicle accident might trigger fire where this kind of vegetation may catch fire and it spreads uncontrollably near the scene. The recommended measures to prevent and control risk of forest fire include:

- Monitoring of right-of-way vegetation according to fire risk;
- Trimming, slashing, and other maintenance activities to avoid seasons when the risk of forest fires is high;
- Removal of maintenance slash or management by controlled burning. Controlled burning should adhere to applicable burning regulations, fire suppression equipment requirements, and typically should be monitored;
- Planting and management of fire-resistant species (e.g. hardwoods) within, and adjacent to rights-of-way.

### 6.4 Environmental and Social risk management

The failure of environmental and social mitigation can result in serious impacts such as erosion, increased road accidents and disruption of the community lifestyles. Construction of a road also involves occupational health and safety risks to road workers and members of the communities, primarily in the areas of excavations, storage and handling of dangerous materials, and operation of heavy machinery close to traffic, slopes and watercourses. The anticipated risks in this project include:

- Exposure to excessive dust particles or toxic fumes from bitumen and other chemicals used in road works;
- Potential for collapse of trenches;
- Risk of accidents involving passing traffic;
- Risk of rock falls during blasting;
- Risk of fuel spills and therefore contaminating soil and groundwater;
- Contractor and communities conflicts due to labour distribution;
- Requirement by the local communities to benefit from the project through construction of amenities at various centres along the road.

The above risks can be mitigated to some extent through:

- Strengthening staff skills and training in environmental management;
- Monitoring environmental and social actions and responsibilities and making provision for remedial actions;
- Planning for remedial measures in case initial planned actions are not successful;
- Limiting time of exposure to dust particles, chemicals and noise;
- Provision of Personal Protective Equipment (PPE);
- Establishing safety and inspection procedures in materials handling, operating heavy equipment and constructing trenches;
- Safe handling of toxic materials, explosives and other hazardous substances;
- Establish well-coordinated community relationship and regular consultations and engagements between KeNHA, local communities and the contractor;
- Establishment of proper, active, and accessible GRM mechanisms;
- Continuous Stakeholder engagement throughout the project cycle

## 6.5 Cumulative Impacts of the Project Road

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Cumulative impacts are impacts which result from the incremental impact of a proposed activity on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities. Lesseru – Kitale (B2) and Morpus – Lokichar (A1) project roads will be developed concurrently with other roads in the Western and North Western region including Marich Pass – Loruk (B4), Lokichar – Nginyang (C113), Kitale – Endebess- Suam (B2), Kitale – Kapenguria – Morpus (A1). As a result, cumulative impacts such as impacts on resources such as water, energy and road construction materials within the region might arise due to the needs for the simultaneous construction of the roads.

Cumulative impacts such as impacts on resources such as strain in water, energy and road construction materials within the region might arise due to the needs for the simultaneous construction of the roads, degradation of environment due vegetation clearance, an increase in soil erosion, impacts of wildlife such as potential poaching in the region due to better access, solid waste generation, among others. Furthermore, the project can also contribute negatively from a social perspective such as changes in cultural practices for the local communities due to influx of people looking for business opportunities, increase in tourism in the area, security challenges, changes in traffic patterns, housing availability, and employment, considering that there are a number of proposed projects along or near the road corridor.

The assessment of cumulative impacts along the project road corridor has taken these projects into account. Some of the projects include; Marich Pass – Loruk (B4), Lokichar – Nginyang (C113), Kitale – Endebess-Suam (B2), Eldoret Western/Southern Bypass, Kitale – Kapenguria – Morpus (A1) road project which joins the project road at its end and beginning at Kitale (for Lesseru – Kitale-B2 ) and Morpus – Lokichar - A1). Other road projects include those along or near the road corridor undertaken by other road agencies such as KURA, KeRRA, the county Governments and the Constituencies through CDF. Impacts on sourcing of construction materials along the corridor due to growth in the region and /or aby other initiatives in the project road corridor (e.g. water and sanitation projects) that may result in positive or negative cumulative impacts in the region. It is assumed that each of these projects have or will carry out ESIA studies that propose mitigation measures to be implemented during construction and operation phases of the projects. If well implemented, the proposed measures are expected to minimize the overall cumulative impacts from these projects in the region.

### 6.5.1 Identification of Potential Cumulative Impacts

The table below provides a summary of the likely potential cumulative impacts that may result from the construction and operation of the proposed road project, in combination with other proposed development such as the ones mentioned above. To mitigate cumulative impacts, the project implementers have or will carry out ESIA studies that propose mitigation measures to be implemented during construction and operation phases of the projects. It is also proposed that the project implementers in the region should have a collaborative engagement with each other to develop a common cumulative impact management strategy to minimize cumulative impacts of their projects. If well implemented, the proposed measures are expected to minimize the overall cumulative impacts from these projects in the region.

Table 6-5 Summary of the Likely Potential Cumulative Impact

Environmental and Social Item	Potential Cumulative Impacts	
	Construction Phase	Operation Phase
Soil Degradation, site related oil spills	Although not so significant, risks of oil spills increase as more projects are being undertaken in the region.	Increase in vehicles and potential accidents, and improper servicing of vehicles increase chances of soil and water sources degradation from poor management of oil wastes
Loss of flora, proliferation of invasive species	This may happen during the construction phase if the construction of other nearby projects coincides with that of the proposed project.	Vehicles and passengers plying along the roads may carry invasive species that may spread in the region Proposed measures include monitoring composition of species regenerating along road reserves and taking prompt actions in case of emergence of invasive species.
Solid waste	There will be a large amount of solid waste generated by all projects from various sources during construction such as at camp sites, soil spoil, cement bags, among others	Regional growth and increase in population as a result of easy access to the North Eastern region will increase solid waste generated in towns and centres. Passengers and travellers using the roads also tend to throw waste on the roads which increase the amount of waste generated in the region.
Air Quality	Air quality may occur during construction if not mitigated only if the construction of other nearby projects coincides with that of the proposed project	The impacts of the proposed road on regional air quality and greenhouse gases are predicted to be negligible. Monitoring of air quality in the region during operational stages should be conducted to devise methods of controlling greenhouse gases
Noise and Vibration	There is the potential for cumulative noise impacts of the proposed development in conjunction with other concurrent projects in the vicinity arising from simultaneous demolition and construction works.	Increase in traffic in the region will translate to increase in noise levels as more traffic use the roads.
Impact on Wildlife	Cumulative impacts expected from displacement of wildlife from their natural habitat as a result of projects development in the region. Mitigation measures have been proposed in the ESMP will reduce the impact.	Growth in vehicular traffic along the roads will increasingly disrupt wildlife crossing, resulting increased incidents of wildlife kills and vehicular accidents involving wildlife. Further intensification of traffic may eventually result in the fragmentation wildlife habitat, foraging and roaming ranges.

Environmental and Social Item	Potential Cumulative Impacts	
	Construction Phase	Operation Phase
Increased Traffic	<p>There will be increased traffic in the region from construction activities of all the projects. The potential risks include cumulative increase in traffic accidents.</p> <p>Mitigation measures have been proposed to be implemented during construction</p>	<p>Traffic volumes will increase in the project area due to improved road conditions. More vigilance needed with installation of speed measure in high risk areas along the projects. However, the proposed mitigations need to be strictly adhered to.</p>
Strain in water resources	<p>There is potential strain of water resources in the area during the construction phase if the construction of other nearby projects coincides with that of the proposed project as there will be increase in ground water abstraction for use by the contractor and the communities in the region.</p>	<p>Social unrest due to usage of water resources may occur as a result of easier access by other communities. Increased access to markets for agricultural products in the region due to the road would mean that intensive irrigation agriculture will be encouraged and that would eventually lead to increased abstraction of ground water by digging more boreholes. This degrades the quality and quantity of ground water available.</p>
Social Impacts including: Labour influx, Crime, disruption of services, increased conflicts, impacts on children, GBV sexual exploitation and abuse	<p>Influx of immigrant workers will impact the region through increase of local population. The Cumulative impacts will only occur during the construction phase if the construction of other nearby projects coincides with that of the proposed project.</p> <p>The proposed mitigations need to be strictly adhered to.</p>	<p>Given that traffic volumes will increase in the project area due to improved road conditions, changes in social setting of the communities in the region is bound to change in one way or another which could bring negative impacts such as social conflicts, intermarriages, prostitution, child abuse and sexual exploitation of underage girls.</p> <p>Continuous community awareness and sensitization of such negative issues will need to be done continuously using Community-Based Organizations (CBOs) and NGOs operating in the region with the support of the local county governments</p>
Increased demand for firewood.	<p>The major source of energy in the region for domestic use is firewood. The contractors of the road may also use firewood to heat up bitumen for the construction.</p> <p>This increased demand strains the forest resources and increases the level of carbon dioxide in the atmosphere.</p>	<p>With an improved transport system in the region, access of firewood to larger markets is increased which will lead to unsustainable use of forest resources.</p>

Environmental and Social Item	Potential Cumulative Impacts	
	Construction Phase	Operation Phase
Strain on Natural resources of sand, stone and gravel.	With the concurrent implementation of development projects in the region, sand and gravel demand is on the rise. The sources of such resources face habitat disturbances, deformation and unsustainability.	The road project will induce economic growth in the region leading to physical developments that will demand the use of sand, stone and gravel for construction.

## 6.6 Potential Impacts during Decommissioning

While the project road is not anticipated to be decommissioned in the near future but periodically maintained for extended service, temporary contractor's facilities will be decommissioned by the end of road construction works' defects liability period.

The contractor is expected to prepare a detailed decommissioning plan for all his temporary facilities including camps, borrow sites and quarries. The plans detailing environmental restoration measures and associated safety and health protection should be submitted to NEMA for approval at least three months before the actual decommission works begin. The following presents anticipated decommission impacts of the contractor's facilities.

### 6.6.1 Positive Impacts

#### 6.6.1.1 Reuse of Contractor's Facilities

Some of the contractor's camps and other facilities erected during project construction can be handed over to the local government for convenient utilisation as local administration offices or social halls instead of demolition. Boreholes can also be handed over to the community to improve their access.

#### Impact Analysis Matrix

<i>Impact without Mitigation</i>	
Severity of impact	+3
Spatial scope of impact	+2
Duration of impact	+3
Frequency of activity / duration of activity	+2
Frequency of impact	+3
<b>Result</b>	<b>+40 Low</b>

#### Enhancement measures

- KeNHA to liaise with the local county administration to facilitate official handover of reusable facilities;
- Contractor shall complete a decommissioning plan incorporating appropriate disposal of non-recyclable materials and rehabilitation of the biophysical environment at the temporary camp sites prior to handover

### 6.6.2 Negative Impacts

#### 6.6.2.1 Community Safety



Exhausted abandoned and improperly rehabilitated material borrow sites and quarries can present a great safety and health hazard to adjoining communities due to water ponding, deep cliffs and being inhabited by or providing hideout for problem wildlife.

During the rainy season, these pits flood, children and animals risk drowning in the flooded burrow pit. The pastoralists herding the cattle also have challenge when moving around the open pits especially when it is dark. There is a poor visibility at night and since the pits are not lit or barricaded it is easy for the pastoralist to accidentally trip and fall into the pits.

### Impact Analysis Matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-3
Spatial scope of impact	-3
Duration of impact	-4
Frequency of activity / duration of activity	-3
Frequency of impact	-3
<b>Result</b>	<b>-60 Low -Medium</b>

#### Mitigation Measures

- Contractor must prepare detailed decommission plan for approval by local government, NEMA and department of mines as applicable;
- KeNHA should consider satisfactory rehabilitation of decommissioned sites as part of contractual requirement with enforceable penalties including financial disincentives.

### 6.6.2.2 Loss of Income

Staff working at the contractor's camp will lose income sources as their services will be terminated. Without prior awareness of contract conditions, abrupt loss of income source may psychologically impact the affected workers and even their families.

### Impact Analysis Matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-3
Spatial scope of impact	-2
Duration of impact	-3
Frequency of activity / duration of activity	-2
Frequency of impact	-2
<b>Result</b>	<b>-32 Low</b>

#### Mitigation Measures

- Notify the employees in advance on the project closure date and adequately compensate them;
- Dismissal procedures to be compliant with Employment Act, 2007;
- Provide counselling & alternative skills for alternative activities;
- Employer should possibly identify alternative means of livelihood for the staff who were employed at the construction camp.

### 6.6.2.3 Noise pollution

Decommissioning of construction structures involve noisy activities originating from movement of heavy ground vehicles, disassembling all the prefabricated structures, disconnection of services, breaking down concrete foundations and handling of debris from sites. Though short lived, the generated noise will affect exposed workers and, in some cases, the nearby communities.

### Impact Analysis Matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-3
Spatial scope of impact	-3
Duration of impact	-3
Frequency of activity / duration of activity	-3
Frequency of impact	-3
<b>Result</b>	<b>-54 Low -Medium</b>

#### Mitigation Measures

- Prepare a decommissioning plan to guide activities;
- Monitor noise levels as per the NEMA Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009 & OSHA, 2007;
- The noise emission characteristics should be considered during selection and mobilization of decommissioning equipment; and
- Sensitize staff to switch off machinery and vehicles when not in use.

#### 6.6.2.4 Dust and Fumes

Decommissioning activities likely to cause dust and fumes include:

- Excavation and loading of spoil debris for disposal;
- Decommissioning of septic facilities; and
- Removal of fuel holding tanks and dispensers.

These will be a nuisance mainly to demolition workers but may also affect nearby communities.

### Impact Analysis Matrix

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-3
Spatial scope of impact	-3
Duration of impact	-4
Frequency of activity / duration of activity	-2
Frequency of impact	-3
<b>Result</b>	<b>-50 Low</b>

#### Mitigation measures

- Prepare a decommissioning plan to guide staff on proper handling of sensitive facilities;
- Enforce stand operating procedures while undertaking demolition works;
- Provide and enforce the appropriate use of PPE against dust; and
- Employ dust suppression measures such as sprinkling water on loose soil surfaces and providing cover for spoil batches.

#### 6.6.2.5 Waste Accumulation

Decommissioning of construction camps will generate waste some of which may not be reused or recycled. Spillages during handling substances may also occur contaminating surfaces. Removal and reinstatement of sites may accumulate debris that require proper handling and disposal.

**Impact Analysis Matrix**

<b><i>Impact without Mitigation</i></b>	
Severity of impact	-3
Spatial scope of impact	-3
Duration of impact	-4
Frequency of activity / duration of activity	-3
Frequency of impact	-3
<b>Result</b>	<b>-60 Low -Medium</b>

Mitigation Measures

- Decommissioning plan should cover waste management;
- Waste be managed as per Environmental Management and Coordination (Waste Management) Regulations 2006;
- Establish a segregation and grading waste management system to manage garbage and other forms of waste generated;
- Prioritize options of waste reduction, reuse and recycling, particularly papers, polythene bags and plastic wrappers and containers and other materials that can possibly be recycled; and
- Disposed waste at designated sites through licensed waste handler

## 7 CLIMATE CHANGE AND ADAPTATION

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### 7.1 Introduction

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There is need to develop a comprehensive approach for addressing the vulnerabilities and risks that are associated with climate variability and change. Kenya, just like other nations around the globe is susceptible to the effects of global climate change and as such, has been in the forefront advocating for sound approach in tackling the predicted impacts of climate change. Adaptation and resilience remain Kenya's, and indeed Africa's priority response to climate change.

In the year 2010, Kenya launched the National Climate Change Reponse Strategy (NCCRS), followed by a national climate change action plan (NCCAP) in the year 2013. Since then, the previous NCCAPs have been reviewed after every five years with a view to streamlining development planning, budgeting and implementation activities with the appropriate climate change adaptation measures for sustainable development. The National Adaptation Plan (NAP) 2015-2030 lays out the sectoral climate change adaptation measures comprehensively.

Kenya published its Second National Communication in 2015 and submitted its Updated Nationally-Determined Contribution to the UNFCCC in 2020, in support of adaptation and mitigation efforts, to improve the country's ability to prepare for and respond to natural disasters and increase its resilience to climate change. Additionally, Kenya aims to become a newly industrialized country by 2030, which will require expanding climate change resilience efforts while also increasing its domestic energy production; including through the use of renewable sources. Adaptation efforts are focused on the country's energy, infrastructure, land use and environment, health, water and irrigation, agriculture and tourism sectors.

Due to a combination of political, geographic, and social factors, Kenya is recognized as highly vulnerable to climate change impacts, ranked 152 out of 181 countries in the 2019 ND-GAIN Index.<sup>17</sup>

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### 7.2 Climate Change and Disaster Risk Screening of the Project

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#### 7.2.1 Methodology used in Screening

This project was screened by using the World Bank Group's Climate and Disaster Risk Screening Project Level Tool;<sup>18</sup> The project level Climate and Disaster Risks Screening provides early stage screening for climate and disaster risks at the concept stage of project development. The tool uses an exposure - impact - adaptive capacity framework to consider and characterize risks from climate and geophysical hazards, based on key components of a project and its broader development context.

The potential risks flagged were identified by connecting information on climate and geophysical hazards exposure with the Consultant's subject matter expertise and understanding of the project components and sensitivity to rate the impacts. The in-depth screening does not provide detailed risk assessments, rather it flags risks to inform consultations, enhance dialogue with local and other experts, and define further analytical work that may be required at the project location.

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<sup>17</sup> WB Climate Risk Profile, Kenya, 2021

<sup>18</sup> <https://climatescreeningtools.worldbank.org/>

The following section summarizes the results of the screening process for Mopus - Lokichar Road Project in Kenya, which was applied using Road Sector analysis.

## 7.2.2 Climate Change and disaster risk Screening results

The project's exposure to the risk of climate change and potential impact of future climate scenarios is low. The screening flagged slight climate impacts associated with extreme temperatures and the level of precipitation and flooding. The historic average temperature of the project area ranges from 38 (high) Celsius to 27 (low) Celsius. The project area receives an average annual rainfall of 52 mm, with April having the highest number of days with rain – 14 days. There has been recorded incidents of heavy flooding in the project area, due to flash floods and some heavy rains in the mountains which have damaged the road infrastructure. Since the project is in the hinterland, it is not exposed to natural hazards such as sea level rise or strong storm surge.

Table 7-1 Summary of Exposure to Climate and Geophysical Hazards at Project location

Hazard	Time frame/ Exposure	Description of hazards for the project location
Extreme Temperature	Current	In the counties where the project will be located, the maximum temperatures range between 31 degrees C in July and 36 degrees C in March while minimum temperatures range between 21 degrees C in July and 24 degrees C in April. Since 1960, Kenya's mean annual temperature has increased by 1.0°C, at an average rate of 0.21°C per decade. The rate of increase has been most rapid in March-May (0.29°C per decade) and slowest in June-September (0.19°C per decade).
	Future	Since 1960, Kenya's mean annual temperature has increased by 1.0°C, at an average rate of 0.21°C per decade. The rate of increase has been most rapid in March-May (0.29°C per decade) and slowest in June - September (0.19°C per decade). In response to increasing greenhouse gas (GHG) concentrations, air temperature over Kenya is projected to rise by 1.2 to 3.2 °C (very likely range) by 2080 relative to the year 1876, depending on the future GHG emissions scenario (Figure 2). Compared to pre-industrial levels, median climate model temperature increases over Kenya amount to approximately 1.4 °C in 2030 and 1.7 °C in both 2050 and 2080 under the low emissions scenario RCP2.6. Under the medium / high emissions scenario RCP6.0, median climate model temperature increases amount to 1.3 °C in 2030, 1.6 °C in 2050 and 2.2 °C in 2080. Extreme temperatures due to climate change can expose the road to damage through cracking if not well designed.
Extreme Precipitation and Flooding	Current	North western Kenya area where the project will be located experience on average 370 mm of rainfall per year, or 31 mm per month. On average there are 24 days per year with more than 0.1 mm of rainfall (precipitation). The driest weather is in July when an average of 3.0 mm of rainfall (precipitation) occurs. The wettest weather is in November when an average of 95 mm of rainfall (precipitation) occurs.
	Future	Although there is minimal exposure of the project location to heavy downpours and sustained periods of rainfall, heavy downpours can cause damage to the infrastructure even if not sustained for a long time in low lying areas, as experienced in the past due to heavy flash floods. Future projections of precipitation are less certain than projections of temperature change due to high natural year-to-year variability. Out of the three climate models underlying this analysis, one model projects no change to a slight decrease in mean annual precipitation

Hazard	Time frame/ Exposure	Description of hazards for the project location
		<p>over Kenya under RCP6.0, while the other two models project an increase under the same scenario. Under RCP2.6, median model projections indicate a slight increase towards the year 2030 but an overall decrease towards the end of the century. Under RCP6.0, the projected precipitation increase is likely to intensify after 2050, reaching 53 mm per year at the end of the century compared to year 2000. Higher concentration pathways suggest an overall wetter future for Kenya.</p> <p>There is therefore some exposure to heavy downpours and sustained periods of rainfall likely to increase at the project region.</p>
Sea Level Rise	Current	The project is located far away from the effects of sea level rise
	Future	The project is located far away from the effects of sea level rise
Storm Surge	Current	The project area has never experienced storm surge, and is also located far away from the effects of storm surge
	Future	No future storm surges are expected in the project location
Strong Winds	Current	The project location has never been exposed to strong winds due to tropical cyclones, and there is no known risks of strong winds in the area
	Future	Although projections of future winds are uncertain, it is not expected that there will be any change in the wind events in the project area.

## KEY

Insufficient Understanding	Not Exposure	Slightly Exposed	Moderately Exposed	Highly Exposed
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### 7.2.3 Potential Impacts on Project's Physical Components

This section presents the detailed results of screening for relevant subsectors to the transportation project, including the project's investments in physical structures. The impact ratings are based on the exposure ratings and the understanding of the project's sensitivity.

The potential impact of climate and geophysical hazards on the project's roads investments is rated based on exposure ratings for the location, and an understanding of the project's historical and future sensitivity to these risks. This helps in judging the effect that these impacts may have on the investment, and the ability of the project to sustain and enhance resilience of roads infrastructure and connectivity under a changing climate. Extreme temperatures and heavy precipitation, for example, can impact the performance and durability of the physical components of road infrastructure (e.g., asphalt, pavement, gravel), and take road infrastructure out of service temporarily or permanently.

### Current Scenario

**Temperature:** There area is prolonged periods of high temperatures in the project location which have caused minor pavement cracking in the past. The evaluation of the existing pavement does not show any signs of cracking due to extreme temperatures. Recent trends do not point to a sharp increase in the frequency or maximum temperature of heat waves. At this point, no design decisions have been made that would increase the temperature ratings of pavement materials.

**Flooding:** In terms of flooding, some areas through which the road passes is occasionally subject to flooding from extreme precipitation, eg near rivers and streams, including various laghas crossing the road. Heavy rains have in the past overtopped brindges, and sometimes cutting off the road sections. To reduce the physical impacts of flash flood and potential damage to the infrastructure, the drainage infrastructure will be upgraded under this project. The drainage structures will be designed for 10 yr, 25yr and 50 yr flood level for pipe culverts, box culverts and bridges respectively. In addition, the road level will be raised in flood plains

**Wind:** At this point, there are no historical information on strong winds, and therefore, no design measures are in place to reduce risk from strong winds.

Potential impacts therefore includes;

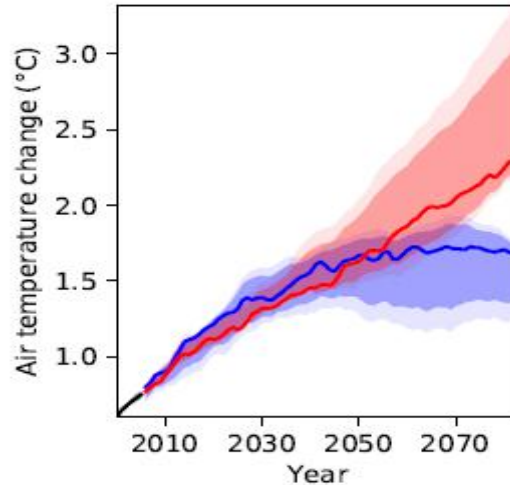
- Pavement cracking may occur, or maintenance costs may slightly increase due to extreme temperature.
- Traffic may be slowed during heavy downpours. •
- Maintenance costs may increase slightly due to greater erosion from extreme and continuous precipitation

### Conclusion:

Overall, damage to road assets from extreme precipitation and flooding is likely to be **moderate** as design measures have accounted for current trends and events. Damage from strong winds is also likely to be low given past experience. There may be damage from extreme temperatures but design considerations to increase resistance to temperature, especially for pavement, will be incorporated. **The Current rating is Moderate Potential Impact.**

### Future Scenario

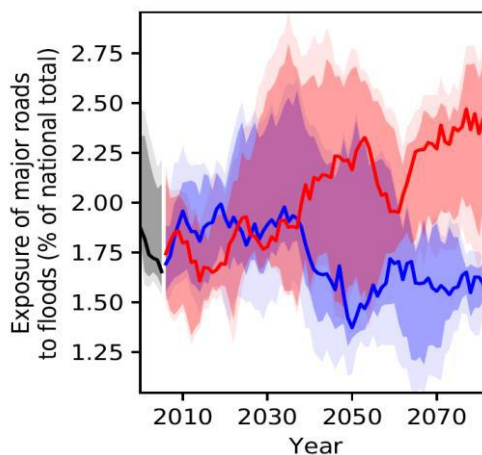
In line with rising mean annual temperatures, the annual number of very hot days (days with daily maximum temperature above 35 °C) is projected to rise substantially and with high certainty, in particular over central and eastern Kenya . Under the medium / high emissions scenario RCP6.0, the multi-model median, averaged over the whole country, projects 25 more very hot days per year in 2030 than in 2000, 36 more in 2050 and 59 more in 2080. In some parts, especially in northern and eastern Kenya, this amounts to about 300 days per year by 2080.



**Figure 7-1** Air temperature projections for Kenya for different GHG emissions scenarios

Based on above, extreme temperature conditions may increase the risk of damage to road assets slightly, especially on pavement. However, pavement binder can be modified easily in the future, so the decisions made today are not locked in for future decades.

Any increase in extreme precipitation, namely heavy downpours, may expand damage from flooding in low areas or damaging the road shoulders and edges through soil erosion. However, according to different climate change scenarios (called Representative Concentration Path ways, RCPs, projections for Kenya show a slight decrease in the exposure of major roads to river floods under RCP2.6 and an increase under RCP6.0. In the year 2000, 1.9 % of major roads were exposed to river floods at least once a year, while by 2040, this value is projected to change to about 2.0 % under RCP6.0. In a similar way, exposure of urban land area to river floods is projected to barely change under RCP2.6, whilst increasing from 0.11 % in 2000 to 0.13 % in 2080 under RCP6.0<sup>19</sup>. Design decisions concerning the road bed and the elevation of the road at key areas are long-lasting and costly to modify, and will be considered for this road project.



**Figure 7-2** Projections of major roads exposed to river floods at least once a year for Kenya for different GHG emissions scenarios.

Overall, the potential physical damage from extreme temperature and flooding is not expected to change the current rating of moderate risk Potential. Therefore, the Future rating remains Moderate Potential Impact.

<sup>19</sup> [https://www.adaptationcommunity.net/wp-content/uploads/2021/01/GIZ\\_Climate-risk-profile-Kenya\\_EN.pdf](https://www.adaptationcommunity.net/wp-content/uploads/2021/01/GIZ_Climate-risk-profile-Kenya_EN.pdf)



## 7.3 Potential Contribution of The Proposed Road To Climate Change

### 7.3.1 Effects of social and economic factors in the project area

The road construction will have significant improvement in provision of access to public services and facilities, thereby improving the lives of people in the region. This will lead to development of the area and some towns along the road becoming more urbanized. This will lead to an increase in population that can lead to environmental degradation, pollution in towns along the road, and areas served by the road, increasing the potential climatic hazards of the project. This slightly increase impacts of the hazards identified for the project.

The road construction will increase the level of economic activities in the country in sectors such as transport, industrialization, agriculture and energy all which have their footprints on climate change Consumerism is responsible for manmade climatic change. High rate of growth in production and consumption of non-essential goods has led to deterioration of environment leading to climatic change. According to studies, between 60-80 percent of the impacts on the planet come from household consumption.

### 7.3.2 Firewood use and charcoal burning

Access to clean modern energy sources is low in the areas served by the project, where more than 90% of the population use firewood and/or charcoal as source of energy. Since firewood burning produce carbon dioxide, a major greenhouse gas, biomass burning emissions significantly influence the Earth's atmosphere and climate. Biomass burning has both short and long-term impacts on the environment. Vegetation acts as a sink; a natural storage area for carbon dioxide by storing it over time through the process of photosynthesis. As burning occurs, it can release hundreds of years' worth of stored carbon dioxide into the atmosphere in a matter of hours. Burning also will permanently destroy an important sink for carbon dioxide if the vegetation is not replaced.

The road development will lead to increased demand for food by the contractor's camp which would mean increased use of firewood in local restaurants and by the locals. Also, when the road is complete there will be an increase in firewood and charcoal sales as there will be ease of transporting them from one area to another.

### 7.3.3 Greenhouse gases (GHG) contribution

Construction activities of the road project, and operation phases of the project will contribute to GHG emissions in various ways including but not limited to transport of materials; Earthworks; Pavement construction; construction of Structures such as bridges; and provision/construction of Equipment/road furniture. A better road will lead to more vehicles using the road, especially on this section of the road where it is less frequented because of poor road condition. Traffic increase and congestion on roads not only increases the fuel consumption but consequently leads to increase in carbon dioxide emissions, outdoor air pollution as well as increase in the exposure time of the passengers.

In order to reduce the impacts of GHG emissions related to the road, the following is proposed;

- Use of more efficient construction equipment and plants with low emissions,
- Use of labor-intensive methods where applicable, (eg bush clearing)
- Reduced use of lime/cement for base and subbase treatment to avoid emissions from and transport of the same
- Optimal use of bituminous materials for the pavement structure
- Use of solar lighting where possible for lighting along the centres

### 7.3.4 Spurred Economic development

The project road will also improve connectivity between other parts of Kenya, and as far as South Sudan. Improved road connectivity will spur economic development as creation of opportunities to invest and

spend increase with the volume of goods and services accessible to local population and on transit. This will require conversion of land from natural habitat to commercial, residential, industrial, and other uses as more and more people settle in the area.

In addition, the upgraded road will provide faster movement of people, goods and services in the area, which will likely stimulate more public and private investments such as facilities which include but not limited to schools, health centres, water, energy, and sanitation mainly in the urban centres. This growth means the social and economic conditions of these people will grow, improving and uplifting the standards of living along the proposed road project.

However, this will contribute to climate change in various ways through production of goods which use fuel and other products that emits GHG gases. Transportation of these goods and services as the region develops also means more vehicles will use the road, which will also contribute to GHG emissions.

Although unavoidable, GHG emissions from spurred economic development can be reduced through;

- Implementation and commitment of Government policies to reduce GHG emissions, eg Kenya's Nationally Determined Contribution (NDC) to abate GHG emissions by 32% by 2030
- Sensitization of people on climate change
- Use of alternative means of energy eg solar power, among others

#### 7.4 Climate Change adaptation component of the road project

The climate change adaptation component of this project serves the purpose of:

- Protecting the road infrastructure from the impacts of climate change; and
- Ensuring that the road infrastructure does not increase the vulnerability of the surrounding area to climate change

Various options can be employed to climate for adaptation in development of road either through engineering options, planning and ecosystem approaches or by do nothing option.

##### a) Engineering options

- Hardening the design of key road infrastructure to be more resistant to climate change impacts
- Designing infrastructure to be cheaply and easily replaced if damaged

##### b) Planning and ecosystem approaches

- Strengthening the capacity of national and county institutions responsible for climate change coordination; climate-related data and information collection.
- Promotion of tree planting activities
- Public awareness on the importance of tree planting and conservation

The proposed road design incorporates various considerations aimed at adapting to climate change especially to extreme events such as extreme temperature and floods in the project area: This includes;

- i. selection of appropriate type of pavement;
- ii. proper design of drainage facilities;
- iii. proper level of road embankment;
- iv. use of water pans and boreholes where appropriate.

#### 7.5 Adaption/Mitigation Measures

Although there is no baseline data on CO2 emission in the project area, it is expected that in the long run CO2 emission into the atmosphere increases due to an increase in traffic on the road. Measures aiming at mitigating climate change include:

Item	Responsible party
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Planting of trees made of various indigenous species;	KFS/ KeNHA
Proper reinstatement of borrow pits;	KeNHA/
Minimizing of bush clearing during the construction works,	KeNHA
Sensitization of communities and youth on climate change related topics such as bush clearing, bush fires, conservation agriculture, etc.	Counties
Sensitize the contractor on issues relating to climate change.	KeNHA
Accordingly, implement the existing climate change (CC) response strategy/policy focusing on infrastructure.	GoK / County governments
Initiate early warning and adaptation systems as well as investing in integrated assessment models.	GoK / County governments
Proper engineering interventions for construction of vulnerable and critical areas. This will enable developing of site-level adaptation strategies and enhance climate resilience of infrastructure operations.	KeNHA / Consultant
Green infrastructure should be secured in road expansion and rail construction.	GoK / KeNHA
Improve on met data disclosure and transparency.	GoK
Conduct vulnerability assessments at local/regional level to manage interdependencies.	GoK / County governments
Improve waste management systems more so on solid waste through cleaning and campaigns in all phases	KeNHA / County governments
More afforestation initiatives should be undertaken concurrently with the project implementation to counter loss of vegetation and impacts of soil erosion.	KFS / KeNHA / County governments
National climate change adaptation and mitigation measures should be devolved to counter climate change effects at County level.	GoK / County Governments
Sector specific adaptation and mitigation measures should be formulated and adopted for a holistic management of Climate change impacts.	GoK / County governments

In order to minimize impacts on the vulnerable groups due to climate change impacts, the project components include building amenities such as markets in major centres along road to cater for traders and vulnerable groups (such as women and PWD) who are trading in open centres along the road reserve on semi-permanent structures which are not suitable for the traders during heavy rainy seasons as an adaptation measure.

## 7.6 Linkages to Climate Change Adaptation measures

Kenya takes climate change seriously, as demonstrated by the enactment of the Climate Change Act (Number 11 of 2016) which requires the Government to develop five-year National Climate Change Action Plans (NCCAP) to guide the mainstreaming of adaptation and mitigation actions into sector functions of the National and County Governments. NCCAP 2018-2022 aims to further Kenya's development goals by providing mechanisms and measures to achieve low carbon climate resilient development in a manner that prioritises adaptation. This plan builds on the first Action Plan (2013-2017) and provides a framework for Kenya to deliver on its Nationally Determined Contribution (NDC) under the Paris Agreement of the United Nations Framework Convention on Climate Change (UNFCCC). NCCAP 2018-2022 guides the climate actions of the National and County Governments, the private sector, civil society and other actors as Kenya transitions to a low carbon climate resilient development pathway.

The government of Kenya has committed through Nationally Determined Contribution (NDC) in December 2016 to undertake a mitigation contribution towards the Paris agreement, by abating her GHG emissions by 32% by 2030, relative to the Business as Usual (BAU) scenario of 143 MtCO<sub>2</sub>eq, inline her sustainable

development agenda. The priority mitigation and adaptation actions in the NDC will be implemented through the NCAAPs as set out in the Climate Change Act, 2016, therefore availing opportunity to enhance the ambition every 5 years with the revision of the NCAAPs.

Responsibility for implementing national climate change policy largely rests with county governments. Sectors like agriculture and environmental management are devolved functions of county governments, and as such, most climate actions (prioritised in the National Climate Change Action Plan,) will be implemented at the county level, and counties have to mobilise resources to undertake climate change actions as they don't get sufficient allocations from the national government. Accordingly, the Climate Change Act requires county governments to mainstream climate change into their five-year County Integrated Development Plans. Moreover, each county is required to designate a member of the County Executive Committee to coordinate climate change affairs and annually report on implementation to the County Assembly and the National Climate Change Directorate.

Kenya has pioneered a climate change governance mechanism to increase finance for local climate action. The County Climate Change Fund (CCCF) consists of climate legislation enacted by county governments and a county-controlled fund that finances climate projects identified and prioritised by local communities. Originally designed by a multi-stakeholder coalition with the aim to increase capacity for local development planning and climate change adaptation in some of Kenya's most vulnerable regions, the CCCF evolved to encompass mitigation measures and effectively influenced national climate policy. The CCCF is a key component in a comprehensive national planning and financing framework that strengthens capacity and channels money from international and national sources to community-driven climate action priorities. Successful and sustainable CCCFs ensure local ownership and guarantee an annual budget drawn from counties' own-funds.

Therefore, the National and county governments, together with project developers in the country have to work hand in hand to ensure the proposed adaptation measures and commitments in the NDC are met to ensure issues of climate change are addressed at all stages of project development.

## 8 ALTERNATIVES TO THE PROJECT

It is expected that the road corridor will follow the existing alignment as much as possible. There are however several sections that may be considered for realignment for geometry and safety suitability but without compromising the environmental and social requirements. Limitations in project alternatives are based on a number of factors including land acquisition (the cost of land procurement and displacement of people), road design speeds, alternative mode of transport, alternative project routes, topography and linkages to the social and economic centers along the corridor. Since the road is existing, there are two major alternatives with the reconstruction options having sub-alternatives based on the proposed pavement structure options and the realignment. The two main options are “with the project” and “without the project”.

### 8.1 Alternative Alignments

The road is part of the most important link between Kitale and other towns along the road and all the way to South Sudan. Alternative alignments would be considered if current baseline environmental and social conditions encountered are too sensitive to the extent that the impacts of implementing the proposed alignment would be devastating, irreversible and environmentally and economically unjustifiable. For the major section of the current alignment, no such sensitive conditions were established.

The proposed project road alignment is on an existing road reserve and its reconstruction will not involve any major horizontal or vertical realignment except at few locations in the existing reserve to optimize engineering design for safety reasons.

### 8.2 Alternative Modes of Transport

The project road is the only relatively fast, cheap land transportation means in the project area. Currently, it is not feasible to complement or to substitute the project road with air, rail, and water transport. The Kitale airstrip is approximately 78km from the start of the project at Morpus and the Lokichar airstrip all in need of major rehabilitation have no scheduled commercial flights

### 8.3 Alternative 1: ‘No Action’ Scenario

The no action scenario alternative would imply that this Class A road, an important Section of the Northern Corridor Road, be maintained in its present state.

This scenario will mean just maintaining the road in passable condition with intermittent repairs undertaken from time to time. This scenario is therefore to assume that similar interventions will continue in the future and that the maintenance strategy will be to ensure that the road remains passable. The maintenance strategy may involve any of the following options:

- Heavy routine maintenance. This would involve clearing blocked drains and culverts and treatment of the road surface;
- Periodic maintenance. This would spot repairs to failed sections of the road surface and measures to restore drainage to good condition; and
- Timely routine maintenance. This would involve keeping drains in good shape and cutting back vegetation and weeds.

The option is preferable to implementation of the project since it will avoid causing any adverse environmental impacts associated with the road upgrading activities. Leaving the project road in this condition is not a viable option, especially as the desired objective of construction of the project road has not been achieved. This implies the following benefits will be foregone:

- i. The development of economic and social exchanges between the neighbouring regions,
- ii. Provision of access to the whole population, regional and national economic integration,
- iii. Employment opportunities for local residents along the project road; and
- iv. Reduction in travel time and cost

In addition, the status quo will mean that the area will still face problems of poor access to social services, poor economic interconnectivity and road safety will be compromised. From the foregoing, the no action alternative is not environmentally, socially and economically the preferred option.

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#### 8.4 Alternative 2: With Project Option

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The option of improving the existing pavement alignment as is through reconstruction, provision of drainage and safety components could be considered. This option consists of implementing the construction of the Morpus – Lokichar road. Construction of the project road, in addition to the section between Kitale and Morpus is critical and will promote and facilitate a regional economic integration between Sudan and Kenya, direct road access to the port of Mombasa for South Sudan's export and import, as well as facilitating relief and re-construction efforts in all sectors in South Sudan.

The expected benefits are defined as follows:

- i. Savings in vehicle operating cost;
- ii. Savings in maintenance expenditures;
- iii. Time savings to passengers and freight;
- iv. Reductions in the number and severity of accidents;
- v. Induced exogenous benefits, such as industrial, agricultural or tourist activities that were previously constrained by poor access;
- vi. Social benefits arising from the increased mobility of the population and improved accessibility to health, education and other services.

From the economic analysis carried for the project, it is recommended that the project road be considered for reconstruction at the earliest possible opportunity. The HDM-4 analysis gives very impressive results with an IRR of over 24%. This alone shows that the benefits accruing to the project are adequate. The project is thus viable on the basis of HDM-4 analysis alone while the sensitivity test and risk analysis also confirm viability of the project.

In addition, the benefits to the Kenyan economy as a whole and the local economy will be substantially higher, although no exact figure can be provided of these additional benefits. These include the non-quantifiable exogenous benefits accruing to the project. On the basis of regional integration and cooperation, it is also noted that the project will yield numerous benefits to South Sudan as it forms a major arterial that will link the oil rich country to the port of Mombasa.

The "with project" alternative can further be explored based on the Construction materials and Technology options.

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## 8.5 Alternative construction materials and technology

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The implementation of the project will entail the use of materials that will be sourced locally provided they meet the required standards and are environmentally friendly. The adoption of use of locally available and internationally accepted materials is aimed at promoting the local industry and minimizing the cost of transport. The consultant evaluated recycling of existing pavement materials for subbase and base to reduce exploration of new materials for the road. Due to high cost of milling and recycling the pavement, and lengthy procedures required to meet the required design standards, the Consultant has proposed use of new materials to manage cost of the project. However, the contractor will be given the option to mill and recycle the pavement provided the required subbase material standards are met, without incurring extra costs to the project. Equipment that saves energy and water will be given priority without compromising on cost or availability factors. On the alternative construction materials and technology, rainwater should be harvested and for supply to labour camps for flushing toilets and other non-domestic activities. Asphalt mixers, crushers and other construction equipment and machinery will be incorporated with pollution control devices like dust arrestors/precipitators, emission control, noise abatement devices and desulfurization devices.

The project will also evaluate the use of modern technologies that comply with the environmental and safety issues and are cost effective. This includes evaluation of green technologies for pavement options that reduce usage of materials that sometimes results to pollution of the environment.

## 9 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

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### 9.1 Environmental Management Plan

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The Environmental and Social Management Plan (ESMP) is developed to demonstrate how site-specific concerns and mitigation measures are addressed during construction and operation of the proposed project development activities. The ESMP has been developed with project knowledge and information available to date. The impacts originating from the project road development (construction and operation phases) have been identified. To ensure that the negative environmental impacts and risks can be controlled and mitigated effectively, a thorough scientific management and monitoring plan has been prepared. This will ensure that all the targets are achieved and that the environmental responsibilities and obligations of EIA are met during project implementation. As a progressive approach, components of the ESMP may require updating throughout the initiation and scheduling of plans for the project. Thus, this is a working document subject to amendments whenever new information is received or project road conditions change.

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### 9.2 Purpose and Objective of ESMP

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The ESMP describes the range of environmental and social issues associated with the project and outlines corresponding management strategies that will be employed to mitigate potential adverse environmental impacts. The ESMP conveys the Project's environmental and social constraints. The project will comply with all local laws and regulations, which seek to ensure that the road construction and operation does not adversely affect the environment and social community resources.

The project supervision may periodically revise the ESMP in consultation with the Contractor, and subject to the approval from National Environment Management Authority (NEMA). The revisions may be made to accommodate changes in work, weather, and road conditions. The ESMP should be made available to all the project staffs.

The objectives of the ESMP are:

- To serve as a commitment and reference for the project planners and implementers including conditions of approval from NEMA;
- To serve as a guiding document for the environmental and social monitoring activities for future studies, on requisite progress reports;
- To provide detailed specifications for the management and mitigation of activities that have the potential to impact negatively on the environment;
- To provide instructions to relevant project personnel regarding procedures for protecting the environment and minimizing environmental effects, thereby supporting the project goal of minimal or zero incidents;
- To document environmental concerns and appropriate protection measures; while ensuring that corrective actions are completed in a timely manner;
- To address capacity building requirements within the proponent team, if necessary.



### 9.3 Auditing of the ESMP

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KeNHA and the contractor shall conduct regular audits to the ESMP to ensure that the system for implementation of the ESMP is operating effectively. The audit shall check that a procedure is in place to ensure that:

- The ESMP being used is the up to date version;
- Variations to the ESMP and non-compliance and corrective action are documented;
- Appropriate environmental training of personnel is undertaken;
- Emergency procedures are in place and effectively communicated to personnel;
- A register of major incidents (spills, injuries, complaints) is in place and other documentation related to the ESMP; and
- Ensure that appropriate corrective and preventive action is taken by the Contractor once instructions have been issued.

The following procedure is proposed for reporting of incidences and accidents to the client and other parties.

- a) Once Contractor's, Consultant's, or KeNHA's (engineers, Environmental and Social Specialist (ESS) or Individual consultants) staff has observed or has been informed of an incident, he or she shall inform the Contractor who in turn will log the incident and screen to determine if the incident is minor or serious/ major.
- b) Where the incident is a minor, the Contractor shall ensure it is investigated and corrective actions implemented. Should the incident be a serious or major, the Contractor shall within five hours of receiving notification of incident gather relevant information, inform the Resident Engineer of the incident, furnish him or her with actions being taken to respond to the incident and submit the incident notification report.
- c) The Resident Engineer, upon receipt of information of the incident and within four hours of receipt of such information, inform the Project Engineer (Deputy Director- AfDB) of the incident and the actions being taken to respond to the incident.
- d) The Resident Engineer shall ensure the incident scene conditions are preserved where practicable. e.g. incident involving a vehicle, the vehicle has to be secured for further investigations
- e) The Resident Engineer shall also ensure the incident log is maintained and included in the Monthly Progress Report.
- f) The Resident Engineer shall also notify the field level authorities, police and Local Government Authorities within four hours.
- g) Where it is the Consultant or KeNHA staff who may have first learnt of the incident, he or she shall notify his or her Team Leader (Resident Engineer, Project Engineer or Head of Department) within 2 hours.
- h) Where the Resident Engineer learns of an incident before receiving notification from the Contractor, he or she shall inform the Contractor within 2 hours so that appropriate response is undertaken (logging, preliminary information gathering, completion of the Incident reporting format and notification of the Police, Local Government Authorities and Project Engineer.

- i) Should the Project Engineer learn of the incident before receiving notification from the Resident Engineer, he or she shall within 2 hours inform the Resident Engineer who shall proceed as provided for in this procedure.
- j) The Project Engineer upon receiving information on the incident, shall within 5 hours notify the Director Development, Deputy Director ESS, of the incident and the actions being taken to respond to the incident.
- k) There shall be lateral sharing of information (among respective officers/specialists of entities involved, among entity representatives, among KeNHA's senior management).
- l) The overall time lapse between observing or receiving of information on the incident by the first officer and informing the KeNHA senior Management, particularly the Director Development, shall be 15 hours.
- m) The Director Development may require Deputy Director ESS and any other senior manager as he or she may determine to undertake additional preliminary investigations and provide more information on the incident and actions being taken. However, the Director Development shall within 24 hours of notification inform the national authorities (DOSHS and police) and project financiers, as applicable, the incident and the actions being taken.

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## 9.4 Responsibilities of the ESMMP

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In order to ensure the sound development and effective implementation of the ESMP, it will be necessary to identify and define the responsibilities and authority of the various persons and organisations that will be involved in the project. The following entities will be involved in the implementation of the ESMMP:

- Kenya National Highways Authority (KeNHA);
- Ministry of Transport, Infrastructure, Housing and Urban Development;
- Ministry of Environment and Forestry;
- Ministry of Agriculture Livestock and Fisheries;
- National Environment Management Authority;
- Kenya Forest Service;
- Water Resources Authority;
- Kenya Wildlife Service;
- National Museums Of Kenya.
- National Lands Commission.
- Supervising Consultant;
- Construction Contractor;
- West Pokot and Turkana County Governments.

### 9.4.1 Kenya National Highways Authority (KeNHA)

KeNHA will be responsible for:

- Overseeing or appointing qualified and competent team to oversee environmental, health and safety (EHS) during the Project cycle;
- Implementation of the ESMP; and
- Ensuring that during construction and operations, the NEMA license conditions are adhered to since it's the principle holder of NEMA license.

#### **9.4.2 Ministry of Transport, Infrastructure, Housing and Urban Development**

This ministry is formulated to facilitate development and sustenance of transport infrastructure, maritime economy, public works and housing for sustainable socio-economic development. The Ministry has five state departments. The State Department for Infrastructure is one of the Departments whose functions include policy management for road development. KeNHA falls under the State Department for Infrastructure.

#### **9.4.3 Ministry of Environment and Forestry**

The Ministry of Environment and Forestry's mandate is to undertake National Environment Policy and Management, Forestry development policy and management, Development of re-afforestation and agro-forestry, Restoration of strategic water towers, Protection and conservation of Natural environment, Pollution control, Conservation and protection of wetlands and Climate change affairs.

The facilitates the enabling policies, legal and regulatory reforms for promoting sustainability of the environment and forest resources, while at the same time, mitigating the effects of climate change.

#### **9.4.4 National Environment Management Authority**

The responsibility of the National Environment Management Authority (NEMA) is to exercise general supervision and co-ordination over all matters relating to the environment and to be the principal instrument of Government in the implementation of all policies relating to the environment and to ensure that all mitigation measures proposed are actually implemented.

#### **9.4.5 Kenya Forest Service (KFS)**

The KFS mandate is to provide for the development and sustainable management, including conservation and rational utilization of all forest resources for the socioeconomic development of the country and for connected purposes. In this regard, the road project construction will involve clearing of vegetation along the Right Of Way and in the siting of the workers camp. KFS should therefore liaise with KeNHA to ensure that an afforestation programme is carried out concurrently with the construction activities to mitigate the effects of vegetation loss in the area.

#### **9.4.6 Kenya Wildlife Service (KWS)**

The mandate of KWS is to conserve and manage wildlife in Kenya, and to enforce related laws and regulations thereof. The project area is characterized by wildlife populations that should be protected during project implementation and operation. The project proponent should therefore involve KWS in the road design to identify wildlife sensitive areas and implement measures that adhere to wildlife protection.

#### **9.4.7 Water Resources Authority (WRA)**

The authority is mandated to safeguard the right to clean water by ensuring that there is proper regulation of the management and use of water resources, in order to ensure sufficient water for everyone- now and in the future.

The region is a water scarce area, and on this premise, there will be an increased demand for water during the construction of the proposed road for the civil works and domestic purposed. This will require the contractor to provide for his own water need without straining the local sources. It is the responsibility of the WRA to authorize the abstraction and use of water for the project purposes sustainably.

#### **9.4.8 National Lands Commission (NLC).**

It is the responsibility of the NLC to monitor and have oversight responsibilities over Land Use Planning throughout the country. It will therefore oversee the land take and compensation procedures involved in the proposed road project.

#### **9.4.9 Directorate of Safety and Health Services (DOSHS)**

DOSH will be responsible for;

- Registering and Permitting of work place for all the work sites and camp sites for the project;
- Inspection and auditing of workplaces to ensure they are adhering to OSHA 2007.
- Receiving and investigating any severe incidents reported on worksites
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#### **9.4.10 Community Based Organizations and Civil Society Groups**

CBOs and local civil society groups can play a major role in ensuring that the local people are participating actively in the implementation of the project through representation in areas such as grievance committees, ensuring the local communities benefit from the project activities, and that the local communities are consulted widely on the project, among others.

The CBOs role in the project will include but not limited to;

- Participate in training and enhancing the capacity of the local communities in poverty reduction strategies proposed by the Social Assessment;
- Ensure communities are meaningfully consulted on the project;
- To encourage ownership of roads by the local communities by involving them directly in the process of monitoring of road construction;
- Represent the underrepresented groups such as women and youth, PWDs, etc
- Oversight role in ensuring that the proposed environmental and social mitigation measures are implemented as proposed (especially if there are any local organizations that deals with local environmental and social issues, wildlife etc).

#### **9.4.11 National Museums Of Kenya (NMK).**

NMK is a multi-disciplinary institution whose role is to collect, preserve, study, document and present Kenya's past and present cultural and natural heritage. Regarding the road project, realignment has been proposed to avoid the established sensitive sites as identified by the communities. Care demands chance find procedures (as prescribed by NMK) to kick in for use during the construction phase.

#### **9.4.12 Supervising Consultant**

The Supervising Consultant will be required to oversee the construction programme and construction activities performed by the Contractor, in compliance with the present ESMMP. The Consultant will have Environmental and Social Specialists in its team to co-ordinate all aspects of the environment during project implementation. This will include following the construction to monitor, review and verify the implementation of the project's ESMP. Moreover, keep track of project compliance regarding permits and approvals necessary from the relevant authorities.

#### **9.4.13 Construction Contractor**

The Contractor will be required to comply with the requirements of the EIA/ ESMMP and the Standard Specifications for road works in Kenya, which include specifications for environmental protection and waste disposal, borrow pit and quarry acquisition and exploitation, landscaping and grassing among others. The Contractor shall be required to have an environmentalist, a sociologist and an occupational health and safety specialist on site to oversee the ESMP implementation.

#### **9.4.14 County Governments**

The relevant departmental officers in the County Governments should be called upon where necessary during project implementation to provide the necessary permits and advisory services to the project implementers.

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### **9.5 Environmental and Social Management Plan (ESMP) during Construction and Operation Phases**

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An Environmental and Social Management Plan (ESMP) is prepared as a logical framework within which the identified negative environmental and social impacts will be mitigated and monitored during the construction process of the development project.

The construction phase ESMP is presented overleaf. The cost of ESMP implementation applicable to the contractor will be incorporated in the works BOQ.

Table 9-1: Environmental and social management plan  
ESMP during Construction Phase

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets	Responsibility	ESMP Costs
<b>ENVIRONMENTAL IMPACTS</b>					
Vegetation Loss	Low	<ul style="list-style-type: none"> <li>Minimize unnecessary vegetation clearance</li> <li>Revegetation and landscaping of vegetation and trees along the road</li> <li>Siting of camp sites should be done away from densely vegetated areas.</li> <li>Compensate for the valuable trees to be felled within the settlements as per the project RAP recommendations.</li> </ul>	<ul style="list-style-type: none"> <li>Vegetation cover along the road reserve that is also safe to the road users.</li> <li>Landscaping and grassing on road reserves and especially on steep slopes</li> <li>Recovery of tree cover lost in Kitale</li> </ul>	Contractor, RE, KeNHA	No additional cost to the BoQ (see habitat loss and disturbance)
Workmen's camps management	High	<ul style="list-style-type: none"> <li>Locate camp sites away from residential areas and settlements</li> <li>Contractor to prepare a Waste Management Plan for all worksites, especially the campsites</li> <li>Provision of adequate water and sanitation (fixed toilets with running water and changing rooms) at the campsites, separate for men and women;</li> <li>Provide for septic tanks and soak pits</li> <li>Pay special attention on waste generation and disposal, sanitary conditions at the sites, which includes exploring an option of having a third party to manage the various waste generated at the campsites, including regular treatment of pests and rodents;</li> <li>No waste at the campsite shall be buried or burnt; contractor to segregate waste, reuse, compost or use licensed third party service providers for disposal of waste;</li> <li>Treatment of the campsite for rodents and other pests shall be done regularly;</li> <li>Completely decommissioning of the camp including permanent foundations and floors to discourage future informal settlement at the campsite</li> </ul>	Campsite meeting environmental and social conditions of the project	Contractor, RE	Costs build in the planning and administration costs of the contractor
Excessive Noise and Vibration	Medium	<ul style="list-style-type: none"> <li>Contractor to prepare Health and safety plan;</li> <li>Monitor environmental and occupational noise levels as per the EMCA provisions of regulations and World Bank Group EHS guidelines;</li> </ul>	Noise levels meeting conditions of the applicable standards	Contractor, RE, County governments	To be provided under Bill No 1 –

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets	Responsibility	ESMP Costs
		<ul style="list-style-type: none"> <li>The noise emission characteristics should be considered during selection and mobilization of construction equipment;</li> <li>Where feasible, fit equipment with rock mufflers, sound insulations, silencers to lower the levels of noise emission;</li> <li>Sensitize construction workers to switch off machinery and vehicles when not in use;</li> <li>Provision of appropriate and adequate Personal Protective Equipment (PPEs) to workers;</li> <li>Proper selection of project auxiliary sites, e.g. locate noisy operations like batching plant away from the densely settled areas;</li> <li>Where noisy activities must be undertaken near sensitive receptors, the neighbouring occupants must be informed in advance and works limited to day time only.</li> <li>Noise quality samples to be used as baseline data will be collected before commencement of the civil works for regular monitoring during the construction period at various sensitive areas to be agreed upon with the RE.</li> </ul>			<p>KSHS 5,000,000 for PPEs (ear plugs, maintenance of vehicles in administrative costs of the contractor)</p>
Construction Dust and Air Quality	High	<ul style="list-style-type: none"> <li>Sprinkling water (at least twice a day) on the accesses and excavated surfaces during the construction period to suppress dust generation;</li> <li>Limit the speed of construction vehicles (maximum speed limit 40 kph/25 mph) on earth road;</li> <li>Where feasible, fit equipment with rock mufflers, sound insulations, silencers to lower the levels of noise emission;</li> <li>Provision of appropriate protective personal equipment including respirators and dustcoats to exposed workers;</li> <li>Ensuring the location of material stockpiles are away from human settlements and business premises;</li> <li>Covering loaded trucks during the transportation of material;</li> <li>Sensitize workers on best practice on management of air pollution from vehicles and machinery;</li> <li>Demolition of existing structures shall be done in a manner that the dust from demolitions can be controlled;</li> <li>Undertake regular air quality (dust level) monitoring and conduct corrective adjustments where necessary.</li> </ul>	Low particulate matter in the air meeting the applicable standards	Contractor , RE	<p>To be provided under Bill No 1 - Kshs 5 million</p> <p>(Dust masks and other accessories)</p> <p>(NB water sprinkling part of the main BoQ – Bill No 9)</p>

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets	Responsibility	ESMP Costs
		<ul style="list-style-type: none"> <li>Air quality samples to be used as baseline data will be collected before commencement of the civil works for regular monitoring during the construction period at various sensitive areas to be agreed upon with the RE.</li> </ul>			
Generation of Solid Wastes	Medium	<ul style="list-style-type: none"> <li>Contractor will prepare Solid Waste Management Plan</li> <li>Waste be managed as per Environmental Management and Coordination (Waste Management) Regulations 2006;</li> <li>Utilize the 3C strategy – Reduce, Reuse and Recycling;</li> <li>Reuse excavated top soil for landscaping of the site as far as practical;</li> <li>Segregation of solid wastes and provision of suitable and well labelled waste receptacles within the camp and at active construction sites;</li> <li>Disposed solid waste at designated sites through licensed waste handlers;</li> <li>Sensitize resident workers and service providers (e.g. food vendors) at project sites on proper waste management practices especially hazardous materials and risks of contaminations.</li> </ul>	Proper waste management and disposal Minimal accumulation of waste	Contractor, RE, Contracted Licensed waste handlers	TO be provided under Bill 1 - KShs. 2,500,000 annually for waste management (total 7,500,00 for duration of the contract)
Increased Soil Erosion	Low	<ul style="list-style-type: none"> <li>Material excavation should be minimized and restricted to designated locations;</li> <li>Excavated material should be properly piled and managed - sprinkled with water and covered (where possible) to prevent possible wash-out into seasonal watercourses.</li> <li>The contractor should ensure that construction related impacts like erosion and cut slope destabilization should be addressed through rock pitching;</li> <li>Re-vegetation should be done in tandem with construction activities to avoid exposure of bare ground to agents of erosion;</li> <li>Enforce landscaping and restoration of the construction site prior to decommissioning of the construction site;</li> <li>As part of enhancing environmental protection in the region, the contractor should start a tree planting campaign for reforestation by incubating a tree nursery programs along the road. The types of trees to plant shall be through the guidance of the local KFS or through involvement of the Ministry of Environment and Forestry</li> </ul>	Controlled soil erosion Proper compaction of surfaces Proper Landscaping and grassing of embankments	Contractor, RE	Part of Bill no 8



Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets	Responsibility	ESMP Costs
Contamination by Liquid Waste and Hydrocarbon Spills	High	<ul style="list-style-type: none"> <li>• Contractor will prepare waste management plan</li> <li>• Machinery maintenance should be done only on purpose-built garages that meet hydrocarbon containment measures and controlled drainage;</li> <li>• Fueling and servicing of vehicles will be undertaken from only designated and lined area</li> <li>• Contractor will be required to have an emergency spill containment and response plan;</li> <li>• Minor service and washing areas placed/ constructed with containment basins to ensure that the surrounding areas (including groundwater) are not polluted;</li> <li>• All sanitation waste, grey water runoff or uncontrolled discharges from the site/working areas (including wash down areas) to any water courses shall be contained, treated and properly channeled;</li> <li>• Flash toilets at camp sites should be connected to septic tanks or other treatment facilities approved by the county government and NEMA;</li> <li>• Water containing such pollutants as cements, concrete, lime, chemicals and fuels shall be discharged into a conservancy tank for removal from site.</li> </ul>	Zero tolerance on liquid waste and hydrocarbon spills	Contractor, RE	To be provided under Bill No 1 - Kshs 3 million Rest of the budget under administrative costs of the contractor
Habitat Loss and Disturbance	Low	<ul style="list-style-type: none"> <li>• Locate project auxiliary features like camps and batching plants in areas already disturbed or outside of wildlife habitats.</li> <li>• Construction activities should be confined on the demarcated corridor and discourage movement or intrusion into wildlife habitats;</li> <li>• Throughout the construction cycle, project staff should be sensitized regularly on wildlife conservation.</li> <li>• The Contractor should sensitize workers on nature conservation, and enforce unauthorized intrusion or use of the wildlife habitats through signed code of conduct;</li> <li>• After decommissioning contractor facilities, native vegetation should be replanted as restoration measures. Accredited sources of seedlings should be used (such as local KFS tree nurseries).</li> <li>• To avoid random off-road driving that leads to trampling of vegetation in sensitive habitats, vehicles should be provided with designated routes</li> <li>• Existing diversions and diversions should be considered before opening up new ones during construction.</li> </ul>	Minimal vegetation clearance Minimal disruptions of habitat life	Contractor, RE	Under Bill No 1  Extra KShs. 5,000,000 for reforestation program through establishment of a tree nurseries along the road project

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets	Responsibility	ESMP Costs
Impacts on Materials Borrow Sites	High	<ul style="list-style-type: none"> <li>All material sites shall be selected in consultation with the county governments and the local communities, and rehabilitation/decommissioning plans agreed to ensure the sites will not cause any social conflict within the communities. If borrow sites will be converted to water pans, proper communities and stakeholder engagement shall be conducted and agreed upon (through signing of agreements to exclude any future liability by the contractor) if such usage will be proposed by the community members.</li> <li>The contractor shall carry out environmental and social assessment for all auxiliary sites and seek relevant statutory licenses including NEMA for proposed material sites to be used for construction works;</li> <li>Construction materials including sand, stones and borrow materials must be sourced from duly approved sources only;</li> <li>Materials haulage routes must be pre-determined to avoid unnecessary off road driving;</li> <li>Contractor to develop a system of tracking materials received viz a vis utilization to ensure proper materials management to avoid wastage;</li> <li>The contractor shall locate material sites away from settlements if possible;</li> <li>Where material sites are located near settlements, the contractor shall carry out baseline studies of structural integrity assessments of nearby structures;</li> <li>The contractor shall develop safety management plans for any blasting which shall require the blasting to be done by qualified experts, sensitization and notification to locals on blasting times;</li> <li>All material sites shall always be fenced with controlled entry at all times.</li> </ul>	<p>Properly rehabilitated material borrow sites</p> <p>No incidents/accidents at materials borrow sites</p>	Contractor, RE	No additional cost to the BoQ Costs built in the planning and administration costs of the contractor
Increased Incidences of Poaching and Human-Wildlife Conflicts	Medium	<ul style="list-style-type: none"> <li>Engage KWS to monitor wildlife distribution and movement in relation to the project during construction and subsequent stages to advise accordingly;</li> <li>Contractor should liaise with KWS to handle and capture reptiles (especially snakes) hiding under rocks and sheltered terrains and safely release them in suitable habitats;</li> <li>Sensitize staff on wildlife encounters and discourage animal persecution or provocation through pre-informed and signed code of conduct;</li> </ul>	No incidents of poaching and human wildlife conflict with construction workers	Contractor, KWS, KeNHA, Local police	<p>KShs. 500,000 Annually for KWS emergency response</p> <p>Total 1.5 Million</p> <p>Wildlife signs to be provided under Bill No 17</p>

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets	Responsibility	ESMP Costs
		<ul style="list-style-type: none"> <li>Sensitize all construction staff on dealing with wildlife encounters and enforce zero-tolerance on wildlife poaching by signing code of conduct.</li> <li>Any cases on wildlife poaching should be forwarded to KWS for further action and prosecution.</li> <li></li> </ul>			
<b>SOCIAL</b>					
Land take and disruption of livelihoods	Medium	<ul style="list-style-type: none"> <li>RAP Study Report for the project should be implemented to guide the compensation and resettlement process;</li> <li>Compensation for all affected properties should be compensated before construction commences;</li> <li>Grievance management system should be operationalized and maintained throughout the project implementation phase. All pertinent stakeholders should be involved in the compensation and grievance redress mechanism during implementation of RAP.</li> </ul>	<p>Do no harm for the PAPs</p> <p>Minimize livelihoods of the PAPs</p>	KeNHA, Contractor, RE	Cost as per RAP Study Report is Kshs <u>30,723,895.00</u>
Increased Water Demand	High	<ul style="list-style-type: none"> <li>The contractor to develop independent construction water sources to avoid straining existing local resources;</li> <li>Consider supplementing ground water supplies with harvesting seasonal surface flows through pans and small dams that may also be handed over to the local communities;</li> <li>The Contractor must adhere to the Water Act, 2016 and associated rules and regulations as administered by WRA and NEMA; and</li> <li>Relevant water abstraction permits must be obtained from these authorities.</li> </ul>	Minimal interference of water resources in the project area	Contractor, RE	No additional cost to the BoQ Under and administrative costs of the contractor
Construction works induced traffic and inconveniences	High	<ul style="list-style-type: none"> <li>The contractor shall be required to formulate and implement a traffic management plan</li> <li>Provision of alternative routes in areas where accesses have been disrupted;</li> <li>Provision and maintenance of clear traffic signages of ongoing construction works, regulate speed limits and diversion signage to notify approaching traffic;</li> <li>In urban areas, schedule delivery of materials to the sites during periods of light traffic between 9.00am - 12.00 pm and 2.00 pm - 4.00 pm during week days;</li> </ul>	<p>Minimal disruptions of traffic due to construction activities</p> <p>Minimal accidents reported for contractors vehicles</p> <p>Observance of Code of Conduct</p>	Contractor, RE	No additional cost to the BoQ Under Bill No 4 and 9

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets	Responsibility	ESMP Costs
		<ul style="list-style-type: none"> <li>Contractor to carry out road safety awareness for community members and institutions along the project corridor</li> <li>Obtain permission from inhabitants and county governments if diversion routes go beyond the Right of Way;</li> <li>Reinstatement of diversion routes (and old tracks) to original condition;</li> <li>Institute a traffic management plan incorporating adequate temporary signages and flagmen as necessary; and</li> </ul>			
Disruption of Public Utilities	Medium	<ul style="list-style-type: none"> <li>Liaise with utilities providers (power, water, telecommunication) to identify affected sections of alignment of the utilities and provide cost to cover the relocation of the existing infrastructure;</li> <li>Relocation plans shall include adequate notification of affected customers.</li> </ul>	Minimal disruption of public utilities	Contractor, RE	Under Bill No 1 – Relocation of services
Communicable Diseases	Medium	<p><b>Upper Respiratory Tract Infections (URTI)</b></p> <ul style="list-style-type: none"> <li>Apply dust suppression measures - sprinkling water on the accesses and excavated surfaces – this shall be determined by the RE depending on the prevailing weather conditions;</li> <li>Maintain a grievance register to log any complaints from local community;</li> <li>Hold inductions for staff and people visiting the construction sites on the health and safety aspects;</li> <li>Provide dust masks for all staff and visitors to active construction areas;</li> <li>The Contractor should plan work program's activities and timing to avoid emission impact on sensitive receptors, especially urbanized areas;</li> <li>Install screens and scrubbers on crusher sites to minimize dust emissions;</li> <li>Locate ancillary facilities away from residential/institutional to minimize dust or other emissions to the residents;</li> <li>Regular maintenance contractors' equipments</li> </ul>	No reported cases of communicable diseases	Contractor, RE	To be provided under Bill 1 - Kshs 6,000,000  For sensitization and awareness programs
	Medium	<p><b>Spread of HIV/AIDS, COVID, and Other STDs</b></p> <ul style="list-style-type: none"> <li>KeNHA/Contractor should, in liaison with approved local service providers, provide HIV/AIDS awareness training to staff and the locals and monitor the efficacy of the awareness created during the project implementation period;</li> <li>Sensitize workers on the need to refrain from risky behaviours;</li> <li>Provision of condoms both male and female in the sanitary facilities and various locations for the members of public;</li> </ul>	Adherence to Code of Conduct by employees	Contractor, RE Appointed NGO	Kshs 15,000,000 for HIV/AIDS Awareness programs and campaigns (by a NGO) To be included under Bill No 25

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets	Responsibility	ESMP Costs
		<ul style="list-style-type: none"> <li>The unskilled workers should, as far as feasible, be recruited from among the residents of the project area and its immediate neighborhood to minimize labour influx;</li> <li>Workers should be given regular leave, preferably monthly to cool off period and join their families</li> <li>Regular sensitization and awareness, and provision of measures to reduce spread of COVID-19, and other communicable diseases.</li> </ul>			
Conflicts with local communities on labour issues	Medium	<ul style="list-style-type: none"> <li>Contractor to formulate and implement a labour management plan for his workforce;</li> <li>Contractor will be required to have a transparent external communication plan covering among others, how available opportunities will be advertised;</li> <li>The Contractor should prioritize employing locals as casuals to reduce the need for labour influx;</li> <li>Consultations with the local council of elders to ensure that available opportunities are fairly distributed across different clan members;</li> <li>Maintain a grievance register to log any complaints from workers and local community.</li> </ul>	Local benefits from project construction in employment	Contractor, RE	No additional cost to the BoQ Costs build in the planning and administration costs of the contractor
Workers Welfare	Low	<ul style="list-style-type: none"> <li>The contractor shall comply with the required Law of Kenya under DOSHS, and Labour requirements;</li> <li>Have fulltime nurse on the campsite, with all first aid facilities are available at all times;</li> <li>In collaboration with local health facilities, ensure that the workers have access to health facilities in the area;</li> <li>Contractor to ensure that first aid facilities are available at all times at the work sites, and arrangement to access to ambulance service;</li> <li>The contractor shall provide portable water and mobile toilets (separate for women and men) for the workers at all worksites along the road;</li> <li>The contractor has to ensure that for any personnel accommodation, suitable arrangements are made to meet the welfare and hygiene requirements and prevention of epidemics, taking into consideration issues like harsh weather conditions in the region, sanitation, etc.</li> <li>Contractor should hire qualified Human Resources staff to manage labour related risks in the project</li> </ul>	Adherence to labour laws  Proper living and working conditions for the workers	Contractor, RE	No additional cost to the BoQ Costs build in the planning and administration costs of the contractor

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets	Responsibility	ESMP Costs
Community Safety and Health	Medium	<ul style="list-style-type: none"> <li>Ensure that all active work areas have controlled access limited to authorized persons only;</li> <li>Establish and maintain continuous liaison with the host communities including sensitization on safety and health issues on construction sites;</li> <li>Prepare and implement construction traffic management plan, incorporating safety of other traffic;</li> <li>Install and maintain appropriate safety and warning signages along road sections and all other construction sites and facilities;</li> <li>Ensure proper and adequate provision of sanitation and waste management facilities at all construction sites;</li> <li>Maintain a system of receiving and responding to any safety concerns by the communities;</li> <li>Undertake general and third-party insurance liability covers as appropriate.</li> </ul>	Minimize health and safety risks to the local communities	Contractor, RE	No additional cost to the BoQ Under Bill 9, and administrative costs of the contractor
Labour influx and Social Change	High	<ul style="list-style-type: none"> <li>The contractor shall develop a labour management plan for project;</li> <li>The Contractor should prioritize employing locals as casuals to reduce the need for labour influx;</li> <li>Ensure there is adequate security and reasonable controlled access to project offices and residential quarters of immigrant staff to discourage deviant behaviours at workers campsites;</li> <li>Employment policy of the contractor should prohibit deviant behaviours at the workplace among staff such as cultural profiling, sexual exploitation, child labour and gender-based violence;</li> <li>Workers will be sensitized on the different cultural practices in the region and for immigrant workers, respecting different cultural, religions and beliefs, including behaviours and norms of the local people;</li> <li>Contractor to establish a grievance management system to handle internal and external complaints.</li> <li>Workers will be sensitized and sign code of conduct regarding interactions, behaviours and relations with the local communities.</li> </ul>	<p>Adherence to Code of Conduct by employees</p> <p>Good relationship of workers and local communities</p>	Contractor , RE	No additional cost to the BoQ - administrative costs of the contractor
Crime Management	Low	<ul style="list-style-type: none"> <li>All activities of a criminal nature on the worksite or by the Contractor's employees (whether on or off the worksite) shall be reported to the police and necessary follow-up undertaken to ensure action is taken;</li> <li>Sensitize the construction workers, locals, and security to be on the lookout on suspicious activities near the site</li> </ul>	<p>Adherence to Code of Conduct by all employees</p> <p>Proper security to protect employees</p>	Contractor, RE, Local administration	No additional cost to the BoQ - administrative costs of the contractor

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets	Responsibility	ESMP Costs
		<ul style="list-style-type: none"> <li>Enforce the crime related clauses in the Code of conduct signed by all workers</li> </ul>			
Child Protection, Sexual exploitation and abuse (SEA) of underage girls	High	<ul style="list-style-type: none"> <li>Workers will be educated by relevant agencies such as police and probation officers on the relevant laws and polices protecting children</li> <li>Reach out to children in and out of school in the vicinity of the construction sites with a life skills program focusing on HIV/AIDS and sexual abuse prevention among others areas</li> <li>Mobilize and strengthen child protection institutions and structures near construction sites</li> <li>Reach out to school authorities and parents near construction sites on paying special attention to child protection in light of labour influx</li> <li>Partnerships will be established with relevant government agencies and NGOs to ensure children access survivor centred services such as medical care, psychosocial support, legal redress, safety, etc as and when necessary</li> <li>Ensure no children are employed on site in accordance with national labor laws</li> <li>Ensure that any sexual exploitation and abuse (SEA) of children by the contractors' workers are promptly reported to the police</li> <li>Popularize /put in place confidential mechanisms and hotlines for reporting child abuse cases</li> <li>Enforce the child protection related clauses in the Code of conduct signed by all workers</li> <li>Ensure visibility of signage and information, education and communication materials on such issues in the construction sites</li> <li>Liaise with the administration units (County and sub County governments, Police, DO, chiefs, etc.) to provide regular surveillance and patrols to protect workers and unacceptable behavioral interaction of children and workers</li> </ul>	Adherence to Code of Conduct by all employees	Contractor , RE	Kshs 10,000,000 For sensitization and awareness
Absenteeism in Schools	Low	<ul style="list-style-type: none"> <li>Contractor and local NGOs to conduct a program to strengthen school based and school led life skills programs targeting any schools near construction sites to discourage dropping out of schools for school children;</li> <li>Ensure no children are employed on site in accordance with national labor laws;</li> <li>The contractor shall sensitize the workers not to engage with children conducting business activities near the worksites of campsites</li> </ul>	Adherence to Code of Conduct by all employees  Zero tolerance on child labour	Contractor , RE	Part of sensitization and awareness budget (under Bill No 1), and administrative costs of th contractor

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets	Responsibility	ESMP Costs
		<ul style="list-style-type: none"> <li>Impose zero tolerance for employees on sexual relationship with students that would encourage dropping or being absent from school</li> </ul>			
Gender Equity and Mainstreaming	Medium	<ul style="list-style-type: none"> <li>Contractor and implementing agency to prepare and implement a Gender Action plan to include at minimum, in conformance with local laws and customs, equal opportunity for employment (min 30% of labour should be women);</li> <li>Ensure that women are given adequate employment opportunities during recruitment and job postings, including equal payment</li> <li>Regular sensitization and awareness campaigns to the workers should be done to promote gender equity in employment during the construction works and during operation</li> <li>Provision of gender disaggregated accommodation, bathing, changing, sanitation facilities</li> </ul>	<p>Women are given opportunities to participate in the projects</p> <p>30% of labour to be women</p>	Contractor, RE	Kshs 5,000,000 for sensitization and awareness (under Bill No 1)
Gender based violence (GBV), Rape and Sexual Harassment	Medium	<ul style="list-style-type: none"> <li>Contractor will prepare a GBV Prevention and Response Plan and implementation arrangements</li> <li>Contractor to prepare and enforce a No Sexual Harassment and discrimination Policy in accordance with national laws;</li> <li>KeNHA to engage services of local CSO to educate all workers and nearby communities and stakeholders on preventing and responding to sexual harassment and GBV ahead of any project related works;</li> <li>Popularize /put in place confidential mechanisms and hotlines for reporting GBV and sexual offences cases;</li> <li>Strategies such as male involvement will be employed in preventing and responding to GBV and sexual harassment;</li> <li>Establish partnerships with relevant government agencies and NGOs to ensure survivors of GBV and sexual offences access survivor centered services such as medical care, psychosocial support, legal redress, safety, etc as and when necessary;</li> <li>Provision of gender disaggregated facilities - separate bathing, changing, sanitation facilities for men and women;</li> <li>Grievance redress mechanisms including non-retaliation should be set up for the workers;</li> <li>Liaise with the administration units (County and sub County governments, Police, DO, chiefs, etc.) to provide regular surveillance and patrols to protect</li> </ul>	<p>Adherence to Code of Conduct by all employees</p> <p>Zero cases of GBV related to the project reported</p>	Contractor, RE	Part of sensitization and awareness budget (under Bill No 1)



Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets	Responsibility	ESMP Costs
		workers and unacceptable behavioral interaction of local communities and workers			
Alcohol and drug abuse by workers	Low	<ul style="list-style-type: none"> <li>All workers (including subcontractors) to sign and comply with Code of Conduct on zero-tolerance on alcohol and drug abuse.</li> <li>Removing any employee who persists in any misconduct or lack of care, carries out duties incompetently or negligently, fails to conform to any provisions of the contract, or persists in any conduct which is prejudicial to safety, health, or the protection of the environment.</li> <li>Taking all reasonable precautions to prevent unlawful, riotous or disorderly conduct by or amongst the Contractor's personnel, and to preserve peace and protection of persons and property on and near the site.</li> <li>Prohibiting alcohol, drugs, arms, and ammunition on the worksite among personnel.</li> <li>Liaise with the administration units (County and sub County governments, Police, DO, chiefs, etc.) to provide regular surveillance and patrols to protect workers and unacceptable behavioral interaction of local communities and workers</li> </ul>	Adherence to Code of Conduct by all employees	Contractor, RE	No additional cost to the BoQ, Administrative costs of the contractor
Increase in the prices of goods and services in the community	Low	<ul style="list-style-type: none"> <li>The contractor should ensure his workers appropriately mix the use of locally and non-locally procured goods to allow local project benefits to balance the local economy while reducing risk of crowding out of and price hikes for local consumers</li> </ul>	Use of locally procured goods	Contractor	No additional cost to the BoQ administrative costs of the contractor
Loss of life, injury or damage to people and private property	High	<ul style="list-style-type: none"> <li>The construction site shall be fenced off to prevent access to members of the public</li> <li>Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, at all times</li> <li>The contractor shall have insurance for his workers as required by law;</li> <li>Insuring against liability for any loss, damage, death or bodily injury which may occur to any physical property or to any person which may arise out of the Contractor's performance of the contract</li> <li>All fatalities or severe accidents/incidences shall be reported to the client (KeNHA) immediately (KeNHA) shall report to the AfDB within 24 hours after occurrence. The same should be done to DOSHS within 24 hours and a written notice to the same within 7 days as per the statutory requirements.</li> </ul>	Zero cases of severe incidents/accidents	Contractor, RE	No additional cost to the BoQ Part of contract requirements

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets	Responsibility	ESMP Costs
Complaints and grievances/social conflicts	Medium	<ul style="list-style-type: none"> <li>• Provide grievance redress mechanism for the local communities and workers;</li> <li>• Advise the public and workers on where to report grievances;</li> <li>• Consider prioritizing the local manpower for both skilled and unskilled labour.</li> <li>• Implement proposed grievance resolution mechanism</li> <li>• Grievance redress mechanisms especially for workers should incorporate non-retaliation policies</li> </ul>	Proper and operational GRM setup for employees and members of the public	Contractor, RE	Kshs 10,000,000 For GRC operations
Impacts on Cultural Resources and Archaeological Sites	Low	<ul style="list-style-type: none"> <li>• Use "Chance Finds" procedures in case of any discovery of archeological or important physical or cultural resources</li> </ul>	No impact on PCR	Contractor, RE	No additional cost to the BoQ administrative costs of the contractor
Increased Wildlife and Livestock Accidents	Medium	<ul style="list-style-type: none"> <li>• The public should be sensitized on safety measures to observe while using the road;</li> <li>• Implement pedestrian and livestock safety management strategies such as provision of safe corridors (side roads) along the road alignment and construction areas, including tunnels and bridges and safe crossings for pedestrians and livestock,</li> <li>• Installation of barriers (e.g. guardrails, fencing, plantings) to deter pedestrian and animals access to the tarmacked roadway except at designated crossing points;</li> <li>• Installation and maintenance of speed control and traffic calming devices at pedestrian crossing areas such as bumps, ramble strips in all the villages along project road;</li> <li>• Installation and maintenance of all road signs, signals, markings, and other devices used to regulate traffic, specifically those related to pedestrian, wildlife or livestock;</li> <li>• Installation and maintenance of all signs, signals, markings, and other devices used to regulate traffic, including posted speed limits, warnings of sharp turns, or other special road conditions;</li> <li>• Installation of measures to reduce collisions between animals and vehicles (e.g. use of signs to alert drivers on road segments where animals frequently cross).</li> <li>• Consider providing water points on the opposite side of the road to limit the animals from crossing the road;</li> </ul>	Livestock and wildlife safety	KeNHA / Construction Contractor/ Ministry of Agriculture, Livestock and Fisheries/ KWS.	No additional cost to the BoQ

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets	Responsibility	ESMP Costs
		<ul style="list-style-type: none"> <li>Wildlife crossings are considered to provide safe and convenient road crossing locations and this should be achieved in the type and design of the structure. The structures should have shorter length and wider width;</li> <li>Fences are important to guide animals to the structures as well as for problem animal control.</li> </ul>			
Increased Deadwood Collection and Charcoal	Medium	<ul style="list-style-type: none"> <li>KWS and KFS should conduct routine habitat surveillance and patrols as well as thorough inspection of vehicles by security personnel at manned roadblocks (at the exit points) to rid off illegal loggers and timber dealers;</li> <li>Multi government agencies should institute campaigns on sustainable charcoal production, incorporating revegetation of affected areas with native species;</li> <li>Locals should be sensitized on the importance of conserving woody vegetation.</li> </ul>	Conserving natural vegetation cover	KeNHA / KFS	No additional cost to the BoQ
Impacts on Vulnerable groups	Medium	<ul style="list-style-type: none"> <li>The project had conducted a standalone Social Assessment (SA) report in 2015 to determine how the communities will benefit from the project activities, and the recommendations will be incorporated into the project design;</li> <li>Develop an action plan that sets out the measures through which the project will ensure that potentially adverse effects on the peoples' communities are avoided, minimized, and mitigated, and/or compensate for such effects;</li> <li>The project to conducted continuous Consultations in order to achieve broad community support;</li> <li>The project will make the development process more inclusive of vulnerable groups and local communities by meaningful consultations and incorporating their perspectives in the design of development programs and poverty reduction strategies;</li> <li>Provide the local communities and vulnerable groups with opportunities to benefit more fully from development programs associated with the project, such as social infrastructure projects along the road project.</li> </ul>	Incorporation of project benefits for the vulnerable groups	KeNHA, Contractor, RE	No additional cost to the BoQ  Part of proposed projects to benefit local communities
Security Challenges	High	<ul style="list-style-type: none"> <li>The contractor shall develop Security Management and Emergency Response Management Plan for his employees, and conduct regular briefs on security emergency, including drills on worksites and campsites;</li> <li>KeNHA to support the contractor in liaison with government security agencies for security planning and continuous surveillance;</li> </ul>	Security management	Contractor/ KeNHA	No additional cost to the BoQ - administrative costs of the contractor

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets	Responsibility	ESMP Costs
		<ul style="list-style-type: none"> <li>• Contractor to appoint fulltime security coordinator to coordinate with security agencies in the area on issues related to security for the construction workers;</li> <li>• Workers should be sensitized on security arrangements with regular updates as necessary;</li> <li>• Travel plans to remote locations like off-road borrow sites and quarries should be discouraged based on the prevailing security situation;</li> <li>• Emergency contact list shall be maintained on site and by various teams. This should incorporate satellite communication services between camp-based and Nairobi based offices;</li> <li>• Enough security should be provide 24/7 at all worksites and campsites, including use of armed policemen.</li> </ul>			
<b>OCCUPATIONAL HEALTH AND SAFETY</b>					
Occupational Safety and Health Hazards	High	<ul style="list-style-type: none"> <li>• Contractor will prepare Health and Safety Plan and Emergency Response Plans and operationalize them</li> <li>• Contractors' selection criteria should include ability to demonstrate having some defined minimum requirements for Safety and Health Management System.</li> <li>• Contractor's should comply OSHA 2007 requirements as bare minimum;</li> <li>• Contractor must obtain a registration of workplace certificate from DOSH and comply with the subsequent requirements of the Health and Safety Committee Rules 2004 of the OSHA Act;</li> <li>• Enforce use of defined standard operating procedures for handling various activities, depending on risks levels;</li> <li>• Establish an emergency response procedure and display on all work areas;</li> <li>• Provision of a standard first aid kit at active construction sites at all times;</li> <li>• Designate qualified first-aider as per the OSHA requirements;</li> <li>• Contractor to have a full time Health and Safety advisor on site</li> <li>• Engage a qualified Health and Safety auditor to conduct routine and annual Health and Safety (H&amp;S) audits;</li> <li>• Establish a Health and Safety Committee for the project construction team as per the Health and Safety Committee Rules 2004 of the OSHA Act</li> <li>• Provide medical care for all staff as necessary as allowed in the Kenyan Law including securing a worker insurance cover as required under WIBA;</li> </ul>	Eliminate incidents and accidents (Zero cases)  Proper provision and use of PPEs	Contractor, RE	To be included in Bill 1 - Kshs 8 million for operations of clinical facilities at campsites and other OHS arrangements  Other costs under Bill 1, 9, and administrative costs of the contractor

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets	Responsibility	ESMP Costs
		<ul style="list-style-type: none"> <li>• Conduct risk assessment before commencing new assignments/tasks;</li> <li>• Provide appropriate and adequate Personal Protective Equipment (PPE) to all workers that is commensurate with construction site activities;</li> <li>• Abide by standard best practice health and safety provisions in the construction contract;</li> <li>• Conduct daily toolbox and monthly safety meetings for the construction workforce;</li> <li>• Undertake routine worksites safety inspections;</li> <li>• Carry out induction and training on Health and Safety for workers and visitors to site</li> <li>• Display of appropriate safety signs around the construction site</li> <li>• All operators shall be trained and skilled in their area of operations;</li> <li>• Regular trainings to workers on OHS and first aid administration;</li> <li>• Contractor (s) to maintain an accident register; carry out accident and incidents investigations and implement corrective actions.</li> </ul>			
Road Safety	High	<ul style="list-style-type: none"> <li>• Copies of insurance policies for the contractor's drivers and vehicles should be provided to the Supervision Consultant.</li> <li>• The contractor's vehicles and equipment must be in proper working condition and have registration plates, and numbering.</li> <li>• The contractor to sensitize all drivers and equipment operators to adopt safe driving and operation behaviors, to ensure proper discipline by these personnel, and sanctions those in breach.</li> <li>• Ensure that safety is included in the driver's contracts as part of "Code of Conduct" and any non-compliances are sanctioned;</li> <li>• Excavated sites, embankments, and dangerous locations are protected with proper safety barriers, tape and warning signs.</li> <li>• Install temporary speed calming measures such as bumps and speed signs at high risk areas such as shopping centres, hospitals, and schools;</li> <li>• As part of normal Occupational Health and Safety monitoring, the contractor and Supervision Consultant both maintain a log detailing every violation and accident on site or associated with the project work activities, including the nature and circumstances, location, date, time, precise vehicles and persons involved, and follow-up actions with the police, insurance, families, community leaders, etc.</li> <li>• The implementing agency, in cooperation with the relevant government agency, should undertake road safety campaigns targeting settlements,</li> </ul>	Minimal road accidents	Contractor, RE , Local administration	<p>No additional cost to the BoQ</p> <p>Under administrative costs of the contractor and Bill No 9</p>

Environmental / Social impact	Level of Impact	Proposed mitigation and management measures	Goals/Targets	Responsibility	ESMP Costs
		schools, and other facilities along the project road or other affected areas. The cost of such campaigns should be covered in the project budget.			
Impacts Related to High Temperature and Humidity Levels	Medium	<ul style="list-style-type: none"> <li>Contractor must ensure Project staff have access to adequate potable water;</li> <li>Provisions should be made for adequate ventilation and air conditioning for in-house work spaces;</li> <li>Sensitize staff on health concerns and avoiding heatstroke, dehydration and fatigue;</li> <li>Work schedules should be such that workers are allowed adequate break durations in between working sessions;</li> <li>Ensure adherence to OSHA, 2007.</li> </ul>	Workers welfare complied with	Contractor, RE	No additional cost to the BoQ  Under administrative costs of the contractor
Stakeholder Engagement	High	<ul style="list-style-type: none"> <li>The implementing agency (KeNHA) should prepare and implement a communication and community/stakeholder engagement plan that addresses all project issues</li> </ul>	Continuous Stakeholder engagement	KeNHA, Contractor, RE	Kshs 10,000,000
Grievance Redress Mechanisms	Medium	<ul style="list-style-type: none"> <li>Proper, effective and strong Grievance Redress Mechanisms (GRM)</li> </ul>	Established GRM	Contractor, RE, KeNHA	Part of Complaints mechanisms budget

Table 9-2 ESMP during operation phase

Environmental / Social impact	Level of Impact	Recommendation, mitigation, monitoring and/or Management Measures	Goals of mitigation	Responsibility for Implementation	Timeframe	Cost (KSHS)
<b>ENVIRONMENTAL IMPACTS</b>						
Road Maintenance Impacts	Low	<ul style="list-style-type: none"> <li>Incorporate recycling of road resurfacing waste where possible;</li> <li>All vegetation cuttings for road clearance maintenance suspected to be from invasive alien species should be burnt on site translocated to minimize dispersal;</li> <li>Manage sediment and sludge removed from storm water;</li> <li>All removed paint materials suspected or confirmed as containing lead should be treated as a hazardous waste.</li> </ul>	Conserve environment during road maintenance	KeNHA	Operation	No additional cost to the BoQ – under KeNHA maintenance budget
<b>SOCIAL IMPACTS</b>						

Environmental / Social impact	Level of Impact	Recommendation, mitigation, monitoring and/or Management Measures	Goals of mitigation	Responsibility for Implementation	Timeframe	Cost (KSHS)
Increased Vehicle Accidents	High	<ul style="list-style-type: none"> <li>The public should be sensitised on safety measures to observe while using the road;</li> <li>KeNHA to liaise with NTSA for close monitoring of the road usage and impose penalties on those going against the set roads usage rules;</li> <li>KeNHA should ensure maintenance of installed road furniture and safety signages along the road;</li> <li>Undertake periodic roadside bush clearance that may reduce visibility clearance or obstruct critical signages.</li> </ul>	Road use safety	KeNHA	Construction / Operation	No additional cost to the BoQ Under KeNHA and other various agencies operational budget
Communicable Diseases	Low	<ul style="list-style-type: none"> <li>Regular sensitization and awareness of the truck drivers, sex workers, and local communities on communicable diseases such as HIV, COVID-19, and other communicable diseases.</li> <li>Enforcement of Vehicles to adhere to emission criteria set under the Environmental Management and Co-ordination (Fossil Fuel Emission Control) regulations, 2006.</li> <li>Proper Vehicle maintenance and servicing of vehicle engine, especially for maintenance equipment.</li> </ul>	Prevent communicable diseases	KeNHA	Operation	No additional cost to the BoQ
Human Encroachment along the Project Roads	Medium	<ul style="list-style-type: none"> <li>KeNHA in consultation with the county governments should enforce development control by not allowing for any development approvals on the road reserve to ward off potential encroachers and to allow for easy implementation of future road maintenance or expansion plans;</li> <li>Install and maintain road reserve boundary posts at appropriate intervals;</li> <li>Conduct awareness talks and presentations about the road reserve.</li> </ul>	Curb human encroachment onto road reserve	KeNHA	Operation	No additional cost to the BoQ – county government budgets and KeNHA management of road reserves

**Table 9-3:** ESMP during Decommissioning Phase

Environmental / Social impact	Level of Impact	Recommendation, mitigation, monitoring and/or Management Measures	Goals	Responsibility for Implementation	Timeframe	Cost (KSHS)
Community Health and Safety	Low	<ul style="list-style-type: none"> <li>Contractor must prepare detailed decommissioning plan for approval by local government, NEMA and department of mines as applicable;</li> <li>KeNHA should consider satisfactory rehabilitation of decommissioned sites as part of contractual requirement with enforceable penalties including financial disincentives.</li> </ul>	Enhance public safety	KeNHA	Decommissioning	No additional cost to the BoQ
Loss of Income	Low	<ul style="list-style-type: none"> <li>Notify the employees in advance on the project closure date and adequately compensate them;</li> <li>Dismissal procedures to be compliant with Employment Act, 2007;</li> <li>Provide counselling &amp; alternative skills for alternative activities;</li> <li>Employer should possibly identify alternative means of livelihood for the staff who were employed at the construction camp.</li> </ul>	Improve local financial safety nets	KeNHA	Decommissioning	No additional cost to the BoQ
Noise pollution	Low	<ul style="list-style-type: none"> <li>Prepare a decommissioning plan to guide activities;</li> <li>Monitor noise levels as per the NEMA Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009 &amp; OSHA, 2007;</li> <li>The noise emission characteristics should be considered during selection and mobilization of decommissioning equipment; and</li> <li>Sensitize staff to switch off machinery and vehicles when not in use.</li> </ul>	Mitigate noise pollution	KeNHA	Decommissioning	No additional cost to the BoQ
Dust and Fumes	Low	<ul style="list-style-type: none"> <li>Prepare a decommissioning plan to guide staff on proper handling of sensitive facilities;</li> <li>Enforce stand operating procedures while undertaking demolition works;</li> <li>Provide and enforce the appropriate use of PPE against dust; and</li> <li>Employ dust suppression measures such as sprinkling water on loose soil surfaces and providing cover for spoil batches.</li> </ul>	Suppress pollution from dust and fumes	KeNHA	Decommissioning	No additional cost to the BoQ
Waste Accumulation	Medium	<ul style="list-style-type: none"> <li>Decommissioning plan should cover waste management;</li> <li>Waste be managed as per Environmental Management and Coordination (Waste Management) Regulations 2006;</li> <li>Establish a segregation and grading waste management system to manage garbage and other forms of waste generated;</li> <li>Prioritize options of waste reduction, reuse and recycling, particularly papers, polythene bags and plastic wrappers and containers and other materials that can possibly be recycled; and</li> <li>Disposed waste at designated sites through licensed waste handlers.</li> </ul>	Proper Waste management	KeNHA	Decommissioning	No additional cost to the BoQ



Environmental / Social impact	Level of Impact	Recommendation, mitigation, monitoring and/or Management Measures	Goals	Responsibility for Implementation	Timeframe	Cost (KSHS)
<b>Total ESMP Costs</b>						<b>Ksh93,500,000</b>

## SUMMARY BUDGET OF ESMP

Table 9-4 ESMP Summary Budget (Including Monitoring)

S/ N	Item	Description	Cost (KSHS Million)
1	Sensitization and Awareness	Sensitization of the project activities, including printing of materials of SEAH/GBV, meetings with local communities by an NGO consultant	10
2	Loss of vegetation, Habitat loss & Disturbance	Reafforestation, landscaping and planting of trees	5
3	Gender Equity & Mainstreaming	Sensitization and awareness materials, Special projects targeting women and vulnerable groups	3
4	Workers Welfare and OHS	Operation of clinic at campsite and other OHS arrangements	8
5	Stakeholder Engagement	Meetings, venues, allowances, & refreshments	10
6	Communicable diseases	Sensitization and awareness materials, COVID 19 protocols	6
7	Air Quality	Control and Monitoring of air pollution, including PPEs	5
8	Noise Pollution	Control and Monitoring of Noise pollution, including PPEs	2
9	HIV/AIDS	Sensitization and awareness materials, Testing, Involvement of NGOs for counselling, provisions of condoms, etc	15
10	Solid Waste management	Management of waste, disposal and other costs associated with SWM	7.5
11	Control of Liquid waste and hydrocarbon spills	Waste management arrangements	3
12	Grievance Redress Mechanisms	GRC Operations	10
	<b>TOTAL ESMP COST</b>		<b>84.5</b>
	<b>Cost of ESMP Monitoring</b>		<b>10</b>
	<b>TOTAL ESMP Cost (including monitoring)</b>		<b>94.5</b>

## 10 GRIEVANCE REDRESS MECHANISM

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### 10.1 Grievance Redress Mechanism (GRM)

Grievance redress mechanisms (GRM) provide a formal avenue for affected groups or stakeholders to engage with the project implementers or owners on issues of concern or unaddressed impacts. Grievances are any complaints or suggestions about the way a project is being implemented. They may take the form of specific complaints for damages/injury, concerns about routine project activities, or perceived incidents or impacts. Identifying and responding to grievances supports the development of positive relationships between projects and affected groups/communities, and other stakeholders.

Grievance mechanisms should receive and facilitate resolution of the affected institutional or communities' concerns and grievances. AfDB Safeguard Policies states the concerns should be addressed promptly using an understandable and transparent process that is culturally appropriate and readily acceptable to all segments of affected communities, at no cost and without retribution. Mechanisms should be appropriate to the scale of impacts and risks presented by a project.

Grievances can be an indication of growing stakeholder concerns (real and perceived) and can escalate if not identified and resolved. The management of grievances is therefore a vital component of stakeholder management and an important aspect of risk management for a project. Projects may have a range of potential adverse impacts to people and the environment in general, and identifying grievances and ensuring timely resolution is therefore very necessary.

The following sections describe the proposed procedures that will be followed to address complaints or concerns submitted by people who may benefit from or impacted by the proposed project. It intends to provide clarity and predictability on how complaints will be received, assessed, sorted, resolved and monitored.

### 10.2 Objectives of Grievance Redress Mechanism (GRM)

The GRM has the following objectives:

1. Establish a prompt, easy to understand and access, consistent and respectful mechanism to support the receiving, investigating and responding to complaints or grievances from communities and other stakeholders;
2. Ensure proper documentation of complaints or grievances and any corrective actions taken; and
3. Contribute to continuous improvement in performance of the project by reducing risks and negative social impacts through analysis of trends and lessons learned

### 10.3 GRM Guiding Principles

Effective GRMs usually embody six core principles<sup>20</sup>:

- **Fairness.** Grievances are treated confidentially, assessed impartially, and handled transparently.
- **Objectiveness and independence.** The GRM operates independently of all interested parties in order to guarantee fair, objective, and impartial treatment to each case. GRM officials have adequate means and powers to investigate grievances (e.g., interview witnesses, access records).
- **Simplicity and accessibility.** Procedures to file grievances and seek action are simple enough that project beneficiaries can easily understand them. Project beneficiaries have a range of contact options including, at a minimum, a telephone number (preferably toll-free), an e-mail address, and a postal

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<sup>20</sup> World bank Group; HOW-TO-NOTES, The theory of Grievance Redress, <http://siteresources.worldbank.org/EXTSOCIALDEVELOPMENT/Resources/244362-1193949504055/4348035-1298566783395/7755386-1301510956007/GRM-P1-Final.pdf>

address. The GRM is accessible to all stakeholders, irrespective of the remoteness of the area they live in, the language they speak, and their level of education or income. The GRM does not use complex processes that create confusion or anxiety (such as only accepting grievances on official-looking standard forms or through grievance boxes in government offices).

- **Responsiveness and efficiency.** The GRM is designed to be responsive to the needs of all complainants. Accordingly, officials handling grievances shall be trained to take effective action upon, and respond quickly to, grievances and suggestions.
- **Speed and proportionality.** All grievances, simple or complex, shall be addressed and resolved as quickly as possible. The action taken on the grievance or suggestion is swift, decisive, and constructive.
- **Participatory and social inclusion.** A wide range of project-affected people— community members, members of vulnerable groups, project implementers, civil society, and the media - shall be encouraged to bring grievances and comments to the attention of project authorities. Special attention is given to ensure that poor people and marginalized groups, including those with special needs, are able to access the GRM, in a culturally appropriate manner.

#### 10.4 Grievance Handling Mechanisms structure

The local Assistant County Commissioner of the subcounty will be the chairman of the GRC, with the RE being the secretary of the committee or a person the RE might appoint as his representative. The proposed members of the grievance committee are as follows:

Name / organization	Representing
Local Administration (eg Sub County Commissioner)	Government – Chairman/Chairwoman
Area Administration (eg Chief)	Government - member
Community representative	Community - member
Women representative	Women and community member
Resident Engineer (RE)	Consultant – Secretary
Safeguard specialist (Consultant)	Consultant - Member
NEMA representative	NEMA – Member
Contractor representative	Contractor - Member
NGOs	NGOs – representative of various NGOs
County Government	Appointed member from the county - Member
Institution stakeholders (eg traders, transporters, boda boda etc)	Users – Member
Other Stakeholders	As may be determined during the implementation of the project

#### **NB:**

Other members can be added or removed as required depending on the needs of the communities as advised by the local leadership.

The main role of the committee will be arbitration through mediation and negotiation when complaints arise to ensure that cases are resolved quickly and fairly. The above committee shall normally meet once per month and may form special sub-committees or ad-hoc committee that shall meet on a weekly basis or more frequently as the nature of some grievances may demand. Such sub-committees or special ad-

hoc committee will report their findings and recommendations to the main committee for ratification or approval.

The GRC shall be issued with ToRs by the implementing agency (KeNHA) on their roles and responsibilities, with a clear period of tenure. In addition, facilitation of the GRC shall be done accordingly based on applicable government rates. The budget for this facilitation has been provided for in the ESMP.

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## 10.5 Key staff coordinating grievance redress

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The Resident Engineer (RE) will be designated as the person in charge of Grievance Redress. A social safeguards specialist under the RE will be in responsible for coordinating all grievance redress and complaints, who will also be the Community Liaison officer (CLO), acting as intermediary between the project and communities and other stakeholders. In regard to GRM, the following will be their responsibilities;

- Coordinate formation of Grievance Redress Committees (GRCs) before the commencement of construction to resolve issues.
  - Act as the Focal Point for the client (KeNHA) on Grievance Redress issues and facilitate the grievance mechanisms.
  - Create awareness of the Grievance Redress Mechanism (GRM) amongst all the stakeholders through public awareness campaigns.
  - Assist in Redress of all Grievances by coordinating with the concerned parties.
  - Maintain information of grievances and Redress.
  - Monitor the activities on Redress of Grievances.
  - Prepare the progress for monthly/quarterly reports.
  - Provision of resources to cover the operational costs of the GRM (facilitation costs etc).
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## 10.6 Receiving complaints

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The various points of receiving complaints would be as follows:

- County Governments administration;
- Local chief's office;
- KeNHA office (at headquarters)
- Contractor or RE office
- Ministry of Transport, Infrastructure, Housing and Urban Development (MoTIHUD)
- Representative at the community level

The complaints can be made in writing, verbally, over the phone, by fax, emails or any other media such as WhatsApp, and grievance redress system through the KeNHA website. As soon as the designated safeguards officer receives a complaint, he /she would issue an acknowledgement of the complaint, including the details of the person bringing the grievance. The officer receiving the complaints should try to obtain relevant basic information regarding the grievance and the complainant and will immediately inform the safeguard specialist the receipt of the complaint.

The RE will maintain a Complaint / Grievance and Redress register or log book and keeping of records collected from relevant bodies will be the responsibility of the supervising consultant safeguard specialist.

After registering the complaint in the Grievance Redress Registration and Monitoring Sheet, the safeguard specialist would study the complaint made in detail and forward the complaint to the concerned officer with specific dates for replying and redressing the same. He/she would hold meetings with the affected persons / complainant and then attempt to find a solution to the complaint received. If necessary, meetings have to be held with the concerned affected persons / complainant and the concerned parties to find a solution to the problem and fix up plans to redress the grievance. The deliberations of the meetings and decisions taken are recorded and minutes of the meetings filed.

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## 10.7 Registry and monitoring

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All complaints received will be entered into a publicly accessible system that will allow complaints to be tracked and monitored. The system will also present a database showing:

- No of complaints received.
- No and % of complaints that have been resolved.
- No and % of complaints that have gone to mediation
- No and % of complaints that have not reached agreement.

The database should also show the issues and geographic areas most complaints circle around. The information provided by the database is expected to help KeNHA to improve the Grievance Redress Mechanism and better understand and address the environmental and social impacts of the project.

Table 10-1 Grievance Redress Process

Process	Description	Time frame	Other information
Identification of grievance	Face to face; phone; letter, e-mail; recorded during public/community interaction; others	1 Day	Email address; hotline number
Grievance assessed and logged	Significance assessed and grievance recorded or logged (i.e. in a log book)	4-7 Days	Significance criteria: Level 1 –one off event; Level 2 – complaint is widespread or repeated; Level 3- any complaint (one off or repeated) that indicates breach of law or policy or provisions in other project documents
Grievance is acknowledged	Acknowledgement of grievance through appropriate medium	7-14 Days	-
Development of response	Grievance solved at Tier 1 Resolved at East Africa Skills for Transformation and Regional Integration Project (EASTRIP level) Response development with input from management/ complainant/relevant stakeholders.	4-14 Days	RE and complainant to sign off
Response signed off	Grievance closed Redress action approved at appropriate levels	Within above timelines	RE to sign off
Grievance not solved, passed to GRC	Grievance passed to appropriate party for resolution (GRC) – Tier 2. Redress action approved at appropriate levels.	7-14 Days	GRC and complainant to sign off
Implementation and communication of response	Redress action implemented and update of progress on resolution communicated to complainant.	Within 7 days	
Complaints Response	Redress action recorded in grievance log book.  Confirm with complainant that grievance can be closed or determine what follow up is necessary.	4-7 Days	
Grievance not solved,	Grievance passed to appropriate party for resolution. Final decision communicated to complainant.	7 -14 days	Complainant to sign off
Close grievance	Record final sign off of grievance.  If grievance cannot be closed, return to step 2 or refer to sector minister or recommend third-party arbitration or resort to court of law.	4-7 Days	Final sign off on by KeNHA

## 10.8 Grievance redress mechanism process

The stakeholders are informed of various points of making complaints (if any) and the RE collect the complaints from these points on a regular basis and record them. This is followed by coordinating with the concerned people to address the grievances. The RE will manage the grievance activities at the respective stakeholder's level to address the Grievances and would act as the focal point in this regard.

The complaints are received at various points as described above.

A 3- tier Redress structure is proposed to address all complaints for the proposed project effectively.

**a) First tier of Redress**

The first tier is divided into two parts where a complainant can register his grievances and resolved quickly:

- i. Village redress led by local leadership such as the Local Chief or Assistant chief, Nyumba Kumi leaders, or any other locally recognized respected member of the society
- ii. Project level redress led by Resident Engineer and/or Contractor's representative

i. Village Level GRM

Some parties show preference for an alternative mechanism which utilizes the use of Village Level GRC.

The village level GRC is categorized with the following recommended membership;

- Assistant/sub locational chief,
- Nyumba Kumi Leader
- Nyumba Kumi representatives
- One project affected youth,
- One project affected woman,
- One project affected male
- Persons with Disability
- Ward Administrator
- Contractor representative
  - Ward Administrator
  - Contractor representative
  - KeNHA representative

ii. Resident Engineer

The other resolution at this first tier will be normally be by the RE at the project level. If the affected party / complainant does want to use the Village level GRC, he is free to forward his grievances to the Resident Engineer's office directly.

Resolutions at Village GRC or the RE shall be done within 14 working days and notified to the concerned through a disclosure form Should the Grievance is not solved within this period, this would be referred to the next level of Grievance Redress. However, if any of the above two mechanisms feels that adequate solutions are worked out but it would require a few more days for actions to be taken, the leaders of these mechanisms can decide on retaining the issue at this level by informing the complainant accordingly. However, if the complainant requests for an immediate transfer of the issue to the next level, it would be accepted and the issue would be taken to the next tier, especially if the issue is not addressed within 21 days.

**b) Second tier of Redress**

The Grievance Redress Committee (GRC) would be the one which would address the grievance in the next level in case the problem is not solved at the first tier. The RE will coordinate with the respective chairman of the GRC in getting this Committee constituted and get the necessary circulars issued in this regard so that they can be convened whenever required.

The RE will coordinate the convening of the meetings of the GRC. He / She is also responsible for briefing the GRC on the grievances and deliberations of the first level of Redress, outcomes and on the views of both the parties (project and complainant).

The GRC will hold the necessary meetings with the affected party / complainant and attempt to find a solution acceptable at all levels. The GRC would record the minutes of the meeting and filed by the RE. The decisions of the GRC will be communicated to the complainant formally and if he/she accepts the



resolutions, the complainant's acceptance is obtained in writing and signing off is done between the complainant and the GRC.

If the complainant does not accept the solution offered by the GRC, then the complaint is passed on to the next level / or the complainant can reach the next level for redress. The Chairman of the GRC would be required to forward the issue to the Third Tier to facilitate in exploring a solution to the grievance. In any case, the grievance should be forwarded to the next level if no solution is reached within 14 days of the case reaching the second level. However, in cases nearing offering an amicable solution, it can be retained to an extent of 21 days.

**c) Third tier of Redress**

If the affected party / complainant does not agree with the resolution at the 2nd level, or there is a time delay of more than a month in solving the issue, the complainant can opt to consider taking it to the third level.

Where an agreement has not been reached, the complainant will be offered the option of an independent mediation process at an alternative arbitration body such as local arbitration arrangements, local administration, or other avenues as might be prescribed in the country constitution before legal redress. The RE will collect all the details of the Grievance including the deliberations of first tier efforts and of the GRC and present it to the 3rd level tier. The 3rd tier structure will deliberate upon the issue and give suitable recommendations. The minutes of the meetings will be recorded and kept at KeNHA office.

The decisions of the 3rd tier structure would be final from the project side and will be communicated to the complainant formally and if he/she accepts the resolutions, the complainant's acceptance is obtained and signed off by the complainant and the 3rd tier structure, including the project GRC.

The Complainant may decide to take a legal or any other recourse if he /she is not satisfied with the resolutions of the deliberations of the three tiers of GRM.

It should be encouraged that the 3 levels of handling the grievances should be exhausted extensively before one goes to courts as last resort.

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## **10.9 GRM Jurisdiction**

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The proposed GRM is project specific and scaled to the risks and impacts of the Project. It is meant to solve the project's concerns by the stakeholders or any complainant. The proposed GRM is however not intended to bypass any Governments' own existing redress process; rather is intended to address affected people's concerns and complaints promptly, making it readily accessible to all segments of the affected people. Any established Government Redress mechanisms takes priority over the proposed GRM. The GRC's term shall have a Terms of Reference (ToR), tenure and timeless when the GRC will be closed.

The figure on the next page shows a proposed Grievance Redress Mechanism flow process for the proposed project. This will be reviewed and customized to address any missing gaps before establishment as required.

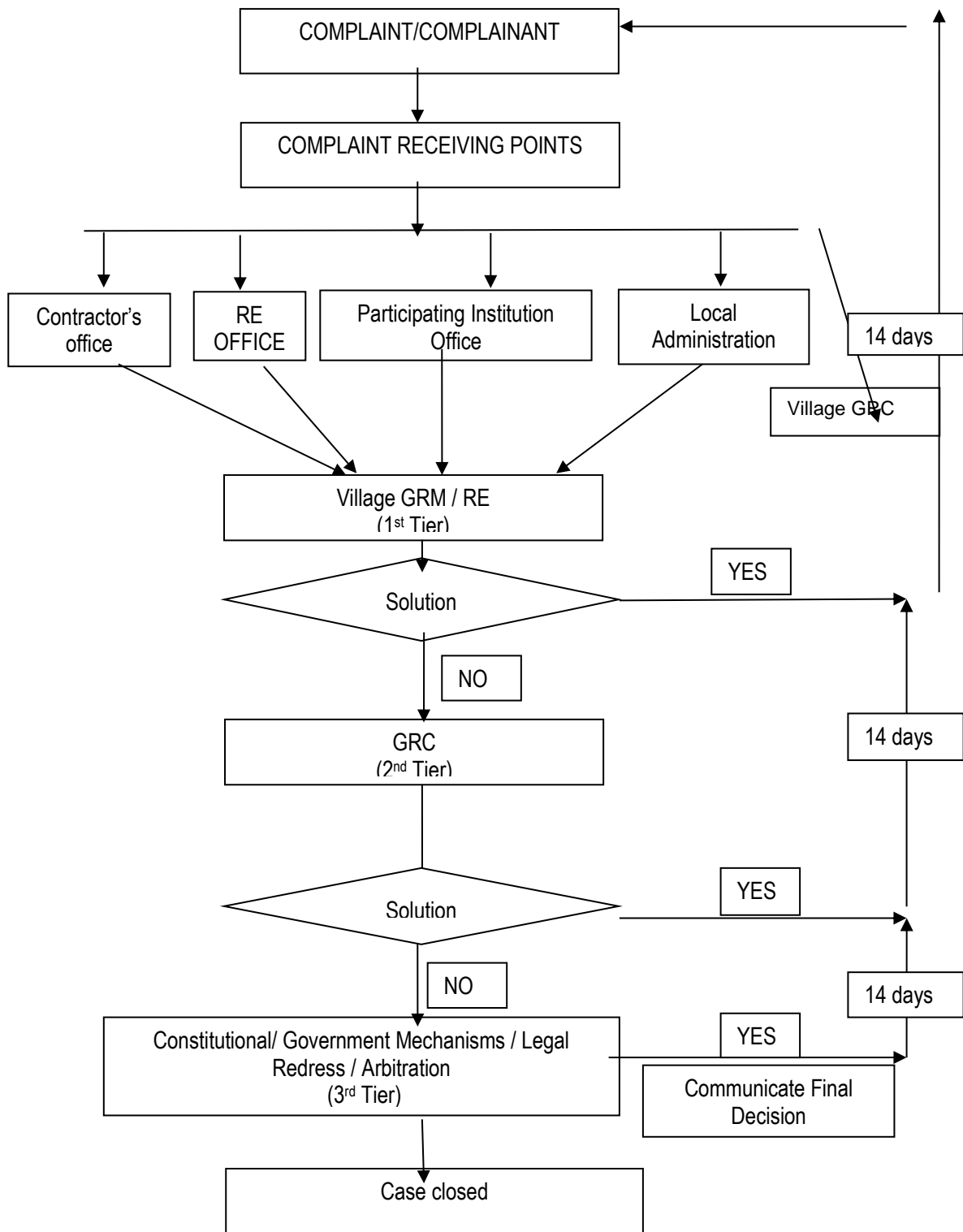


Figure 3 Grievance Redress Flow Process

## 11 ENVIRONMENTAL AND SOCIAL MONITORING PLAN

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The overall objective of environmental and social monitoring is to ensure that mitigation measures are implemented and that they are effective. Environmental and social monitoring will also enable response to new and developing issues of concern. The activities and indicators that have been recommended for monitoring are presented in the ESMoP.

Environmental monitoring is also carried out to ensure that all construction activities comply and adhere to environmental provisions and standard specifications, so that all mitigation measures are implemented. The environmental monitoring program will operate during road construction and operation phases. It will consist of a number of activities, each with a specific purpose with key indicators and criteria for significant assessment.

Monitoring includes:

- Visual observations;
- Selection of environmental and social parameters;
- Sampling and regular testing of these parameters.
- Periodic on-going monitoring will be required during the life of the Project and the level can be determined once the Project is operational.

Monitoring will be done in three fronts:

- Physical monitoring
- Biological monitoring and
- Social monitoring

For monitoring purposes, baseline data on air, noise, and water quality shall be collected before commencement of the construction activities for the project. This data shall be collected on all key sensitive receptor areas near the road including but not limited to the following locations; schools, hospitals, mosques and churches, administration buildings, and water quality for laggas. Information on exact locations and distance away from the final established road centreline shall also be collected using GPS equipment.

For monitoring during construction activities, the Contractor and RE's staff should be equipped with portable, hand-held meters to monitor noise, air quality and water quality data on regular and ad hoc basis. This would allow the Contractor to immediately respond to complaints from stakeholders, or to infringement of contractual or regulatory obligations.

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### 11.1 Internal Monitoring

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The objective of internal monitoring and audit will be:

- To find out any significant environmental and social non-compliance and their existing ESMS systems in place;
- Meeting the legal requirements as stipulated in the National Legal. Policy and Regulatory Framework and AfDB ISS

KeNHA (under the directorate of Environment and Social Safeguards) will conduct regular monthly and annual internal monitoring of the project to verify the results of the Contractor and to audit direct implementation of environmental and social mitigation measures contained in the ESMoP and construction contract clauses for the Project. KeNHA also have the direct responsibility to implement and monitor social issues related to land acquisition and compensation issues arising from project land-take. The monitoring

should be a systematic evaluation of the activities of the operation in relation to the specified criteria of the condition of approval.

The Resident Engineer will work closely with the Environmental and Social Manager of KeNHA to ensure safeguards implementation and compliance to national policies and guidelines, and AfDB ISS. The RE shall ensure that the environmental management and monitoring will at minimum include:

- Current environmental and social issues and parameters to be mitigated;
- Mitigation measures;
- Counter measures;
- Line of responsibilities;
- Cost of undertaking the environmental and social mitigation measures; and
- The time frame within which these mitigation measures will be handled.

The contractor will be required under the contract to engage competent safeguards specialists – Environmentalist, Sociologist, community liaison officers, and Health and Safety Advisor/officer to advise them on the ESMP compliance. The contractor's staff will undertake environmental, social and occupational health risk assessments and prepare project specific Construction ESMPs for review and approval by the RE and the client. The contractor will be required to monitor implementation of safeguards on daily basis through his staff, including actual training and coordination of external training for all the workers and staff involved in the project. The monitoring should be a systematic evaluation of the all project activities and providing recommendations and remedies to improve safeguards performance.

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## 11.2 External Monitoring and Evaluation

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NEMA has the overall responsibility for issuing approval for the Project and ensuring that their environmental guidelines are followed during Project implementation. Its role therefore is to review environmental monitoring and compliance documentation submitted by the implementing authorities. They would not normally be directly involved in monitoring the Project unless some specific major environmental issue arose, and can carry out an audit at any time.

DOSHS is responsible for the enforcement of Occupational Safety and Health Act (OSHA), 2007 and associated regulations. DOSHS will ensure that all construction sites are registered with the Directorate and safety management plans, training and emergency preparedness done in accordance with the relevant guidelines issued by DOSHS. DOSHS will also undertake workers safety and health inspections at its own initiative or upon receiving reports on any associated issues.

Table 11-1 Environmental and Social Monitoring Plan (ESMoP) During Construction

Monitoring Item	Monitoring Phase	Parameters	Indicators	Location	Frequency	Responsibility
<b>ENVIRONMENTAL IMPACTS</b>						
Vegetation Loss	Construction	% cover	No. of Trees felled and compensated Areas of land cleared	Entire Site	Weekly	Contractor, KeNHA
Workmen's camps management	Construction	Solid waste, wastewater, sanitation	General camp management and cleanliness	Workers Camp sites	Weekly	Contractor, KeNHA
Asphalt and Crusher Plants	Construction	TSP, NOx, SO2, CO, Dust particles, particulate matter etc.	Use of PPE Pre-medical checks Compliance with NEMA regulations Daily air quality measurements	Active areas	Daily	Contractor KeNHA
Excessive Noise and Vibration	Construction	dB and m/s, respectively	Noise levels <sup>21</sup> , complaints log	Active areas	Daily	Contractor, KeNHA
Construction dust and Air Quality	Construction	TSP, NOx, SO2, CO, Dust particles, particulate matter etc.	Records on issuance and use of PPEs Equipment and Number of times road is sprinkled Safety induction records Compliance with NEMA regulations and WHO guidelines Complaints from community	Active areas	Daily	Contractor, KeNHA
Solid Waste management	Construction, Decommissioning	Domestic refuse, metallic scraps, sludge	Waste management plan Waste collection and disposal records Level of housekeeping Agreements with waste handlers Licenses of waste handlers/transporters engaged	Entire Site	Monthly	Contractor, KeNHA
Hazardous waste collection	Construction	Waste oil Bitumen	Waste management plan Agreement with licensed waste handlers Waste management records	Entire site	Weekly	Contractor, KeNHA
Soil Erosion	Construction	Eroded surfaces	Gully formation; Sedimentation Protection measures in place	Entire Site	Monthly	Contractor, KeNHA

<sup>21</sup> Noise, Air, and Water quality baseline parameters will be undertaken before commencement of the project

Monitoring Item	Monitoring Phase	Parameters	Indicators	Location	Frequency	Responsibility
Water Quality and Contamination by Liquid Waste and Spills	Construction	Contaminated surfaces pH, Total Suspended Solids (TSS) and Total Dissolved Solids (TDS), heavy metals, oils and grease	Records on water quality; Compliance with NEMA regulations and WHO guidelines; Soil conditions at the sites; Bunded hydrocarbon storage areas	Rivers, streams, other water sources including boreholes and water pans;  Entire Site	Weekly	Contractor, KeNHA
Habitat Loss and Disturbance	Construction and Operation	Vegetation cover and wildlife habitat	Number of seedlings replanted; Percent of ground vegetation cover	Entire Site	Weekly	Contractor, KeNHA
Spread of Invasive and Alien Species	Construction	% cover	Identified invasive species	Entire Site	Monthly	Contractor, KeNHA
Impact on borrow and quarry sites	Construction	Rehabilitation, Landscape restoration	EIA reports and licenses Other relevant permits and authorizations Decommissioning plan Number of material sites restored as recommended	Material sites	Decommissioning	Contractor, KeNHA
Increased in poaching and Human-Wildlife Conflicts	Construction	Poaching and Wildlife encounter incidences	Workers Code of conduct Records of encounter incidences Sensitization records Poaching cases	Entire Site	Monthly	Contractor, KeNHA, KWS
Inhibited wildlife and livestock movements and crossings	Construction	Animal crossing	Number of animal crossings provided Installed signages	Entire site	Project life	Contractor, KWS, KeNHA
Increased deadwood collection and charcoal	Construction	% cover	% cover declining or increasing	Entire site	Project life	KFS, KWS, County government
Environmental and Social Risks	Construction	Fire outbreaks, floods, terrorism, etc	Areas for potential hazards	Entire site	Continuous during project life	KeNHA
<b>SOCIAL IMPACTS</b>						
Disruption of Livelihood due to land take	Construction	PAPs	RAP implementation progress report	Right of way	Monthly	Contractor, KeNHA
Increased water demand	Construction	Projected water requirements against available water volumes	Water assessment report; abstraction permits	Entire site	Monthly	Contractor, KeNHA, WRA
Construction induced traffic and disruptions	Construction	Traffic management plan	Number of accidents reported Number of grievances registered;	Entire site	Monthly	Contractor, KeNHA
Disruption of Public Utilities and Accesses	Construction	Utility relocation plans Construction management plans	Number of grievances registered; Communications and agreements with utility companies; Notices to the affected public	Right of way	Monthly	Contractor, KeNHA
Spread of communicable diseases	Construction	Sensitization and testing campaigns	Number of reported infections; Number of Medical camps held;	Entire site and immediate neighbouring communities	Monthly	Contractor, KeNHA

Monitoring Item	Monitoring Phase	Parameters	Indicators	Location	Frequency	Responsibility
Spread of HIV/AIDS and Other Sexually Transmitted Diseases (STDs)	Construction	Sensitization and awareness campaigns	Agreements with HIV/AIDS awareness service provider Sensitization and monitoring records; Number of Medical camps for testing and counselling; Campaign materials; Signed code of conduct	Entire site and immediate neighbouring communities	Monthly	Contractor, KeNHA
Conflict with local communities on labour issues	Construction	Social unrest by local communities	Number of social unrest registered Number of Grievances on labour issues	Entire site	Monthly	Contractor, KeNHA
Workers welfare	Construction	Non-compliance with workers safety	Accident reports Number of grievances by workers	Entire site	Monthly	Contractor
Community Health and Safety	Construction	Incidences of injuries to local communities and road users Occupational safety and health advisor engaged; Safety training for workers	Number of accident cases reported Severity of cases reported Community feedback	Entire site	Daily	Contractor
Labour Influx and Social Change	Construction	Cultural integration and social harmony	Number of awareness trainings and sensitization campaigns Cases of deviant behaviours by immigrant workers reported	Entire site	Monthly	Contractor; Gender Dept, police
Crime Management	Construction	Incidences	Number of crimes reported	Entire site	Monthly	Contractor, Police Dept
Child Protection, Sexual exploitation and abuse (SEA) of underage girls	Construction	Sexual misconduct of employees	Incidents of sexual exploitation Police records Number of Grievances	Entire site	Monthly	Contractor, Gender dept, police dept
Absenteeism in Schools	Construction	School attendance	Number of absent students in schools Sexual incidences reported	Entire site	Monthly	Contractor / Schools
Gender equity and Mainstreaming	Construction	Participation by women	Number of women benefiting from the project Number of Grievances related to gender equity	Entire site	Monthly	Contractor, Gender Dept
GBV, Rape and Sexual harassment	Construction	Incidences	No of cases reported Number of grievances Number of sensitization and awareness campaigns	Entire site	Monthly	Contractor, Gender Dept
Alcohol and drug abuse by workers	Construction	Workers conduct Drug and alcohol abuse	Number of workers reported on drug and alcohol abuse Police reports	Entire site	Monthly	Contractor

Monitoring Item	Monitoring Phase	Parameters	Indicators	Location	Frequency	Responsibility
Increase in the prices of goods and services in the community	Construction	Prices of commodities	Increase in cost of living in the area Increase of key commodities in the region	Entire site	Monthly	Contractor/ County Ministry of Trade
Impacts on Vulnerable and Marginalized groups	Construction	Participation by VMGs	Number of projects targeting VMGs Number of grievances related to VMGs participation	Entire site	Monthly	Contractor/ KeNHA
<b>OCCUPATIONAL HEALTH AND SAFETY</b>						
Occupational Safety and Health Hazards	Construction	Visual inspection; Accident and Incident records Safety and Health Management Plan with relevant procedures incorporating: Emergency response plan	Traffic management Plan No. of OHS trainings and Audit records Health and safety management plan; Compliance with DOSHS regulations and AfDB ISS Accident and Incident Register.	Entire site	Daily	Contractor, KeNHA
Impacts related to High temperature and Humidity Levels	Construction	Temperature & humidity	Human health change	Entire site	Daily	Contractor, KeNHA
Road safety	Construction	Road accidents	Traffic management Plan Number of awareness trainings and sensitization campaigns Installed signages and traffic calming devices Accident records	Entire site	Monthly	Contractor; KeNHA, NTSA
Security challenges	Construction	Incidences	Number of intelligence briefings and reports Incident records	Entire site	Daily	Contractor, KeNHA
Loss of life, injury or damage to people and private property	Construction	Accidents, Fatalities, and property damage	Number of accidents Number of fatalities Number of claims/grievances	Entire site	Daily	Contractor /KeNHA
Traffic management	Construction	Accidents and incidents Complaints	Number of accidents Number of fatalities Number of claims/grievances	Entire Site	Daily	Contractor KeNHA

**Table 11-2: Environmental and Social Monitoring Plan (ESMoP) Operation Phase**

Monitoring Item	Monitoring Phase	Parameters	Indicators	Location	Frequency	Responsibility
<b>ENVIRONMENTAL IMPACTS</b>						
Vegetation Loss	Operation	% cover	No. of Trees felled and compensated Areas of land cleared	Entire Site	Monthly	KeNHA



Monitoring Item	Monitoring Phase	Parameters	Indicators	Location	Frequency	Responsibility
Soil Erosion	Operation	Eroded surfaces	Blocked drains Gulley formation; Sedimentation Protection measures in place	Entire road section	Monthly	KeNHA
Habitat Loss and Disturbance	Operation	Vegetation cover and wildlife habitat	Number of seedlings replanted; Change in land use Percent of ground vegetation cover	Entire road section	Monthly	KeNHA
Spread of Invasive and Alien Species	Operation	% cover	Identified invasive species	Entire road section	Monthly	KeNHA
Impact on borrow and quarry sites	Operation	Rehabilitation, Landscape restoration	Ponding Accidents and incidents	Material sites	Biannually	KeNHA
Increased in poaching and Human-Wildlife Conflicts	Operation	Poaching and Wildlife encounter incidences	Poaching incidents cases KWS surveys	Entire road section	Biannually	KeNHA, KWS
Inhibited wildlife and livestock movements and crossings	Operation	Animal crossing	Number of animal crossings provided Installed signages	Entire road section	Monthly	KWS, KeNHA
<b>SOCIAL IMPACTS</b>						
Spread of communicable diseases	Operation	Sensitization and testing campaigns	Number of reported infections; Number of Medical camps held;	Entire road section	Annually	KeNHA
Community Conflicts	Operation	Incidences	Number of conflicts reported	Entire road section	Monthly	Police Dept KeNHA
<b>OCCUPATIONAL HEALTH AND SAFETY</b>						
Road safety	Operation	Road accidents	Traffic accident records Police operation book records Installed signages and traffic calming devices	Entire road section	Monthly	; KeNHA, NTSA

### 11.3 Other Enhancement Measures

KeNHA will set up the following enhancement measures to manage the social and environmental safeguard elements effectively. The contractor's contract will also need to contain clauses binding it to comply in each of these areas and sanctions for non-compliance.

#### 11.3.1.1 Community engagement and communication

KeNHA will prepare and implement a communication and community/stakeholder engagement plan that addresses all project issues. Heads of local authorities and community leaders should be invited to monthly progress meetings, which should be attended by the KeNHA's project manager, contractor's manager, and Supervision Consultant's Resident Engineer. The RE should establish a form of communication mechanisms for the project road to provide a continuous flow of information to communities on the progress of works, compensation, and other emerging issues and their resolution. The obligations of the contractor and RE in these aspects should be specified in their respective contracts.

The Specific objectives of the stakeholders' engagement and management plan are:

- To mobilize and engage stakeholders towards a common understanding of the project.
- To define common guiding principles and approaches for engagement of stakeholders for the project.
- To provide a procedure for the process of stakeholder engagement for the project.
- To support capacity building processes for stakeholders for their effective participation in the project.

A Stakeholder Engagement Plan (SEP) has been developed as a standalone document (attached as an annex to the report) to guide the project on the process of stakeholder engagement throughout the project cycle. The SEP include the following;

- **Identification of Stakeholders** –identifies by name and titles the people, groups, and organizations that have significant influence on project direction and its success or who are significantly impacted by the project. Key stakeholders' categories identified for this project includes; KeNHA, NEMA, Uasin Gishu, Kakamega and Trans Nzoia counties (transport ministry and social services department, labour office etc), contractor, RE, area residents along the road, local administration, traders, business people, local transport providers, schools, hospitals, among others
- **Stakeholder Engagement Management** – outlines the processes and steps that will be undertaken to carry out the planned strategies. The engagement plan include communication materials that will be used for the project, communication vehicles (e.g local radio, newspapers etc), frequency of communication, scheduling of consultative meetings on the project progress, and incorporation of grievance redress mechanisms for the project.
- **Stakeholder Engagement Monitoring** – describes the methods that will be used to monitor stakeholder engagement and alert the project team if problems are surfacing. The proposed monitoring parameters include level of awareness, number of grievances received and solved, level of participation by the stakeholders, and general satisfaction of the project activities.

#### 11.3.1.2 Contractor Clauses

This will include various plans and safeguards the Contractor will be expected to prepare and implement based on the ESMP, during the construction phase of the project. The plans will be prepared by the contractor and will be reviewed by the RE and forwarded for further review and approval by KeNHA before the commencement of the works.

The safeguard documents required will include a Contractors Environmental and social management plan (CESMP) with the following subplans;

- i. Occupational health and safety plan
- ii. Waste management plan
- iii. Traffic management plan
- iv. Borrow pit and quarry site rehabilitation plan
- v. Child Protection Strategy
- vi. HIV/AIDS management plan
- vii. Code of Conduct
- viii. Grievance redress mechanism
- ix. Prevention and protection against gender-based violence and sexual exploitation
- x. Labour influx plan
- xi. Stakeholder engagement plan
- xii. Whistle-blower policy

During the bidding process, the Contractor will be expected to include a brief methodology of the implementation of these Environmental and Social Safeguards and attach a cost of implementation of these plans in his proposal bid.

In addition, the Contractor will have to provide relevant staff for the implementation of the safeguards including a Community Liaison Officer and EHS advisor throughout during the construction period of the project.

#### **11.4 Capacity to Implement ESMP & Safeguards**

Effective implementation of the project ESMP requires adequate capacity for the whole project team (KeNHA, supervising consultant, contractor) and stakeholders (local communities, NGOs, government institutions, etc.) participating in the implementation of the project.

##### **11.4.1 Client capacity**

KeNHA has the capacity to implement the ESMP and ensure safeguards performance at the project level is maintained, based on similar projects financed by AfDB and other donor funded projects the organization has executed. The Department of Environment and Social safeguards has experienced environmental and social specialists who are capable of monitoring the ESMP implementation and environmental and social risk management for the proposed project.

The KeNHA safeguards team, will be the key implementers of the project and will perform the overall environmental and social risk management, and develop an environmental and social management systems for the project. The team shall also identify the needs of each participant in the project, and determine the level of capacity building required to ensure successful implementation of safeguards.

##### **11.4.2 Training Objectives**

The overall objective of the training will be to mainstream environmental and social implementation and mitigation, as well as monitoring of the mitigation activities in all project activities. The specific objectives of the training are:

- To ensure that key stakeholders understand the ESMP, how to apply it to the project;
- To actively involve key stakeholders in the environmental and social aspects of projects from planning, monitoring and implementation;
- Ensure all stakeholders are aware of their roles in safeguards implementation;
- Manage environmental and social risks during project implementation.

- Identification of Capacity Needs

The ESIA recommends a capacity building and training program for all other stakeholders namely; supervising consultants, contractors, local county governments, participating institutions (KWS, KFS, and others), local communities, and other stakeholders that will be involved directly in the implementation of this project. The capacity building requirements will mostly be in the form of stakeholder training and workshops. In addition, regular stakeholder workshops shall be held quarterly to review safeguards performance and improve on lessons learned through interactions and engagement throughout the project period.

The proposed capacity building and training requirements would cover among others; NEMA Environmental Management and Coordination Act and Regulations, AfDB ISS requirements, DOSH requirements, preparation of CESMP; and Environmental and Social safeguards risk management during construction; Code of Conduct, and execution of safeguards requirements Clauses in the Contractors' contract.

Also, the ESIA recommends capacity building the Grievance Committee members on the grievance redress mechanisms and management system to be set up for the project. Besides safeguards, the capacities of the Grievance Committee members will also need to be built around issues of conflict identification, conflict information analysis and conflict resolution.

The ESIA proposes capacity building by way of awareness creation, sensitization, actual training through a formal training as described below for different players that will be involved in the proposed project.

The following capacity building and training programmes are proposed.

#### 11.4.3 Capacity Building Enhancement

Awareness creation, training and sensitization will be required for personnel of the following agencies, institutions, and other stakeholders.

- Kenya Wildlife Services;
- Kenya Forest Services;
- Environmental and Social officers from supervising consultants;
- Contractors and their staff prior to commencement of construction works
- Representatives from the County Governments;
- County/Sub-county Environment Officers;
- Local administration;
- Local communities;
- Grievance Redress Committees;
- Representatives from local NGOs involved in Environment and Social issues, or interested parties;
- Any other relevant agencies that will be supporting the project

#### 11.4.4 Training

The training will focus on the following but not limited to;

- Background of the project – its objectives, target groups and footprints;
- Role of ESIA/ESMP in implementation of the project and sub-projects;
- Relevant environmental and social regulations;
- Compliance with the National Legal, Regulatory and Policy Framework and AfDB ISS and other international Best Practices
- Project activities and their potential environmental and social impacts;

- Stakeholder engagement, consultation and partnerships;
- Development of Contractor's Environmental and Social Management Plans
- Project screening methods, including application of ESMF tools (Screening checklists, EA), their review, implementation and enforcement.
- CESMP reporting, monitoring and follow-up
- Implementation responsibilities of each party
- Grievance Handling and Redress mechanisms and its relevant tools
- Grievance redress mechanism for workers
- Prevention and response to gender-based violence (GBV), and sexual exploitation and abuse (SEA) of women and girls/boys;
- HIV Prevention in the work place
- Prevention and response to sexual harassment
- Labor influx management practices including preparation and enforcement of workers contracts and codes and conduct.
- Enforcement of Clauses in the contractors' contracts

#### **11.4.5 Capacity Building and Training Responsibilities**

Capacity building and training programs will be developed and implemented by the KeNHA Department of Environment and Social Safeguards, with input from AfDB and other of the relevant agencies (NEMA, KWS, KFS etc). The resources for implementing the training will be allocated from the respective component of the project and will be coordinated by KeNHA.

## 12 CONCLUSION AND RECOMMENDATIONS

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The rehabilitation and improvement of the road project is foreseen to attract significant benefits to Northern western Kenya through transport connectivity and ease of access. Nonetheless, negative impacts (on the socio-economic, cultural and ecological environments) are anticipated during the different road development phases. Therefore, it is recommended that KeNHA and contractor implement the proposed mitigation measures and environmental and social management plan. RAP has been prepared separately to specifically address project impacts related to relocation and loss of livelihoods and shall be implemented ahead of construction works.

### 12.1 Conclusion

The construction of the road is expected to improve the road transport services by reducing travel time and facilitating movement in the area, especially movement of people and trade. It is anticipated that in the long term, there will be considerable economic benefits accruing to the entire country, and the local communities that directly or indirectly use/served by the road through improved traffic flow and increased business activities along the road. However, this ESIA study has established that the proposed project will also come along with some potential negative environmental and social impacts, including potential cumulative impacts.

The main environmental and social issues will result from construction and operational phases of the project activities, particularly dust and air emissions, noise pollution and vibration, clearing of vegetation, change in hydrology, soil erosion due to excavation and earthworks, pollution of soil and water sources from spillage/leakage of oils and sediment loading. Other environmental impacts include those due to the disposal of solid and liquid wastes and sources and use of water. The occupational health and safety issues identified include workers accidents and hazards during construction, possible exposure of workers to diseases, risks posed to communities living in the area including injuries and accidents during construction and operation stages.

The main social issues identified includes but not limited to; disruption of business and public utilities, spread of communicable diseases such as HIV/AIDs, Gender based violence, Sexual abuse and exploitation of underage children, Social and Cultural change as a result of labour influx and immigrants in the area, increased energy demand, increased loss of human and livestock due to road accidents, and potential community conflicts due to labour distribution, among others. There will also be some displacement of people because some sections of the road reserve are already encroached. There will also be some physical displacement in some sections of the road, although the design will utilize existing wayleave to minimize resettlement.

However, most of these potential negative impacts can be sufficiently mitigated during construction and operational phases of the project. Mitigation measures have been proposed for all identified impacts, and an environmental and social management plan has been prepared. Mitigation measures will be included in the Bill of Materials, conditions of contract, and technical specifications for drainage, protection of water sources, minimization of dust, safety and road furniture, HIV/AIDS awareness campaign, rehabilitation of materials sites, and making good of areas that construction has been completed.

It can be therefore concluded that in the long term there will be considerable economic benefit accruing through increased business activities to the areas of influence of the road project. It is our considerable opinion that the proposed development is a timely venture, beneficial and important in that it subscribes to the government of achieving the goals of Vision 2030. Therefore, the construction of the project has positive impacts that outweigh the key negative impacts which can be mitigated.

The total direct amount of implementation of ESMP is estimated to be about Kshs 93,500,000 including other implementation costs spread out in the budget for the road construction, with Kshs 15 million dedicated to the HIV/AIDS programmes. The rest of the ESMP Costs amounting to a lumpsum of Kshs 78.5 Million is dedicated to other Environmental and Social Management plans under Bill Number 1 and other costs spread out in the main works of the Bill of Quantities as shown in the ESMP under Chapter 9. In addition, a provisional cost of Kshs 10 million has also been included to be provided in Bill number 1 for ESMP monitoring activities. With the total environmental and social impacts mitigation costs estimated to be less than 5% of the total project costs, the Project is considered feasible environmentally. It is thus our recommendation that the project be allowed to go ahead with construction from an environmental and social impacts perspective.

## 12.2 Recommendations

Recommendations for the prevention and mitigation of adverse impacts are as follows:

- The project will involve the stakeholders and public during the project implementation, and particularly during the construction and early stages of the road use to ensure minimized environmental and social impacts. In this case, a stakeholder engagement plan should be developed by the RE in consultation with the contractor on how issues concerning the road should be communicated to the relevant stakeholders.
- The Contractor(s) shall develop Contractor's environment and social management plan (CESMP) in line with this ESIA report for purposes of supervision and continuous monitoring. This document shall be part of the contract for the works between the KeNHA and the contractor;
- All material sites will have comprehensive ESIA undertaken and management plans developed such as to include extraction practices, haulage and materials management and rehabilitation plans.
- Appropriate safety audit should be undertaken for the road to guide on the implementation of safety measures during construction and operation stages.
- Continuous stakeholder engagement of the road users and community members on safety will be necessary on the long term management of the road section.
- The project will ensure that the contractor comply with the requirements of the ESMP, which includes compliance with all the environmental and social mitigation measures, and other requirements such as gender principles; labour laws by ensuring the contractor to employ 30% women, utilizing PWDs and the youth in road construction and maintenance; providing safe working conditions for both women and men workers; and ensuring that all civil work contractors engaged under the project, participate in HIV prevention and road safety programmes and; that information reaches the local communities (women, men, the youth and vulnerable groups) living and working along the road corridor.
- Periodic environmental and social monitoring is important to ensure that measures proposed in this ESIA have been implemented to mitigate or avert any negative impacts for the project.
- KeNHA and the contractor should set up proper and applicable Grievance Redress Mechanism (GRM) for the project to deal with grievances and issues on the project, as part of the stakeholder management program
- KeNHA shall ensure that a provisional budget of Kshs 93.5 million for implementation of the ESMP is included in the BoQs for adequate budgeting by the contractor. A further Kshs 10 million shall be provided in Bill No. 1 as provisional sum for monitoring activities of the ESMP.

## 13 REFERENCES

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16. World Bank (2007): Environmental Health and Safety Guidelines for Toll Roads, International Finance Corporation.

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## 14 APPENDICES

### Annex 1: Sample Grievance Redress Form

<b>Reference No.</b>	
Contact Information  Please mark how you wish to be contacted (mail, telephone, e-mail)	Address:  Telephone: -  Email: -
Preferred Language for Communication	<b>English</b> <b>Kiswahili</b> <b>Local Language</b>
National Identity No	
Description of Incident or Grievance: What happened? Where did it happen? Who did it happen to? What is the result of the problem?	
Date of Incident/ Grievance	
	One-time incident/ grievance (date-----) Happened more than once (How many times-----)  Ongoing (Currently experiencing problem.....)
What would you like see happen to resolve the problem?	

Signature: ..... Date: .....

Please return this form to: COMMITTEE

## **Annex 2: Sample Chance Find Procedures**

Chance find procedures are an integral part of the project ESMoP and civil works contracts.

If the Contractor discovers archeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, the Contractor shall:

- Stop the construction activities in the area of the chance find;
- Delineate the discovered site or area;
- Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities or the Ministry of State for National Heritage and Culture take over;
- Notify the Supervising Consultant, who in turn will notify the KeNHA, responsible local authorities and the Ministry of State for National Heritage and Culture immediately (within 24 hours or less);

Responsible local authorities and the Ministry of State for National Heritage and Culture would then be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the archaeologists of the National Museums of Kenya. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage, namely the aesthetic, historic, scientific or research, social and economic values.

Decisions on how to handle the find shall be taken by the responsible authorities and the Ministry of State for National Heritage and Culture. This could include changes in the layout (such as when finding irremovable remains of cultural or archeological importance) conservation, preservation, restoration and salvage.

Implementation for the authority decision concerning the management of the finding shall be communicated in writing by relevant local authorities.

Construction work may resume only after permission is given from the responsible local authorities or the Ministry of State for National Heritage and Culture concerning safeguard of the heritage.

### **Annex 3: Minutes of public consultation meetings**

Include minutes of meetings at Lokichar, Ortum, Morpus, Cradle Hotel, Kainuk, Kakong

#### **MINUTES OF ESIA, RAP AND THE DESIGN REVIEW PUBLIC PARTICIPATION MEETING FOR THE PROPOSED ROAD PROJECT FROM LESSERU TO LOKICHAR HELD AT WAKOR KOPRO ON 2<sup>ND</sup> DECEMBER 2021 AT 10:00AM**

##### **AGENDA OF THE MEETING**

1. Opening of the meeting/Word of prayer
2. Introduction of participants
3. Key stakeholders present
4. Purpose of conducting the consultation/sensitization meeting with the community and relevant stakeholders
5. Introduction of the proposed project and its various components, benefits and possible impacts/mitigation measures
6. Views and questions from the participants of the proposed project with responses and clarifications given by the consulting engineers review team
7. Closing remarks
8. A.O.B
9. Closing/prayer

##### **Minute 01: Opening of the meeting**

The meeting commenced with a word of prayer at 10:05am from a volunteer. The acting area chief welcomed all members and told them to use the opportunity to raise the concerns on the proposed road project.

##### **Minute 02: Introduction of the participants**

The acting area chief introduced the meeting organizers who included his colleagues and the CGP consulting engineers' team. All organizers introduced themselves by stating their names and roles. The design review team leader gave an introduction of the project and explained the positive and negative impacts that the project will have towards the community and the region.

##### **Minute 03: Key stakeholders present**

CGP Consulting Engineers team, The Chief, The Assistant Chief and his fellow peers.

##### **Minute 04: Purpose of conducting the consultation**

The Sociologist from the team of experts explained the importance of public participation and consultations before the project is undertaken. He explained that that would help in giving the communities a sense of ownership of the project. He also explained the importance of the project and stakeholders involvement in the project.

### **Minute 05: Project scope- Meshack Githinji**

The purpose of the meeting is to explain the design review, resettlement action plan (RAP), and the environmental and social impact assessment (ESIA) from Morpus to Lokichar to the community along the road. The road project will pass through Uasin Gishu, Trans nzoia, West Pokot and Turkana counties. According to the proposed road design there will be resettlement of people who have encroached along the road. According to the resettlement action plan, the affected people will receive award letters which will show the value of their property and how much they will get during compensation. After compensation, they will be given a three month ultimatum to relocate.

The contractor must have a certificate from NEMA that allows him to go ahead with the project after careful assessment of the environmental and social impacts that would be result from the project being operational. Meshack explained that the project may also have negative impacts such as dusty roads, noise, accidents, deforestation, invasion of culture, foreign diseases etc. He then reassured the public that the contractor is expected to follow the protocols put in place to protect the people from those disadvantages according to NEMA and the Government. The proposed road project is not meant to diminish the current state of the livelihood of the public but to improve or maintain it.

In addition, he mentioned that there will be availability of job opportunities and the value of the land in the affected towns will automatically increase. To support the need for public participation, there will be a grievance regress committee that will mediate between the public and the contractor. Compensation has already commenced by the World Bank and the Africa Development Bank. The project is meant to ease accessibility of the areas affected and ensure safety of all road users.

### **Minute 06: Views and questions from the participants of the proposed road project with responses and clarifications given by CGP consulting engineers' team**

**Question: When will the project be operational and will the affected people with structures along the road reserve be compensated and given time adequate time to relocate before the project begins? By Michael Katina**

**Answer:** The road should be 60 meters wide including the road reserve which means it is government property and the public should be aware of that but for those whose structure have been constructed on the road reserve, you will be compensated for those structures.

The project will start after the report is complete and has been submitted. Once compensation is done the contractor will expect you to have relocated within three months or so.

31<sup>st</sup> December 2021 is the last day of updating the project report.

**Question: What criteria will be used on employing the locals?**

**Answer:** For the skilled labor, the contractor will require trained personnel. For the casual labor, the committee will bring forward a list of potential workers.

### **Minute 07: Closing remarks**

The chief advised the members of the public that if they have any complains, they should come to the chief's office and also a meeting will be held to appoint the members of the grievance regress committee as soon as possible. Meshack thanked the people for their contribution. The meeting was adjourned at 10:50am with a word of prayer.

## **MINUTES OF ESIA, RAP AND THE DESIGN REVIEW PUBLIC PARTICIPATION MEETING FOR THE PROPOSED ROAD PROJECT FROM LESSERU TO LOKICHAR HELD AT MARICH PASS TOWN ON 02<sup>ND</sup> DECEMBER, 2021 AT 10:00AM**

### **AGENDA OF THE MEETING**

1. Opening of the meeting/Word of prayer
2. Introduction of participants
3. Key stakeholders present
4. Purpose of conducting the consultation/sensitization meeting with the community and relevant stakeholders
5. Introduction of the proposed project and its various components, benefits and possible impacts/mitigation measures
6. Views and questions from the participants of the proposed project with responses and clarifications given by the consulting engineers review team
7. Closing remarks
8. A.O.B
9. Closing/prayer

#### **Minute 01: Opening of the meeting**

The meeting commenced with a word of prayer at 10:00am from a volunteer. The acting area chief welcomed all members and told them to use the opportunity to raise the concerns on the proposed road project.

#### **Minute 02: Introduction of the participants**

The acting area chief introduced the meeting organizers who included his colleagues and the CGP consulting engineers' team. All organizers introduced themselves by stating their names and roles. The design review team leader gave an introduction of the project and explained the positive and negative impacts that the project will have towards the community and the region.

#### **Minute 03: Key stakeholders present**

CGP Consulting Engineers team, The Chief, The Assistant Chief and his fellow peers.

#### **Minute 04: Purpose of conducting the consultation**

The Sociologist from the team of experts explained the importance of public participation and consultations before the project is undertaken. He explained that that would help in giving the communities a sense of ownership of the project. He also explained the importance of the project and stakeholders involvement in the project.

#### **Minute 05: Project scope-Meshack Muthini**

The purpose of the meeting is to explain the design review, resettlement action plan (RAP), and the environmental and social impact assessment (ESIA) from Morpus to Lokichar to the community along the road. The road project will pass through Uasin Gishu, Trans nzoia, West Pokot and Turkana counties.

According to the proposed road design there will be resettlement of people who have encroached along the road. According to the resettlement action plan, the affected people will receive award letters which will show the value of their property and how much they will get during compensation. After compensation, they will be given a three month ultimatum to relocate.

The contractor must have a certificate from NEMA that allows him to go ahead with the project after careful assessment of the environmental and social impacts that would be result from the project being operational. Meshack explained that the project may also have negative impacts such as dusty roads, noise, accidents, deforestation, invasion of culture, foreign diseases etc. He then reassured the public that the contractor is expected to follow the protocols put in place to protect the people from those disadvantages according to NEMA and the Government. The proposed road project is not meant to diminish the current state of the livelihood of the public but to improve or maintain it.

In addition, he mentioned that there will be availability of job opportunities and the value of the land in the affected towns will automatically increase. To support the need for public participation, there will be a grievance regress committee that will mediate between the public and the contractor. Compensation has already commenced by the World Bank and the Africa Development Bank. The project is meant to ease accessibility of the areas affected and ensure safety of all road users.

**Minute 06: Views and questions from the participants of the proposed road project with responses and clarifications given by CGP consulting engineers' team**

**Question: Will the small business owners with structures along the road reserve be compensated after demolition? By Lemororia Lepele**

**Answer:** Yes, the resettlement action plan is meant to compensate all the affected people with structures along the road reserve since the structure is not government property.

**Question: Will the committee decide those who will get the jobs when the project is operational? By Damaris**

**Answer:** Yes, the committee will be in charge of bringing forward the names of those skilled and potential workers for the project.

**Question: Will there be bumps to ensure the safety of our children and livestock? By Francis**

**Answer:** Yes, all road safety measures will be installed.

**Question: Who will be responsible for creating awareness on the foreign diseases? By John**

**Answer:** The committee will work together with the contractor when deciding when and how to reach out to the people more efficiently while creating awareness about the foreign diseases.

**Question: Will the injuries or accidents caused by the project be insured or catered for by the contractor? By Pastor David**

**Answer:** The contractor has to make the safety of his workers a priority hence preventing injuries or accidents that maybe as a result of the project operations.

**Question: What happens when the structure has been valued and the respective owner has received the award letter but as an individual you know your structure is worth a lot more than you are getting? By Stephen**

**Answer:** The award letters will be provided to those affected people but if you want to raise any issues you can do that through the respective authorities. You should keep in mind that the government will not overpay you.

**Question: The affected people got the award letters so why is it taking so long to get the compensation money? By Domo Kapor**

**Answer:** This is the final team to come to the affected areas and update previous reports so the compensation will happen as soon as the design review and the reports are efficiently updated. Once you get the compensation money, you have three months to move before the demolition starts.

**Question: In case of death of someone who was to be compensated and they already had the award letters what will happen? By Francis**

**Answer:** The death certificate must be provided so the beneficiaries can have a chance of inheriting the compensation money.

**Question: How will the air pollution be handled? By James**

**Answer:** The contractor has to keep pouring water on the dusty diversion routes throughout the project operations and he is also expected to follow the environmental policies put in place to protect the environment of those affected.

**Question: How will those in the interior of the towns benefit from the project? By Malcolm**

**Answer:** The contractor will provide them with job opportunities and also according to CSR the contractor may take it upon himself to choose a way he can help develop the society.

**Minute 07: Closing remarks**

The chief advised the public that if they have any complains about the project or any other business; they should go to relevant authorities. She also mentioned that the grievance regress committee will be appointed as soon as possible.

Meshack was given a chance to thank the public for their contribution. The meeting was adjourned at 11:10am with a word of prayer.

## **MINUTES OF ESIA, RAP AND THE DESIGN REVIEW PUBLIC PARTICIPATION MEETING FOR THE PROPOSED ROAD PROJECT FROM LESSERU TO LOKICHAR HELD AT SEBIT ON 3<sup>RD</sup> DECEMBER 2021 AT 02:00PM**

### **AGENDA OF THE MEETING**

1. Opening of the meeting/Word of prayer
2. Introduction of participants
3. Key stakeholders present
4. Purpose of conducting the consultation/sensitization meeting with the community and relevant stakeholders
5. Introduction of the proposed project and its various components, benefits and possible impacts/mitigation measures
6. Views and questions from the participants of the proposed project with responses and clarifications given by the consulting engineers review team
7. Closing remarks
8. A.O.B
9. Closing/prayer

#### **Minute 01: Opening of the meeting**

The meeting commenced with a word of prayer at 02:05pm from a volunteer. The acting area chief welcomed all members and told them to use this opportunity to raise the concerns on the proposed road project.

#### **Minute 02: Introduction of the participants**

The acting area chief introduced the meeting organizers who included his colleagues and the CGP consulting engineers' team. All organizers introduced themselves by stating their names and roles in the government and in the design review team. The design review team leader gave an introduction of the project and explained the positive and negative impacts that the project will have towards the community and the region.

#### **Minute 03: Key stakeholders present**

CGP Consulting Engineers team, The Chief, The Assistant Chief and his fellow peers.

#### **Minute 04: Purpose of conducting the consultation**

The Sociologist from the team of experts explained the importance of public participation and consultations before the project is undertaken. He explained that that would help in giving the communities a sense of ownership of the project. He also explained the importance of the project and stakeholders' involvement in the project.

#### **Minute 05: Project scope-Meshack**

The purpose of the meeting is to explain the design review, resettlement action plan (RAP), and the environmental and social impact assessment (ESIA) from Morpus to Lokichar to the community along the road. The road project will pass through Uasin Gishu, Trans nzoia, West Pokot and Turkana counties. According to the proposed road design there will be resettlement of people who have encroached along the road. According to the resettlement action plan, the affected people will receive award letters which will show



the value of their property and how much they will get during compensation. After compensation, they will be given a three month ultimatum to relocate.

The contractor must have a certificate from NEMA that allows him to go ahead with the project after careful assessment of the environmental and social impacts that would be result from the project being operational. Meshack explained that the project may also have negative impacts such as dusty roads, noise, accidents, deforestation, invasion of culture, foreign diseases etc. He then reassured the public that the contractor is expected to follow the protocols put in place to protect the people from those disadvantages according to NEMA and the Government. The proposed road project is not meant to diminish the current state of the livelihood of the public but to improve or maintain it.

In addition, he mentioned that there will be availability of job opportunities and the value of the land in the affected towns will automatically increase. To support the need for public participation, there will be a grievance regress committee that will mediate between the public and the contractor. Compensation has already commenced by the World Bank and the Africa Development Bank. The project is meant to ease accessibility of the areas affected and ensure safety of all road users.

**Minute 06: Views and questions from the participants of the proposed road project with responses and clarifications given by CGP consulting engineers' team**

**Question: The local community has heard about the project before, when is it starting officially? By Amrose Otukwa**

**Answer:** In 2013, a survey team like this one came to the site of the affected areas and now the CGP consulting team has been sent to update the previous reports and give a final report which will show efficient and enough information to allow the bank to release the funding for this particular proposed project.

**Question: Some community members from the affected areas have trees that they have planted along the road and they are an investment to them, so what will happen in such cases? By Joseph Kabarkan**

**Answer:** The agricultural crops including the trees will only be counted by the contractor when they are found on site when the project starts and according to the environmental policy in Kenya he has to plant more trees or work around the ones already planted.

**Question: When will the payments of compensation be done and how long do the ones affected have before demolition? By Francis**

**Answer:** The affected people have up to 3 months for them to relocate before the projects starts and also depending on how fast the contractor will be working.

**Question: For the women who sell groceries along the road, how will they be helped?**

**Answer:** The contractor might work with the relevant authorities and build a market for them. The chief explained how the trees don't have to be destroyed during construction of the road sine the contractor can find a way to work around them.

**Minute 07: Closing remarks**

The chief gave his remarks to the people and advised them to bring their concerns and complains to him office. He also mentions that the grievance regress committee members will be appointed as soon as possible. Meshack thanked the public for their participation and since there was no other business, the meeting was adjourned at 03:00pm with a word of prayer.

## **MINUTES OF ESIA, RAP AND THE DESIGN REVIEW PUBLIC PARTICIPATION MEETING FOR THE PROPOSED ROAD PROJECT FROM LESSERU TO LOKICHAR HELD AT KALEMNGOROK TOWN ON 30<sup>TH</sup> NOVEMBER AT 11:50AM**

### **AGENDA OF THE MEETING**

1. Opening of the meeting/Word of prayer
2. Introduction of participants
3. Key stakeholders present
4. Purpose of conducting the consultation/sensitization meeting with the community and relevant stakeholders
5. Introduction of the proposed project and its various components, benefits and possible impacts/mitigation measures
6. Views and questions from the participants of the proposed project with responses and clarifications given by the consulting engineers review team
7. Closing remarks
8. A.O.B
9. Closing/prayer

#### **Minute 01: Opening of the meeting**

The meeting commenced with a word of prayer at 11.50am from a volunteer. The acting area chief welcomed all members and told them to use the opportunity to raise the concerns on the proposed road project.

#### **Minute 02: Introduction of the participants**

The acting area chief introduced the meeting organizers who included his colleagues and the CGP consulting engineers' team. All organizers introduced themselves by stating their names and roles. The design review team leader gave an introduction of the project and explained the positive and negative impacts that the project will have towards the community and the region.

#### **Minute 03: Key stakeholders present**

CGP Consulting Engineers team, The Chief, The Assistant Chief and his fellow peers.

#### **Minute 04: Purpose of conducting the consultation**

The Sociologist from the team of experts explained the importance of public participation and consultations before the project is undertaken. He explained that that would help in giving the communities a sense of ownership of the project. He also explained the importance of the project and stakeholders involvement in the project. The sociologist mentioned that the meeting was held to give the public a platform to ask questions and give their views.

#### **Minute 05: Project scope-Meshack Muthini**

The purpose of the meeting is to explain the design review, resettlement action plan (RAP), and the environmental and social impact assessment (ESIA) from Morpus to Lokichar to the community along the road. The road project will pass through Uasin Gishu, Trans nzoia, West Pokot and Turkana counties. According to the proposed road design there will be resettlement of people who have encroached along the road. According to the resettlement action plan, the affected people will receive award letters which will show

the value of their property and how much they will get during compensation. After compensation, they will be given a three month ultimatum to relocate.

The contractor must have a certificate from NEMA that allows him to go ahead with the project after careful assessment of the environmental and social impacts that would be result from the project being operational. Meshack explained that the project may also have negative impacts such as dusty roads, noise, accidents, deforestation, invasion of culture, foreign diseases etc. He then reassured the public that the contractor is expected to follow the protocols put in place to protect the people from those disadvantages according to NEMA and the Government. The proposed road project is not meant to diminish the current state of the livelihood of the public but to improve or maintain it.

In addition, he mentioned that there will be availability of job opportunities and the value of the land in the affected towns will automatically increase. To support the need for public participation, there will be a grievance regress committee that will mediate between the public and the contractor. Compensation has already commenced by the World Bank and the Africa Development Bank. The project is meant to ease accessibility of the areas affected and ensure safety of all road users.

**Minute 06: Views and questions from the participants of the proposed road project with responses and clarifications given by CGP consulting engineers' team**

**Question: 2018 surveys were done and the structures along the roads were demolished. Why is there more talk about compensation and resettlement action plans? By David Achuor**

**Answer:** This is not the first time to come to the affected areas to collected data but it is the last. The previous report need to be updated so the bank can release the funding for the proposed road project so we are here to gather information and update the data which will now include the affected people who were left out in the previous reports.

**Question: Those with award letters and their houses got destroyed by wind and new people have built on it, will the previous owners with award letters be compensated? By Kipta Lotuo**

**Answer:** The rightful owners have to be compensated.

**Question: The workers on the project might get involved with the children in the community hence causing unwanted pregnancies or early teen pregnancies. How will that be handled? By Angelina Lochipo**

**Answer:** Children below the 18yrs old shall not be abused sexually according to the law and the chief and committee members will work with the contractor to make sure that action is taken upon those who will go against the law. Such issues will be handled appropriately.

**Comment:** The contractors might have greater influence hence their issues of going against the law might be overlooked but we will ensure that they are accountable for their actions. The contractor or his workers have no right to destroy the lives of your girls so they have to be accountable when they break the law despite what role they play.

**Question: When the contractor uses materials from the private owned lands, is there some type of compensation for that? How will you ensure that the job opportunities will not involve corruption during application? By David Achuor**

**Answer:** Materials that the contractor might need from the private owned lands will be bought and well compensated for since he will be using materials from the land that is not owned by the Government. The contractor will have to compensate you before using those materials.

When it comes to the committee and any type of corruption the chiefs will have to ensure that their sub-locations have chosen the members fairly so as to ensure you are all represented. This will help in mitigating any corruption that may occur.

Job opportunities for your youth will be provided. The resident engineer and the contractor will work with you according to your skills. For instance, the resident engineer can employ the drivers and casual workers.

**Question: How will the contractor advertise the job opportunities? Is there any way the contractor can help develop Kalemngorok town? By John Enjiron**

**Answer:** The contractor will choose a way to develop the community through CSR. He will also make sure payments are done according to the right salary rates. The contractor will also work with the respective authorities when deciding the most reliable way to advertise the job opportunities.

**Question: How long do the affected people have before they are needed to be relocated elsewhere? By Mary**

**Answer:** As an affected person, you have 3 months or so to move after the compensation money has been deposited to your respective accounts.

**Question: Will the project affect the faiba installation process and the KPLC posts and cables? By Kevin Amonjor**

**Answer:** Yes, but the contractor will work together with the affected to ensure the project runs smoothly.

**Question: Can the elders of the community be involved in the discussion of the environmental and social impacts facing the community during the project? By Kevin Amonjor**

**Answer:** Yes, there will be representatives of different age and gender in the committee to ensure the problems of all are being heard and handled accordingly.

**Comment: By Phillip Lodio (Chairman of the Business Family)**

The KENHA contractors are pushing the members of the community to the limits by employing outsiders to work in the project. The 70% of the workers should be our people including our youths. This community will be affected by the proposed road project and it has good people and who would like a chance to work on the project. The members of this community are ready to provide food, water and accommodation needed during the project operations.

**Minute 07: Closing remarks**

The chief informed the public that if they have any complaints about the project or any other business; they should go to his office. He also mentioned that the grievance regress committee will be appointed as soon as possible. Meshack was called up to thank the people for their contribution and views. The meeting was adjourned at 01:00pm with a word of prayer.

Annex 4: Sample Filled Questionnaires



Barabara Plaza, Jomo Kenyatta International Airport (JICA), Nairobi Off Mazar Road (Opposite KEAA Headquarters), PO Box 49712 - 00100 Nairobi  
 Tel 020 4954000 / 0700 423 606 Email [info@kenha.co.ke](mailto:info@kenha.co.ke) Website [www.kenha.co.ke](http://www.kenha.co.ke)

Environment and Social Impact Assessment for Lesseru- Kitale(B14) and Morpus- Lokichar(A1) Road

1. What is the importance of this Road to you?

Increase in job opportunities  
 Easy travel

2. Do you think the road works will be of any benefit to you and/or other road users in the area?  
 YES [  ] NO [  ]

a) Explain your answer in (2) above.

Easy life of living, reduce cost of living  
 Lower transport fare

3. What are the current issues / problems with the existing road condition?

Accidents  
 Inadequate road signs/poits

4. Which part of this road experience flooding during rainy seasons?

Near River Lokichar  
 Lokichar town

5. What would advocate to be done in mitigating the flooding

Drainage system  
 Caravats

6. What are some of the Positive AND/OR Negative environmental and social impacts you foresee during the Construction and operation/completion of this road?

Positive impact during construction

Negative impact during Construction

Access to jobs  
 Access to foodstuffs  
 Market for workers

Accidents  
 Dust  
 Social culture discrimination

Positive impact during Operation(completion)

Negative impact during Operation(completion)

Link to big market  
 Increase in market  
 More job opportunities

Accidents



**Kenya National Highways Authority**

Quality Highways, Better Connections

Barabara Plaza, Jomo Kenyatta International Airport (JIA), Nairobi, Off Mazari Road (Opposite KEAA Headquarters), P.O. Box 49717, 00100 Nairobi  
 Tel 020 4954000 / 0700 421 606 Email [dg@kenha.co.ke](mailto:dg@kenha.co.ke) / Website [www.kenha.co.ke](http://www.kenha.co.ke)

(ii) in what ways can the negative impacts identified above be mitigated / avoided

Construction of canals (flooding)  
 Good drainage system (flooding)  
 Bumps and road sign posts

7. What would be your general concerns during construction of the project? And how would you like your concerns to be handled/managed to minimize any impacts?

70% workers to be local

8. What safety measures would you propose to be considered during the design of the road to make it more user friendly for the road users below

Road users	Proposed safety measures
Livestock	Crossing sites
Pedestrians	Zebra crossing
Commercial vehicles(matatu/Buses)	Parking and sign road posts
Commercial motorcycles (boda boda)	Sign road posts
Bicycles	sign road posts
Persons with physical disability	Zebra crossings with sign road posts
others	Bumps in the town

9. Do you have any questions/additional comments on the proposed road works?

Let the locals be given the highest priority to work during the time of construction

Name of respondent	EKIRU EWOL
Date:	1-12-2021



Barabara Plaza, corner Kinross Street and Mathenge Avenue, BOMA, Nairobi. P.O. Box 42889, Nairobi. Kenya. Tel: +254 20 2720000. Fax: +254 20 2720000. Email: info@kenha.or.ke. Website: www.kenha.or.ke

Environment and Social Impact Assessment for Lesseru- Kitale(B14) and Mopus- Lokichar(A1) Road

1. What is the importance of this Road to you?

Transporting goods and other services.

2. Do you think the road works will be of any benefit to you and/or other road users in the area?  
YES [x] NO [ ]

a) Explain your answer in (2) above.

Road is a major key pillar of developing the country from rural to rural area.

3. What are the current issues / problems with the existing road condition?

One lane major movement hard and slow because of vehicle sumf.

4. Which part of this road experience flooding during rainy seasons?

Bridges along the stream.

5. What would advocate to be done in mitigating the flooding

Building box culverts.

6. What are some of the Positive AND/OR Negative environmental and social impacts you foresee during the Construction and operation/completion of this road?

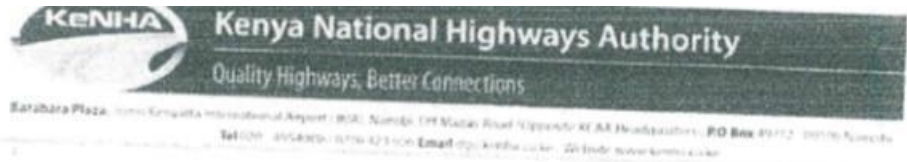
- creates employment during construction. (Positive)
- causes displacement. (Negative)

Positive impact during Operation(completion)

Market growth  
Business expansion

Negative impact during Operation(completion)

Accidents



(ii) in what ways can the negative impacts identified above be mitigated / avoided  
*Compensating structures along the road.*

7. What would be your general concerns during construction of the project? And how would you like your concerns to be handled/managed to minimize any impacts?

*Local markets should be located at the area.*

8. What safety measures would you propose to be considered during the design of the road to make it more user friendly for the road users below

Road users	Proposed safety measures
Livestock	Porter of animal crossing
Pedestrians	Zebra crossing
Commercial vehicles (matatu/Buses)	Loading and offloading parks
Commercial motorcycles (boda boda)	parking shades
Bicycles	parking shades
Persons with physical disability	Zebra crossing
others	Traffic light.

9. Do you have any questions/additional comments on the proposed road works?

*Jobs for the local community members during work construction*

Name of respondent	<i>Samuel Reeta</i>
Date:	<i>03-12-2021</i>



**Annex 5: Stakeholder Engagement Plan**



**Kenya National Highways Authority**

*Quality Highways, Better Connections*

**KENYA – SOUTH SUDAN LINK ROAD: ELDORET - KITALE – LODWAR -  
NADAPAL – KAPOETA - JUBA CORRIDOR**

**LESERU-KITALE (B2) & MORPUS – LOKICHAR (A1) UPGRADING ROAD  
PROJECT**



**STAKEHOLDER ENGAGEMENT PLAN (SEP)  
JUNE 2022**

## LIST OF ABBREVIATIONS

---

AfDB	African Development Bank
C-ESMP	Contractor's Environmental and Social Management Plan
CoC	Code of Conduct
COVID-19	CoronaVirus Disease 2019, or novel coronavirus-2019
EAC	East African community
EARTTDFP	East Africa Regional Transport Trade and Development Facilitation project
GBV	Gender-Based Violence
GIIP	Good International Industry Practice
GRM	Grievance Redress Mechanism
GRM	Grievance Redress Mechanisms
ICT	Information and Communication Technology
ICTA	Information and Communication Technology Authority
ILO	International Labour Organization
ISS	Integrated Safeguards Systems
KeNHA	Kenya National Highways Authority
LAPPSET	Lamu Port-South Sudan-Ethiopia-Transport
LMP	Labor Management Plan
MDAs	Ministries, Departments and Agencies
MoI	Ministry of Interior
MoTIHUD	Ministry of Transport Infrastructure, Housing and Urban Development
NACC	National Aids Control Council
NEMA	National Environment Management Authority
NMT	Non Motorized Transport
OS	Operational Safeguards
OSH	Occupational Safety and Health
PDO	Project Development Objectives
PIA	Project Implementing Agency
PMU	Project Management Unit
PPE	Personal Protective Equipment
PWD	Persons With Disabilities
RAP	Resettlement Action Plan
SEA	Sexual Exploitation and Abuse
SH	Sexual Harassment
SMP	Security Management Plan
UNICEF	United Nations International Children's Emergency Fund
WHO	World Health Organization

## **PROJECT DETAILS**

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**PROJECT:** Consultancy Services for Design Review, Updating of Resettlement Action Plan, Review of ESIA And Economic Feasibility Study Reports and Updating of Tender Documents for Leseru-Kitale (B2) Road (55Km) and Morpus – Lokichar (A1) Road (142km)

**CONTRACT No KeNHA /2463/2021**

### **CLIENT**

**Engineer:**

Director (Highway Planning & Design)  
Kenya National Highways Authority (KeNHA)  
P. O. BOX 49712 - 00100  
NAIROBI.

**Employer**

Director General  
Kenya National Highways Authority (KeNHA)  
P. O. BOX 49712 - 00100  
NAIROBI.

### **CONSULTANT**



P. O. BOX 58911- 00200,  
NAIROBI.  
Tel 020-231 9553

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## 1 INTRODUCTION

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### 1.1 Overview

The purpose of a SEP is to ensure that a consistent, comprehensive and coordinated approach is taken to stakeholder engagement and Project disclosure throughout the project. It serves as a demonstration of the commitment by the implementing agency to adherence to international best practice' approach to engagement.

### 1.2 Project Background

The Government of the Republic of Kenya (GoK) has earmarked funds through the Development Vote for use in engaging the services of a Consultancy Firm to undertake Design Review, Updating of Resettlement Action Plan, Review of ESIA and Economic Feasibility Study Reports and Updating of Tender Documents in readiness for procurement of works for Lesseru-Kitale (B2) and Morpus – Lokichar (A1) Roads. The road sections forms part of the of the Eldoret - Kitale – Lodwar -Nadapal – Kapoeta - Juba Corridor (945km) corridor interconnecting Kenya and South Sudan. The improvement of the roads will significantly enhance connectivity within the Eastern Africa Region, connecting the southern regions to the northern parts of Kenya linking landlocked South Sudan to Kenya.

The project road is part of the international trunk road connecting Southern Sudan, Kenya and Tanzania. The Biharamulo - Sirari - Lodwar - Lokichogio corridor (Corridor 3) is one of the five main corridors that the East African Community has identified, which constitute a strategic priority and require rehabilitation and upgrading. The section of this corridor that is within Kenyan is about 900 Km long starting at Isebania at the border with Tanzania and ending at Nakodok at the border with Southern Sudan. The road intersects with other critical international corridors including the Northern Corridor (Corridor 1) A8 Highway and the LAPSSET Corridor A10 Highway at Webuye and Lokichar respectively.

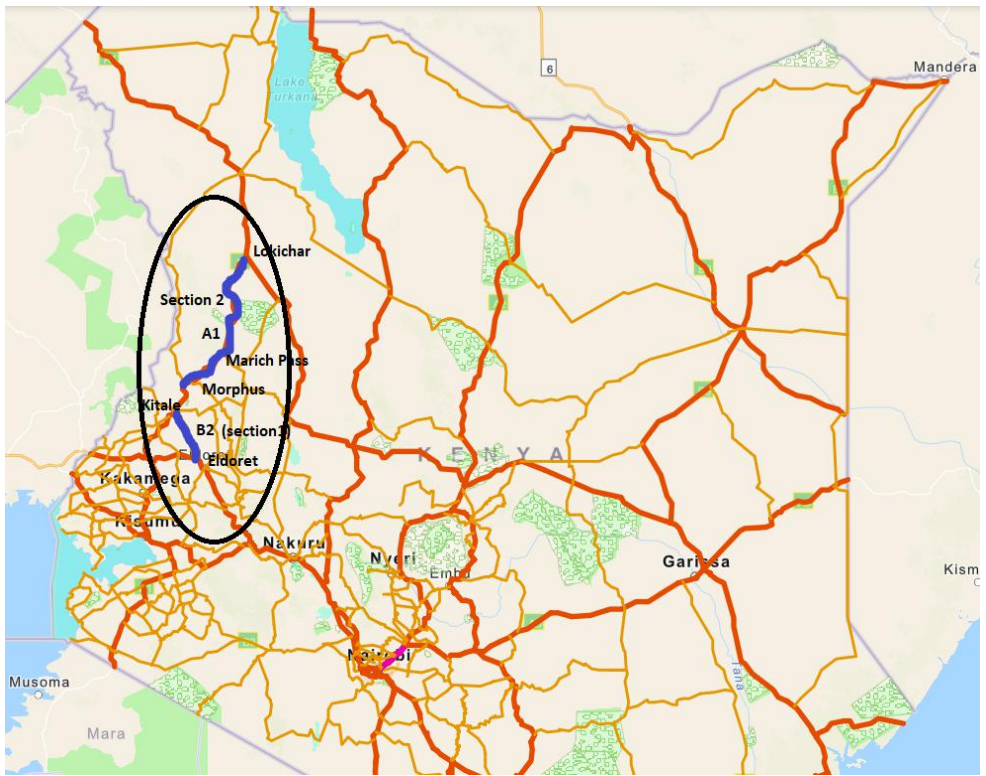


Figure 1 Map showing location the project roads

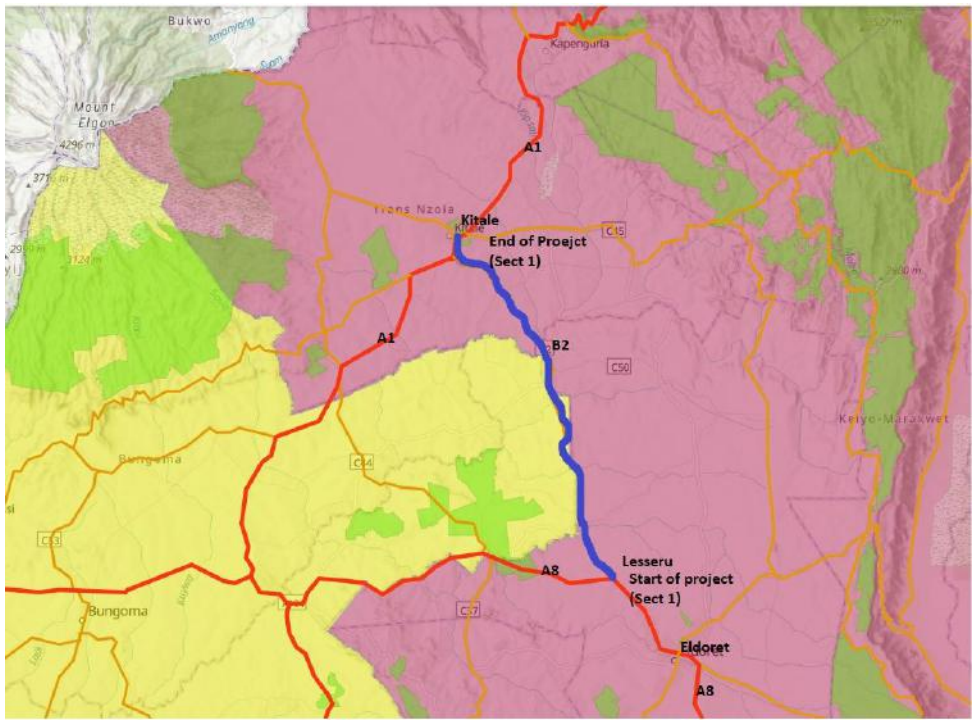
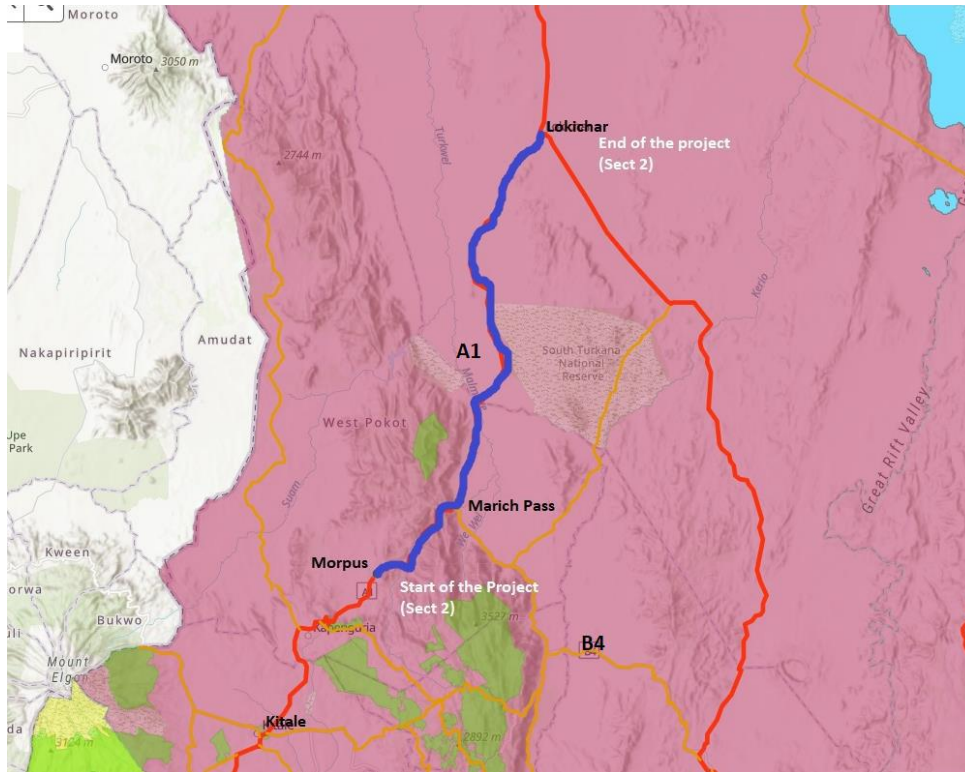


Figure 2: Section 1 – Lesseru – Kitala (B2) – 55 Km



**Figure**



**3: Mopus – Marich Pass – Lokichar (A1) – 142km**

### 1.3 Project Rationale

The Lesseru – Juba is a main corridor that provides the only road link to Turkana and West Pokot counties in Kenya, all the way to South Sudan, serving people living in extreme poverty. The improvement of the corridor will help reduce regional development imbalance in Kenya as well as improve the environment for stimulating economic development in the area, including attracting private investment. Further, the corridor traverses a region that is home to refugees in Turkana. Its improvement will help in the reduction in time and transportation costs of humanitarian aid to refugees in Turkana and the people of South Sudan, presently suffering from conflict.

The project road is part of the international trunk road connecting Southern Sudan, Kenya and Tanzania. The Biharamulo - Sirari - Lodwar - Lokichogio corridor (Corridor 3) is one of the five main corridors that the East African Community has identified, which constitute a strategic priority and require rehabilitation and upgrading. The section of this corridor that is within Kenyan is about 900 Km long starting at Isebania at the border with Tanzania and ending at Nakodok at the border with Southern Sudan. The road intersects with other critical international corridors including the Northern Corridor (Corridor 1) A8 Highway and the LAPSSSET Corridor A10 Highway at Webuye and Lokichar respectively.

The Kitale – Kapenguria – Mopus section is programmed for improvement through support from by KfW, while the Kainuk River Bridge which falls under the proposed Mopus – Lokichar Project has been reconstructed, as well as various road development projects between Lokichar and Nakodok now nearing completion under the IDA financed East Africa Regional Transport , Trade and Development Facilitation project (EARTTDFP).

Furthermore, the Government recently procured contracts for the upgrading of sections of Nakuru – Marigat- Loruk – Barpelu – Marish Pass through local (GoK) financing. The 142 Km long Mopus – Lokichar section therefore constitutes a missing link yet to be financed to enable seamless connectivity between Kenya and East African Communities (EAC) neighbours, and local communities in Northern Kenya.

## 1.4 Project Location and Description

The project can be divided into 2 distinct sections.

### Section 1 – Lesseru – Kitale (B2) section

The Lesseru – Kitale highway, forms part of the Suam-Endebes-Kitale-Matunda-A8 Soy (B2) road and measures approximately 55kms. The road starts at Lesseru (at the Junction of A2 and B2) and runs in a North westerly direction, passing through Soy, Nangili, Furfural, Matunda, Moi's Bridge, and Maili Saba townships, and ends at Kitale town. It traverses through Uasin Gishu, Kakamega and Trans Nzoia Counties and is located within the North Rift Region of KeNHA's road network.

The road is currently in fair condition but the shoulders have been completely eroded in most areas. The road carriageway has a narrow width thereby compromising the safety of road users. The project road traverses through a flat and rolling terrains.

The scope of services for this section will involve, inter-alia, improvement of road geometrics, design review of road pavement layers to extend economic life of the road, widening of carriageway and shoulders to address highway safety concerns. The services will also involve, but not limited to the following enhancements to the road network, in line with the stated development objectives:

- Design of the highway to 7.0 m carriageway (2 lanes) with 2.0 m wide shoulders
- Design/ Design review of three (3) Road over rail bridges near Lesseru, at Matunda and Moi's Bridge Townships and in Kitale Town.
- Design/Design review of additional Highway Bridges to accommodate dual carriageway at Moi's Bridge
- Design of Dual carriageway for highway sections through the urban area and critical sections of the highway including the section into Kitale town and connecting to the ongoing works on Kitale – Endebess – Suam Road
- Design/Design review of Service Roads through townships en-route (9 KAR/KR/Kenya Rifles, Soy, Nangili, Furfural, Matunda, Moi's Bridge, and Maili Saba
- Design for Re-alignment eastwards of approximately 6-km of road A1 to give way for future expansion of Kitale Airport, and dualization of the section of A1 to the existing interchange with B14
- Design/Design review of NMT facilities through Townships enroute, and in Kitale Municipality at the section joining the ongoing Kitale – Endebess – Suam road project to the Start of Kitale – Morpus (Kfw) Project.
- Design/Design review of Local Produce Markets at Matunda, Soy, Nangili, Moi's Bridge and Maili Saba Townships.
- Design review of Interchange approaches at Lesseru and at the Junction of A1 and B14 near Kitale Town.
- Design/Design Review of a proposed bypass for Soy Township
- Design/Design review of the link road from C45 to C628 (B14 to C628)

### Section 2 Morpus – Lokichar (A1) section

The project road traverses two Counties in Kenya, namely West Pokot County (60Km) and Turkana County (82 Km). The road starts at Morpus (approximately 66.4km from Kitale town) and runs in a North-Easterly direction through the trading centres of Marich Pass, Kainuk, Kalemngorok, before terminating at Lokichar, 140km from Morpus, where it connects with the proposed LAPSSSET Road A10 Corridor.

The entire road is in fair condition, having been rehabilitated to bitumen standards recently. However, the road is narrow and has no shoulders. The road traverses hilly terrain with long steep sections and sharp bends that are a

safety hazard to motorist. Some sections of the road are overtopped by storm runoff. The last section of the road from Marich Pass to Lokichar has a generally flat terrain.

The scope of services will involve design review of the road pavement layers with widened carriageway and shoulders. The services will comprise, but not limited to the following:

- Design of the highway to 7.0 m carriageway (2 lanes) with 2.0 m wide shoulders
- Design review of highway geometrics and widenings including provision climbing lanes at critical sections to improve safety and highway capacity
- Design/ Design review of Service Roads and NMT facilities through townships en-route (Morpus, Ortum, Marich Pass, Kainuk, Lokichar) and at the end
- Design/Design review of Truck stops and roadside resting areas at key locations along the highway
- Design/Design Review of Local Produce Markets at Morpus and Lokichar Towns.

### **1.5 Main Works of the proposed Project**

The proposed project will include construction to bitumen standards of 2 lanes of 7.0m wide, with shoulders of 2m width for the entire road section. The works will also involve construction of drainage bridges, and road over rail bridges near Lesseru, at Matunda and Moi's Bridge Townships and in Kitale Town. In addition, dualling will be done along some sections of the road including but not limited at highway sections through the urban area and critical sections of the highway including the section into Kitale town and connecting to the ongoing works on Kitale – Endeless – Suam Road. Other works will include construction road safety considerations and amenities such as NMT facilities at major centres - 1.5 m footpaths, and 1.5m Cycle paths on each side of road. Finally, the scope of work will include construction of local produce markets at select centres along the road.

The major items of Works to be executed under the construction contract will include but not limited to the following:

- Setting out, referencing and taking cross sections;
- Site clearance and removal of top soil;
- Earthworks;
- Constructing drainage structures (box and pipe culverts including protection works);
- Construction of pavement comprising bitumen surfacing, cement 10tabilized base and improved material subbase;
- Construction of other road facilities such as lay-bays, bus bays and widening at market centres along the road
- Works necessary to effect the safe and convenient passage of traffic through the Works;
- Construction of pedestrians crossings
- Provision of road furniture and ancillary services, e.g. signs, guardrails, marker posts, fencing, etc.;
- Operations ancillary to the main Works such as the construction of offices, diversion of services, the operations in quarries and borrow areas, the provision of water supply, the diversion of existing services, spoil areas for disposal of unsuitable or surplus materials, etc.

### **1.6 Project Objectives**

This project will contribute to the principal Project Development Objective (PDO), which is to improve access to the North Western part of Kenya and between Kenya and South Sudan, through improving road infrastructure and ICT links, reducing transport and ICT costs, and facilitating the reduction of non-fiscal trade barriers, which help reduce the cost of doing business and development. The project also improves South Sudan's access to sea ports by improving the Lesseru – Lokichar road section, part of the Eldoret – Nadapal – Juba (Kenya - South Sudan regional link) corridor that connects to the Northern Corridor (A8 at Lesseru) serving the landlocked countries in the sub region to Mombasa Sea port. This section of the road project provides part of the most cost-efficient transit corridor for South Sudan that crosses only one border post.

The overall Project objectives for construction of road projects are to;

- Improve the efficiency of road transport along the project Corridor
- Spur economic activity along the project road and enhance social welfare
- Enhance security and promote peace along the project corridor
- Enhance regional integration
- Enhance road safety along the project road

### **1.7 Project Beneficiaries**

The beneficiaries of the project will include: pastoralist communities, farmers and businesses along the road corridor, tradable sectors of the economy, agriculture, and the extractive industry, as well as road users (passengers and transporters), consumers and producers both inside and outside the sub-region. Through the export processing facilities and pastoralist road-side markets, the project will offer new jobs and income earning opportunities to the people in Turkana and West Pokot in the Kenyan territory. Currently this region has not received adequate attention and exhibits very high levels of poverty. With the improvement of the whole road corridor to South Sudan, the occasional cut off from the rest of Kenya and South Sudan, particularly during the rainy season, will be reduced.

## **2 Stakeholder Engagement Plan (SEP)**

The purpose of this Stakeholder Engagement Plan (SEP) is to ensure appropriate stakeholder consultations and information disclosure by establishing the timing and methods of engagement throughout the implementation of the road project. The SEP is also applicable during the Environmental and Social Management Plan (ESMP), Resettlement Action Plan (RAP) and livelihood restoration activities, and any other activities that requires engagement of different stakeholders during implementation of the project.

This Stakeholder Engagement Plan (SEP) is prepared in accordance with the African Development Bank (AfDB) Principles on Stakeholder Engagement (2015) on Stakeholder Engagement and Information Disclosure as well as Kenyan Laws and Regulations.

The SEP supports the development of strong, constructive and responsible relationships with project stakeholders that are important to and integral for the successful management of the project's environmental and social risks.

The scope of the Stakeholder Engagement Plan seeks to be proportionate to the nature and scale of the project and its potential risks and impacts. The specific objectives of the stakeholder engagement plan are as follows:

- To Provide guidance for stakeholder engagement such that it meets the country regulatory framework and the AfDB standards;
- To identify key stakeholders that are affected, and/or able to influence the Project and its activities
- To develop a stakeholder engagement process that gives stakeholders the opportunity to participate and influence project design and implementation
- To define the information disclosure provisions under the project
- To establish a formal Grievance Redress Mechanism under the project
- To define roles and responsibilities for the implementation of the SEP
- To define the reporting and monitoring arrangements to ensure that the SEP remains an effective and up-to-date tool for stakeholder engagement, including periodic review of SEP performance

The SEP will be updated as necessary throughout the project's life cycle.

This Stakeholder Engagement Plan will take into account the existing national regulatory framework as well as the AfDB policies.

### **2.1 Regulations and Requirements**

This Stakeholder Engagement Plan will take into account the existing national regulatory framework as well as the AfDB policies.

#### **2.1.1 Relevant National Laws, Policies and Strategies**

According to Kenyan regulations, public consultation is included in the project development process where a given project may significantly affect the quality of the environment, and are part of the environmental impact assessment. However, for other projects which might involve policy and system set up, public participation and consultation is still necessary.

The most important Kenyan legislation concerning public participation in the decision- making process is as follows:

- i. The constitution of Kenya 2010, Article 69 1(d) empowers the state to encourage public participation in the management, protection and conservation of the environment;
- ii. Environmental Management and Coordination Act (EMCA) 1999, as amended in 2015 emphasizes on public participation in development of polices plans and processes for the management of the environment is made mandatory in the Act
- iii. Environment and Social Impact Assessment Guidelines and Administrative Procedures required public participation and disclosure of project information during ESIA procedure in the development of projects, policies, plans and programmes.

## **2.2 AfDB Operating Safeguard 1 (OS 1): Stakeholder Engagement and Information Disclosure**

AfDB Operating Safeguard 1 (OS1) states that the borrower or client shall be responsible for carrying out and providing evidence of meaningful consultation (i.e. consultation that is free, prior and informed) with communities likely to be affected by environmental and social impacts, and with other local stakeholders. The key focus of meaningful consultation is inclusivity; namely, the approach taken needs to ensure that all groups (including those that are disadvantaged or vulnerable) are embraced within the consultation process on equal terms, and that all groups are given the capacity to express their views with the knowledge that these views will be properly considered.

OS 1 also states that the borrower shall be responsible for ensuring the satisfaction of broad community support. The Bank requires that stakeholder engagement starts at an early stage during project preparation and that it should continue throughout. The results of such engagement should be adequately reflected in project design, as well as in the preparation of project documentation. In all cases, consultation should be carried out after, or in conjunction with, the release of environmental and social information.

Once all stakeholders are identified, the borrower should develop and implement a Stakeholder Engagement Plan (SEP) that is proportionate to the project risks, impacts and development stage, and that is tailored to the characteristics and interests of the affected communities. The advantage of having a SEP is that it provides a formal commitment, defines responsibilities, and ensures that adequate funds are made available to carry out the program of consultation.

A SEP typically describes measures to allow the effective consultation and participation of all affected communities, a description of any consultations that have already taken place, and a definition of the reporting procedures. A Grievance Mechanism should also be developed by the borrower, and it will detail the procedures that a project will establish for managing complaints and grievances.

The Borrower will disclose project information to allow stakeholders to understand the risks and impacts of the project, and potential opportunities. The Borrower will provide stakeholders with access to the following information, as early as possible before the Bank proceeds to project appraisal, and in a timeframe that enables meaningful consultations with stakeholders on project design:

- a) The purpose, nature and scale of the project;
- b) The duration of proposed project activities;
- c) Potential risks and impacts of the project on local communities, and the proposals for mitigating these, highlighting potential risks and impacts that might disproportionately affect vulnerable and disadvantaged groups and describing the differentiated measures taken to avoid and minimize these;
- d) The proposed stakeholder engagement process highlighting the ways in which stakeholders can participate;
- e) The time and venue of any proposed public consultation meetings, and the process by which meetings will be notified, summarized, and reported; and
- f) The process and means by which grievances can be raised and will be addressed.

## **2.3 Summary of prior stakeholder engagement activities relevant to the project**

Prior surveys and consultations were conducted to better understand the views of different stakeholders (key government agencies, Civil Society Organizations (CSOs), Non-governmental organizations (NGOs) as well as the needs and expectations of local communities) to inform all the stages of the projects. These consultations started in 2014 and 2015 during the preliminary and detailed design and development of the initial ESIA's for the roads.

Consultation with all project stakeholders began during the Scoping phase and continued throughout the entire process of development of safeguard documents (ESIA, RAP and Gender Analysis report) and will continue throughout the implementation and operational phases. Consultations with County administration, community

members, church leaders, project staff, and project affected persons (among others) were or will be organized. Interactive discussions with KeNHA project team and AfDB has also been held in various stages of the project.

**Table 2-1: Identified Stakeholders and Modes of Consultation Used**

Stakeholder	Identified Stakeholders	Consultation Method
National Government	<ul style="list-style-type: none"> <li>Assistant County Commissioners</li> <li>Sub County Administrator</li> <li>KPLC</li> <li>NEMA</li> <li>Kenya Wildlife Service (KWS)</li> <li>Kenya Forest Service (KFS)</li> <li>National Drought Management Authority (NDMA)</li> </ul>	Introduction letter and one-on-one Interviews
County Government	<ul style="list-style-type: none"> <li>Governors</li> <li>CEC Members for Lands, Housing, Physical Planning and Urban Development</li> <li>Chief Officer in charge of Land</li> <li>District Administration Police Commandant</li> <li>Chief Officer - Transport</li> <li>Sub-county Lands Officer</li> <li>Sub-county Adjudication Officer</li> <li>Sub-county Surveyor</li> <li>District Medical Officer for Health.</li> <li>Sub-county Social and Gender Officers</li> <li>County Public Health Officers</li> <li>Sub-county Livestock Development Officer</li> <li>Sub-county Water Officer</li> </ul>	Introduction letter and one-on-one Interviews
Project areas residents and PAPs	<ul style="list-style-type: none"> <li>Locations of public meetings (all settlements along the road).</li> </ul>	Public Meetings ( <i>Baraza</i> ) Small Group Meetings Focus Group Discussions
Sample groups representing vulnerable and marginalized groups among residents and PAPs	<ul style="list-style-type: none"> <li>Location of FGDs</li> </ul>	FGDs

All stakeholders are favorable to the project and see it as the possibility of bringing economic and social development in the project area of influence, as well as improving the economic status of many people along the road. Communities requested to get information earlier on when works will start, and the project proponent to consider various opportunities the communities can benefit as a result of the project. Other comments given by the stakeholders included;

- Compensation of PAPs due to land-take to pave the way for the road construction should be done before commencement of the civil works;
- Adequate notice (time and resources) for PAPs should be given in preparation for the resettlement;
- Prioritize locals for the employment opportunities arising from the project;
- Participatory/Engage the local community and other relevant institutional agencies throughout project implementation;
- Importance of timing and duration of construction of the project road, to ensure the project proponent select a good contractor to finish the works on time and within the budget;
- Livelihood restoration during resettlement should be considered;
- The contractor should ensure they adhere to the proposed mitigation measures on environmental, social health safety of the project;

- The project should consider investing in projects that will benefit the local population in the areas of water, livestock, markets, education, and training the youths and women

There are many positive impacts for the project, as well as negative impacts. However, people have a right to be informed in advance and to receive information on the expected impacts and how the project is proposing to mitigate these negative impacts, and enhance the positive benefits.

**Table 2-2: Stakeholder engagement activities**

**Lesseru – Kitale (B2) Section**

MEETING DATE	COUNTY	VENUE	Stakeholders	Format	Objectives of the meeting
7/12/2021	Uasin Gushu / Kakamega	Soy	Public meeting	Physical meeting	Project sensitization Sensitization of project impacts
8/12/2021	Uasin Gishu	Furfarol	Public meeting		
8/12/2021	Kakamega	Matunda	Public meeting		
9/12/2021	Uasin Gishu	Mois Bridge	Public meeting		
7/12/2021	Uasin Gishu	Nangili	Public meeting		
22/3/2022	Kakamega / Uasin Gishu	Soy Club	County governments of Kakamega and Uasin Gishu, Civil Society Organizations, Non-Governmental Organizations		
22/03/2022	Uasin Gishu	Matunda SDA Church	Public meeting		
23/03/2022	Uasin Gishu	AIC Moi's Bridge	Public meeting		
24/03/2022	Trans Nzoia County	Kitale Arturukan	County government of West Pokot, Civil Society Organizations, Non-Governmental Organizations		

**Morpus – Lokichar (A1) Section**

MEETING DATE	COUNTY	VENUE		Format	Objectives of the meeting
30/11/2021	Turkana	Lokichar	Public meeting	Physical meeting	Project sensitization Sensitization of project impacts
30/11/2021	Turkana	Kalemngorok	Public meeting		
2/12/2021	West Pokot	Wakor	Public meeting		
2/12/2021	West Pokot	Marich Pass	Public meeting		
3/12/2021	West Pokot	Sebit	Public meeting		
3/12/2021	West Pokot	Ortum	Public meeting		
3/12/2021	West Pokot	Morpus	Public meeting		
24/03/2022	West Pokot	Kapenguria	County government of West Pokot, Civil Society Organizations, Non-Governmental Organizations		
24/03/2022	West Pokot	Ortum	Public meeting		



MEETING DATE	COUNTY	VENUE		Format	Objectives of the meeting
25/03/2022	Turkana	Cradle Hotel	Turkana County Government, Civil Society Organizations, Non-Governmental Organizations		
28/3/2022	Turkana	Kainuk	Public meeting		
28/3/2022	Turkana	Kakong	Public meeting		

In addition, consultations with the project proponent (KeNHA) has been continuous with input on the project, including comments on how to ensure participation of all stakeholders is considered throughout the project cycle.

A list of names of stakeholders met is presented in Annex 4 of this document.

**Table 2-3 Summary of comments and issues raised from Public Consultations on the Road Project**

	ISSUES	COMMENTS	RESPONSE TO COMMENTS
1.	Road Safety	<ul style="list-style-type: none"> <li>The design should incorporate road safety especially at main centres along the road</li> </ul>	The participants were informed that during the design, the consultant will identify areas with high accidents and risks and incorporate road safety measures in the road design, including installation of speed calming measures, foot bridges, and signage. In addition, footpaths and service roads will be constructed in major centres to ease traffic flow at these areas
2.	Environmental and Social mitigation measures	<ul style="list-style-type: none"> <li>The meetings highlighted the need for proper environmental and social mitigation measures, for issues like dust, safety of community members, drainage, among others to be incorporated and enforced during construction</li> </ul>	The Consultant is conducting the ESIA (and RAP) to identify impacts of the project, and will come up with mitigation measures to eliminate or minimize negative impacts of the project. The Contractor will be required to adhere to the mitigation measures proposed throughout the project duration.
3.	Awarding of Road Construction Tender	<ul style="list-style-type: none"> <li>The Community requested that the contract for construction of this road be given to a reputable company for purposes of getting a quality road done, and on time to avoid inconveniences</li> <li></li> </ul>	The contractor to be mobilised for the construction assignment will be awarded through a competitive tendering process. The contractor will be required to comply with national engineering and construction regulations as well as industry best practices. The procuring of the contractor will also be transparent.
4.	Employment of local staff during road construction	<ul style="list-style-type: none"> <li>The locals requested that their youth get formal and casual employment in the project so as the community can benefit further economically.</li> <li>The community asked that the government give their youth priority.</li> </ul>	<p>At the construction phase, the Contractor will be required to have a policy that prioritizes qualified locals and that they get:</p> <ul style="list-style-type: none"> <li>Casual Labor opportunities as supplementary income sources;</li> <li>Equal opportunities to both men and women as the women are very interested in these jobs;</li> </ul> <p>For women who would like to provide support services to the construction workers, they will be assisted to understand the procedures required to legalize their small businesses.</p>
5.	Compensation of traders and construction of a market	Participants wanted to know whether those doing business along the road will be compensated. Similarly, they wanted a clarification whether markets and market structures will be valued for compensation. The community asked that the project uplift their livelihood means and not leave them with worse off conditions and it was agreed that the community would be consulted as to the mode of livelihood restoration engagements that they would like to ensure that this project leaves them in a better place.	<ul style="list-style-type: none"> <li>The traders were informed that those trading along the road reserve will not be compensated but will be assisted in moving out of the road reserve.</li> <li>The traders were assured that the National Government, together with the county government will consult to find land suitable for their relocation, which can fit a bus stop also, to minimize losses of businesses for the traders.</li> </ul>

	ISSUES	COMMENTS	RESPONSE TO COMMENTS
		The traders at Ortum, where there are a lot of traders along the road reserve requested for a market to be constructed for them, and a bus-park to be constructed adjacent to the proposed market so that they don't lose customers when the road is constructed	<ul style="list-style-type: none"> <li>The re settlement of these traders will require participation from the County Physical Planning, and Markets and Trades and other relevant Departments;</li> <li>This RAP has included the County Government as a key member of the RAP Implementation Unit (RAPIC). They should be actively involved in the monitoring and evaluation of livelihood restoration of traders who were relocated from the project RoW.</li> </ul>
6.	Timing of relocation	The community requested that other than the compensation being done properly and prior to relocation, that the public be consulted prior to it for there to be adequate time and resources to assist those moving to make a move that's not coerced or forced.	<p>The community was assured of constant engagement with regards to such important information as this was their right. They have as Kenyan citizens a right to free and all access to information relevant to them with regards to this project.</p> <p>In addition, the outcomes of RAP survey and documentation will undergo disclosure to inform the community before the implementation the report.</p>
7.	Decision making	Involvement of the local leadership when coordinating issues affecting the locals is very critical. Chiefs should be involved in coordinating any involvement with the community since they are impartial.	<p>On discussions with PAPs on grievance resolution, GRC will comprise of administration, and members to be selected by the affected persons, with representatives of women, men, youth and PLWD.</p> <p>This system has been adopted into the project's grievance resolution mechanism as presented in both the RAP and ESIA Reports.</p>
8.	Population influx	The communities acknowledged that with road construction there was bound to be population influx of people from other areas coming in search of jobs during project construction.	Contractor shall be encouraged to local labour as feasible. An open and transparent employment policy especially for semiskilled and unskilled workers shall be required of the contractor.

**Table 2-4 Summary of comments and issues raised County Governments and Non-Governmental Organizations on the Road Project**

Stakeholders	Engagement method	Key outcomes
County Governments	Physical meeting	<ul style="list-style-type: none"> <li>• County governments should be part of the project team to assist the PMT in issues such as resettlement, assistance in identifying land for associated facilities such as markets, and advising the client on access roads that will add value to the project</li> <li>• The design of the roads should consider NMTs</li> <li>• Ensure that all PAPs are compensated fairly, and no one should be evicted from the road reserve without an alternative place for trading</li> <li>• Project to consider constructing Trauma centres along the road at a hospital facility to be agreed upon with the county governments</li> <li>• The road project should construct public amenities such as toilets and water points at key towns for travellers and markets.</li> <li>• Other amenities to be considered – markets, livestock markets</li> <li>• Road safety awareness should be carried out to members of the public</li> </ul>
Civil Society Organizations (CSOs), Non-Governmental Organizations (NGOs)	Physical meeting	<p>Participants were very happy with the project. They however expressed the following:</p> <ul style="list-style-type: none"> <li>• Ensure communities are engaged throughout the project cycle</li> <li>• Communities should benefit from the project through employment, associated facilities, and promotion of</li> <li>• Ensure PWDs are catered for and considered during the design of the road and work during construction</li> <li>• There should be fair recruitment of workers for the project, with preference given to local people</li> <li>• CBOs/NGOs in the GBV space should be hired to ensure GBV issues are handled well during the project implementation</li> <li>• Access roads that enhance and empower women in trade should be considered</li> <li>• GBV reporting systems should be strengthened, including capacity building with law enforcement officers</li> <li>• Create more awareness to the communities on child labour</li> <li>• Proper establishment of GRM including relevant people in the GRC to manage all issues, including GBV</li> <li>• Organizations like National Aids Control Commission (NACC) should be involved in HIV/AIDS monitoring of the project</li> </ul>
AfDB, KeNHA	Virtual and physical meeting	<p>The following was expressed:</p> <ul style="list-style-type: none"> <li>○ Ensure considerations of county and other stakeholders' input on the project</li> <li>○ Designs to incorporate NMTs and other safety amenities in key sections of the road</li> <li>○ Ensure all documents are disclosed to the PAPs and other key stakeholders during the project cycle</li> <li>○ Road design should be within the existing road corridor as much as possible</li> <li>○ Road to consider climate change impacts during the design</li> <li>○ Gender aspects to be incorporated in the design that enhance gender participation and benefits</li> <li>○ Project to consider VMGs to enhance their participation and project benefits of the project</li> <li>○ Special considerations for women in providing them with access to project sites, such as transport near to their homes</li> <li>○ Road safety considerations should be given a priority along the road</li> </ul>

### 3 AN OVERVIEW OF STAKEHOLDER ENGAGEMENT

#### 3.1 What is Stakeholder Engagement?

The term “stakeholder engagement” is emerging as a way to describe a broader, more inclusive, and continuous process between a client and all project stakeholders. Stakeholder engagement can encompass a range of activities and approaches, and usually spans the life of a project. A broad array of terms describes this new approach to engaging stakeholders, including consultation, engagement, external relations, information disclosure and dissemination, and participation. These terms have been used loosely and interchangeably, because all these components can be part of an integrated engagement process. Stakeholder Engagement will be free of manipulation, interference, coercion, and intimidation, and conducted on the basis of timely, relevant, understandable and accessible information, in a culturally appropriate format. It involves interactions between identified groups of people and provides stakeholders with an opportunity to raise their concerns and opinions (e.g., by way of meetings, surveys, interviews and/or focus groups), and ensures that this information is taken into consideration when making project decisions.

Effective stakeholder engagement develops a “social license” to operate and depends on mutual trust, respect and transparent communication between stakeholders. It thereby improves decision-making and performance by:

- **Managing costs:** Effective engagement will help the project to avoid unnecessary costs, in terms of money and reputation;
- **Managing risk:** Engagement helps the project and communities to identify, prevent, and mitigate environmental and social impacts that can threaten project viability;
- **Enhancing reputation:** By publicly recognizing human rights and committing to environmental protection, the project and financial institutions involved in financing the project can boost their credibility and minimize risks;
- **Avoiding conflict:** Understanding current and potential issues such as land rights and proposed project activities;
- **Improving practices and/or policies:** Obtaining perceptions about a project, which can act as a catalyst for changes and improvements in practices and policies of the client;
- **Identifying, monitoring and reporting on impacts:** Understanding a project’s impact on stakeholders, evaluating and reporting back on mechanisms to address these impacts; and
- **Managing stakeholder expectations:** Consultation also provides the opportunity for the project team to become aware of and manage stakeholder attitudes and expectations.

#### 3.2 2.2 Principles for Effective Stakeholder Engagement

Stakeholder engagement is usually informed by a set of principles defining core values underpinning interactions with stakeholders. Common principles based on International Best Practices include the following:

- **Commitment** is demonstrated when the need to understand, engage and identify the community is recognized and acted upon early in the process;
- **Integrity** occurs when engagement is conducted in a manner that fosters mutual respect and trust;
- **Respect** is created when the rights, cultural beliefs, values and interests of stakeholders and affected communities are recognized;
- **Transparency** is demonstrated when community concerns are responded to in a timely, open and effective manner;
- **Inclusiveness** is achieved when broad participation is encouraged and supported by appropriate participation opportunities; and
- **Trust** is achieved through open and meaningful dialogue that respects and upholds a community’s beliefs, values and opinions.

#### 3.3 Stakeholder Engagement Considerations

The following considerations should be made when planning for stakeholder engagement:

**Time and resources:**

It takes time to develop and build trust-based relationships with stakeholders. The consensus from practitioners is that from the outset relationships with stakeholders should develop and grow, and that these relationships should be nurtured and fostered not to fade.

Additional stakeholders might be identified that also want to be engaged. No willing stakeholder should be excluded from the process of engagement. Some stakeholders will need to be educated about the concept of engagement itself, as well as on the complex issues requiring specialized and technical knowledge. These demands can increase the cost of consultation required to meet external expectations, and often this occurs at a time when a project lacks the internal capacity and resources to implement a broad engagement strategy.

**It raises expectations:**

Stakeholders can have unrealistically high expectations of benefits that may accrue to them from a project. As such, the project team from the outset must be clear on what they can and cannot do, establishing a clear understanding of their roles and responsibilities.

**Securing stakeholder participation:**

Cultural norms and values can prevent stakeholders from freely participating in meetings. Often there are conflicting demands within a community, and it can be challenging for a project to identify stakeholders who are representative of common interests. This might be avoided by employing local consultants who are sensitive to local power dynamics, which requires project proponents to develop an awareness of the local context and implementing structures to support and foster effective stakeholder engagement.

**Consultation fatigue:**

Stakeholders can easily get tired of consultation processes especially when promises are unfulfilled, and their opinions and concerns are not taken into consideration. Often stakeholders feel their lives are not improving as a result of a project and this can lead to consultation meetings being used as an area to voice complaints and grievances about the lack of development. This might be avoided by coordinating stakeholder engagement and by ensuring that practitioners do not make promises to stakeholders, but rather use the public consultation process as an opportunity to manage expectations, challenge misconceptions, disseminate accurate project information, and gather stakeholder opinions which are feedback to the client and other project specialists.

**Culturally appropriate engagement:**

It is critical that engagement is culturally appropriate, especially, but not exclusively, in terms of impacted communities. Prior to any engagement event the following actions will occur:

- Preparation of standard 'question and answer' sheets tailored for specific stakeholder types (based on lessons learnt, analysis and common issues raised in previous engagements or encounters);
- Planning/design of engagement action(s) with project team and other relevant authorities and staff;
- Selection of individual stakeholders with whom engagement will occur;
- Selection of methods for disclosure of information (including such topics as format, language, and timing);
- Selection of location and timing for engagement event(s) (avoiding busy work times, which may be seasonal, and days/times when special events may be occurring);
- Agreeing on mechanisms for ensuring stakeholder attendance at engagement event(s) (if required);
- Identification and implementation of feedback mechanisms to be employed.

## 4 STAKEHOLDER IDENTIFICATION AND ANALYSIS

### 4.1 Project Stakeholders

Project stakeholders are defined as individuals, groups or other entities who:

- a. Are impacted or likely to be impacted directly or indirectly, positively or adversely, by the project (also known as 'affected parties'); and
- b. May have an interest in the project ('other interested parties'). They include individuals or groups whose interests may be affected by the Project and who have the potential to influence the project outcomes in any way.

Cooperation and negotiation with the stakeholders throughout the project development also require the identification of persons within the groups who act as legitimate representatives of their respective stakeholder group, i.e., the individuals who have been entrusted by their fellow group members with advocating the groups' interests in the process of engagement with the Project. Community representatives may provide helpful insight into the local settings and act as the main conduits for dissemination of Project-related information and as a primary communication/liaison link between the Project and targeted communities and their established networks. Verification of stakeholder representatives (i.e., the process of confirming that they are legitimate and genuine advocates of the community they represent) remains an important task in establishing contact with the community stakeholders.

For the purposes of effective and tailored engagement, stakeholders of the proposed project can be divided into the following core categories:

**Affected Parties** – persons, groups and other entities within the Project Area of Influence (PAI) that are directly influenced (actually or potentially) by the project and/or have been identified as most susceptible to change associated with the project, and who need to be closely engaged in identifying impacts and their significance, as well as in decision-making on mitigation and management measures. These will include, among others:

- Landowners or land users along the rights of way (ROW) of the construction works whose assets/properties or incomes may be impacted;
- Residents and community members who may be inconvenienced by construction works activities (e.g., by noise, dust, vibration, accidental damages);
- Business owners who may be inconvenienced and/or financially impacted by the project works;
- Local households and businesses whose activities may be positively impacted

**Other Interested Parties** – individuals/groups/entities that may not experience direct impacts from the Project but who consider or perceive their interests as being affected by the project and/or who could affect the project and the process of its implementation in some way. These will include among others:

- County governments, Line Ministries, public agencies, and their regional offices, providing public services, for example Education, Health, Social Protection / Social Service Agency, Police, Justice, etc.;
- Civil society organizations;
- International organizations who implement projects in the targeted areas;
- Community and social organizations;

**Vulnerable and Marginalized Groups** – these are persons who may be disproportionately impacted or further disadvantaged by the project(s) as compared with any other groups due to their vulnerable status and that may require special engagement efforts to ensure their equal representation in the consultation and decision-making process associated with the project. They include among others:

- Women;
- Youth;
- Elderly;

- Persons with disabilities;
- Poor and unemployed persons;
- Child-headed families
- Widows
- Minority or marginalized groups
- Nomadic pastoralists.

**Indigenous Groups:** The majority of the population in West Pokot and Turkana counties are Indigenous People / Vulnerable and Marginalized Groups (IPs/VMGs), thus any subproject that will affect community members' homes/structures, access to land they traditionally occupy or utilize, or to any other resources including cultural or sacred sites or sources of herbal medicines, will be subjected to a Free, Prior, Informed Consent (FPIC) consultation process with the affected sections of the community.

Where other affected parties, interested parties and vulnerable groups are identified in the course of the project implementation, their needs will also be taken into consideration and reflected in the SEP document.

In general, engagement is directly proportional to the impact and influence, and as the extent of impact of a project on a stakeholder group increases, or the extent of influence of a particular stakeholder on the project increases, engagement with that particular stakeholder group should intensify and deepen in terms of the frequency and the intensity of the engagement method used. All engagement should proceed on the basis of what are culturally acceptable and appropriate methods for each of the different stakeholder groups targeted.

## **4.2 Identification of Stakeholders**

There are several categories of people and institutions that will be affected directly by the project and those with an interest in the project at different levels that will need to be consulted and engaged in the project activities.

The following table shows the potential role, interest and influence of each of the above identified stakeholders or stakeholder categories:



**Table 4-1: Summary of Stakeholders Identification**

Stakeholder	Potential Role of Stakeholder	Interest	Influence	Key Characteristics /Mandate	Language needs	Preferred notification	Specific needs
<b>Project Affected Parties</b>							
National Government	Borrower, Facilitate interactions, encounters with other key stakeholders	High	High	Support and ensure project implementation High awareness on the project activities	Use of local languages /translation	Meetings, email, phone, internal memo,	<ul style="list-style-type: none"> <li>• Accessibility of venues (when contact and physical meetings are possible and planned)</li> <li>• Coordination of activities to avoid duplication of efforts</li> </ul>
County Governments and relevant line ministries	Project beneficiaries, Facilitate interactions, encounters with other local stakeholders	High	High	Support and ensure project implementation Protect interests of local communities	Use of local languages /translation	Meetings, email, phone, internal memo,	<ul style="list-style-type: none"> <li>• Get and share accurate information about the project</li> <li>• Regular updates on the project</li> <li>• Accessibility of venues (when contact and physical meetings are possible and planned)</li> </ul>
Ministry of Transport, Infrastructure, Housing and Urban Development (MoTIHUD, including organizations directly or indirectly participating in the project - KeNHA, ICT	Main project driver and implementer of the project	High	High	Support and ensure project implementation Involve and ensure participation by all relevant stakeholders	Use of local languages /translation	Meetings, email, phone, internal memo,	<ul style="list-style-type: none"> <li>• Get and share accurate information about the project</li> <li>• Accessibility of venues (when contact and physical meetings are possible and planned)</li> </ul>
National Environmental and Management Authority (NEMA)	Monitoring E& S safeguards	High	High	Protect environment, ensure proper mitigation measures are implemented	Use of local languages /translation	Meetings, email, phone, internal memo,	<ul style="list-style-type: none"> <li>• Get and share accurate information about the project</li> <li>• Accessibility of venues (when contact and physical meetings are possible and planned)</li> </ul>
Ministry of Lands - National Land Commission (NLC)	Compensation of PAPs	High	High	Compensation of PAPs	Use of local languages /translation	Meetings, email, phone, internal memo,	<ul style="list-style-type: none"> <li>• Get and share accurate information about the project</li> <li>• Details of PAPs</li> <li>• Accessibility of venues (when contact and physical meetings are possible and planned)</li> </ul>
Ministry of Labour	Monitoring Labour management, OHS	High	High	Monitoring OHS measures are observed	Use of local languages /translation	Meetings, email, phone, internal memo,	<ul style="list-style-type: none"> <li>• Accessibility of venues (when contact and physical meetings are possible and planned)</li> </ul>

Stakeholder	Potential Role of Stakeholder	Interest	Influence	Key Characteristics /Mandate	Language needs	Preferred notification	Specific needs
							<ul style="list-style-type: none"> <li>• Full disclosure about the project to explore partnerships</li> <li>• Get and share accurate information about the project</li> </ul>
Ministry of Public service, Youth, Gender, Senior Citizens Affairs	Gender, Child Protection, and gender participation and monitoring	High	High	Overseeing gender, youth and child protection implementation	Use of local languages /translation	Meetings, email, phone, internal memo,	<ul style="list-style-type: none"> <li>• Accessibility of venues (when contact and physical meetings are possible and planned)Full disclosure about the project to explore partnerships</li> <li>• Get and share accurate information about the project</li> </ul>
Project Affected Persons (PAPs)	Directly impacted by the project activities	High	High	Low access to infrastructure Vulnerability due loss of livelihood limited participation and involvement, time low awareness	Use of local languages /translation	Use of local languages /translation	<ul style="list-style-type: none"> <li>• Travel costs, assistance for mobility, sign language,</li> <li>• Accessibility of venues (when contact and physical meetings are possible and planned)</li> <li>• Full disclosure about the project</li> <li>• Get and share accurate information about the project</li> <li>• Prompt compensation</li> <li>• Access to employment opportunities</li> </ul>
Business companies or organizations/investors	Their businesses/interventions might be impacted either positively or negatively	High	High	Interest in access to investment opportunities	Use of local languages /translation	Meetings, email, phone, internal memo,	<ul style="list-style-type: none"> <li>• Accessibility of venues (when contact and physical meetings are possible and planned)</li> <li>• Full disclosure about the project</li> <li>• Get and share accurate information about the project</li> <li>• Prompt compensation</li> </ul>
Community members	Beneficiaries of the project	Moderate	Moderate	Low access to infrastructure High poverty level limited participation and involvement, time	Use of local languages /translation	Use of local languages /translation	<ul style="list-style-type: none"> <li>• Consultation close to home, , Travel costs, assistance for mobility, sign language</li> <li>• Accessibility of venues (when contact and physical meetings are possible and planned)</li> <li>• Full disclosure about the project</li> <li>• Get and share accurate information about the project</li> </ul>

Stakeholder	Potential Role of Stakeholder	Interest	Influence	Key Characteristics /Mandate	Language needs	Preferred notification	Specific needs
				low awareness			<ul style="list-style-type: none"> <li>• Prompt compensation</li> <li>• Access to employment opportunities</li> </ul>
<b>Other Interested parties</b>							
NGOs and CSOs	Advocacy, advise and holding governments to account Facilitate encounters with other stakeholders	Moderate	Moderate	High awareness Partnership and monitoring interests of project activities	Use of local languages /translation	Meetings, email, phone, internal memo,	<ul style="list-style-type: none"> <li>• Accessibility of venues (when contact and physical meetings are possible and planned)</li> <li>• Full disclosure about the project</li> <li>• Get and share accurate information about the project</li> <li>• Involvement in their area of expertise</li> </ul>
Other Interested parties (Other international financial organizations)	Can facilitate encounters with other stakeholders, can advise the project	Moderate	Moderate	Various interests	Use of local languages /translation	Meetings, local languages, email, phone, internal memo,	<ul style="list-style-type: none"> <li>• Accessibility of venues (when contact and physical meetings are possible and planned)</li> </ul>
Development partners and UN agencies engaged in livestock, transport, water and climate change and resilience sectors, etc	Can facilitate encounters with other stakeholders, can advise the project	Moderate	Moderate	High awareness Development and Monitoring interests of other development projects	International or local languages	Meetings, email, phone, internal memo,	<ul style="list-style-type: none"> <li>• Full disclosure about the project to explore partnerships</li> <li>• Share lessons learnt from their own work for the benefit of the project</li> <li>• Coordination of development work and build synergies and avoidance of duplication of efforts</li> </ul>
Media (print and electronic) and online communication platforms	Can facilitate communication and encounters to other stakeholders Advocacy, advise and holding governments to account	Low	High	High awareness Monitoring interests of other parties Educating citizens	International or local languages	Meetings, email, phone, internal memo,	<ul style="list-style-type: none"> <li>• Get and share accurate information about the project</li> <li>• To have clear channel of information flow from the project teams</li> <li>• Complaints and grievances shared on social media platforms will be picked and addressed as necessary</li> </ul>
<b>Disadvantaged Groups</b>							

Stakeholder	Potential Role of Stakeholder	Interest	Influence	Key Characteristics /Mandate	Language needs	Preferred notification	Specific needs
Vulnerable and marginalized groups & Indigenous Peoples	Beneficiaries of the project	High	High	Low access to infrastructure High poverty level limited participation and involvement, time low awareness	Use of local languages /translation	Use of local languages /translation	<ul style="list-style-type: none"> <li>• Consultation close to home, Travel costs, assistance for mobility, sign language, accessibility of venues (when contact and physical meetings are possible and planned)</li> <li>• That the project involvement in decision making processes using their own local structures</li> <li>• That their priority needs are catered for by the project (as part of project target communities)</li> <li>• Provision of associated facilities such as water points</li> </ul>
Older people and those with chronic illnesses	Beneficiaries of the projects	High	Low	Low access to infrastructure High poverty level limited participation and involvement, time low awareness	Use of local languages /translation	Use of local languages /translation	<ul style="list-style-type: none"> <li>• These people have limited movement and may not be able to attend meetings and be part of decision-making</li> <li>• That some are illiterate and would require communication to be delivered to them in a language they understand using channels they can access</li> <li>• That they, or their caregivers/representatives, will be informed and engaged in project processes</li> </ul> <p>That they will have access to project services once the project is operationalized</p>
People with Disabilities	Beneficiaries of the projects	High	Low	Low access to infrastructure High poverty level limited participation and involvement, time low awareness	Use of local languages /translation	Use of local languages /translation	<ul style="list-style-type: none"> <li>• Involvement in them in decision making processes</li> <li>• That their priority needs are catered for by the project (as part of project target communities)</li> <li>• Accessibility of venues (when contact and physical meetings are possible and planned)</li> <li>• Get and share accurate information about the project</li> <li>• Provision of employment or supply opportunities</li> </ul>

Stakeholder	Potential Role of Stakeholder	Interest	Influence	Key Characteristics /Mandate	Language needs	Preferred notification	Specific needs
<ul style="list-style-type: none"> <li>Nomadic pastoralists</li> </ul>	<ul style="list-style-type: none"> <li>Beneficiaries of the projects</li> </ul>	<ul style="list-style-type: none"> <li>High</li> </ul>	<ul style="list-style-type: none"> <li>Low</li> </ul>	<ul style="list-style-type: none"> <li>Low access to infrastructure</li> <li>High poverty level</li> <li>limited participation and involvement, time</li> <li>low awareness</li> </ul>	<ul style="list-style-type: none"> <li>Use of local languages /translation</li> </ul>	<ul style="list-style-type: none"> <li>Use of local languages /translation</li> </ul>	<ul style="list-style-type: none"> <li>Investments in infrastructure at strategic sites and location to strengthen resilience</li> <li>Accessibility of venues (when contact and physical meetings are possible and planned)</li> <li>Get and share accurate information about the project</li> </ul>

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## 5 STAKEHOLDER ENGAGEMENT PROCESS

### 5.1 Engagement methods and tools

The Stakeholder Engagement Plan envisages that consultation meetings will take place with relevant interested parties prior to the commencement of the Project as well as during the project implementation and on an 'as-needed' basis.

Consultation and engagement activities are required to address stakeholder suggestions, ideas or concerns. Consultations will take place, as much as possible in face-to-face interactions within the affected and beneficiary settlements, and in line with the national guidelines and other measures to prevent the spread of the COVID-19 pandemic.

Local public institutions, such as community centers and public service halls, will be equipped with dissemination materials, contact point information, and other project related information. The person in charge of citizen and stakeholder engagement at KeNHA will have access to mechanisms under project activities—such as demand assessment surveys, training activities etc.—to proactively disseminate information and collect feedback from local population, organize consultations, support survey works, and ensure the functioning of the project grievance redress mechanism (GRM) at the local level. In addition, stakeholders will be able to use several channels (phones, e-mails, social media and project website) in order to receive more details about the project or provide/receive comments, ideas throughout the project life cycle.

Detailed record of all public consultations will be kept in the office. Whenever possible, minutes should be supported with photos taken during consultations and lists of attendees with their contact information and original signatures.

Engagement with stakeholders will continue during the construction phase, and records of environmental and social issues raised, resettlement/livelihood restoration activities, complaints received during consultations, field visits, informal discussions, formal letters, etc., will be followed up.

The project will ensure that the different activities for stakeholder engagement, including information disclosure, are inclusive and culturally sensitive. Measures will also be taken to ensure that the vulnerable groups outlined above have the chance to participate and benefit from project activities.

Community consultations should be well documented and kept in the local administration office for reference. Where consultations are done through local administrations, basic guidelines and reporting formats should be provided by implementing agencies. Where possible, community facilitators from local NGOs and CSOs could be called to assist the consultation process.

### 5.2 Covid -19 Guidelines on Consultations

The guidelines will include social distancing, wearing face masks, etc. (the measures will be updated based on the guidance from the World Health Organization (WHO) and Kenya's Ministry of Health

A precautionary approach will be taken to the consultation process to prevent infection and/or contagion, given the highly infectious nature of COVID-19. The following are some considerations for selecting channels of communication, in light of the current COVID-19 situation:

- Avoid public gatherings (taking into account national restrictions or advisories), including public hearings, workshops and community meetings;
- If smaller meetings are permitted/advised, conduct consultations in small-group sessions, such as focus group meetings. If not permitted or advised, make all reasonable efforts to conduct meetings through online channels;
- Diversify means of communication and rely more on social media and online channels. Where possible and appropriate, create dedicated online platforms and chatgroups appropriate for the purpose, based on the type and category of stakeholders;
- Employ traditional channels of communications (TV, newspaper, radio, dedicated phone-lines, and mail) when stakeholders do not have access to online channels or do not use them frequently. Traditional

channels can also be highly effective in conveying relevant information to stakeholders, and allow them to provide their feedback and suggestions;

- Where direct engagement with project affected people or beneficiaries is necessary, identify channels for direct communication with each affected household via a context specific combination of email messages, mail, online platforms, dedicated phone lines with knowledgeable operators;
- Each of the proposed channels of engagement should clearly specify how feedback and suggestions can be provided by stakeholders

### **5.3 Engagement with disadvantaged and Vulnerable Groups**

Incorporating the views of disadvantaged and vulnerable groups at various stages in project implementation should be done using appropriate communication methods. Information on consultation should be provided in advance, and appropriate venues and times (taking into account stakeholders' availability) should be selected in consultation with local community leaders who have local knowledge.

The use of local language and translation is critical. Focus group discussions, interviews and other participatory methods should be used. Meeting places should consider mobility and other physical constraints for participants and person to person interviews at convenient locations including door to door interviews should be considered, when measures and guidelines against COVID-19 can allow. Local institutions including schools, community-based organizations and community leaders should be approached to facilitate consultations.

There are several vulnerable groups and people along the proposed road project and who will be required to participate in stakeholder engagement activities. These include youths, women and individuals with low literacy levels, students, and persons with disabilities. These groups are at risk of exclusion from consultations and at risk of harm from poor project design.

Limitations related to participation include:

- limited representation or lack of opportunity to express self
- Fear of expressing themselves.
- Language and technology barrier;
- Transport limitations.
- Nature of the disability; and
- Cultural limitations.

The vulnerable groups normally rely on representatives for information. Representatives of the various groups will be identified along the road for engagement. Invitations for the consultations shall be made accessible in good time and with adequate information on the agenda to allow for meaningful participation of a broad range of stakeholders.

Engagement with the vulnerable groups and individuals often requires the application of specific measures and assistance aimed at facilitating their participation in the project-related decision making so that their awareness of and input to the overall process are commensurate with those of the other stakeholders. Consultations will be made at time and places that are suitable for participation by the identified groups including women, youths and others. The services to be offered to ensure an inclusive participation and consideration of concerns of the various groups will be based on identified communication needs and may include the following services: provision of transport to venues, translation into appropriate language, sign language, large print or leaflets; accessible venues for events; consultations in culturally appropriate manner and convenient venues and timing; small, focused and short meetings where vulnerable stakeholders are more comfortable asking questions or raising concerns.

### **5.4 Consultations and Inclusion Plan for Indigenous Peoples (IPs) groups**

This project will be implemented in West Pokot and Turkana counties (Morpus – Lokichar Section) that are characterized with high levels of poverty, high unemployment, low literacy levels, food insecurity and poor access to basic services including health, education, and water. Most of the population along the road fit the criteria as Indigenous Peoples, thus those considerations will be included in the design. The Borrower will proactively engage with all groups fitting these criteria to ensure their ownership and participation in project design, implementation,

monitoring and evaluation. The Borrower will also consult with them as to the cultural appropriateness of proposed services or facilities and will seek to identify and address any economic or social constraints (including those relating to gender) that may limit opportunities to benefit from, or participate in, the project. Thus, relevant channels, including local FM radio stations in local languages, will be used for communication and reference to traditional structures, e.g., elders or traditional leaders who are responsible for water management and conflict resolution, etc.

There are, however, additional vulnerabilities that affect the community, relegating some categories of people and groups to further disadvantage. These individuals and groups include: (i) minority groups such as minor clans and sub-clans; (ii) those who live in remote rural areas bereft of social services and amenities; (iii) nomadic pastoralists; (iv) PWDs; (v) female/child-headed households; and (vi) older people and those with chronic illnesses. Women and youth may encounter difficulties due to the way in which the communities are structured culturally and religiously, with authority vested in older men who then tend to make decisions with little or no regard to them.

There are social, economic, and physical barriers that prevent the groups from fully participating in development projects. These include lack of financial resources, inaccessibility of meeting venues, social stigma, low levels of literacy, lack of awareness and/or poor consultation. In this regard, the project will adopt and strengthen continuous stakeholder engagement to promote inclusion and ensure the representation of the disadvantaged and vulnerable groups in all project activities. Project teams will be trained on inclusion of IPs, disadvantaged and vulnerable the individuals and groups. In addition, the monitoring tools will have questions on inclusion and the results will be used to strengthen the project strategies. The project social specialists / Community Liaison officers (both at KenHA, Supervising consultant and contractors), and county PIT representatives will be very critical in promoting the social accountability and cohesion agenda and strengthening the relationship between the project and the IPs.

The selection of project investment sites shall take into consideration all the groups. For instance, construction of social amenities by the project (eg schools, health centers borehole rehabilitation and/or construction, etc) will consider access for minority groups like women and PWDs (e.g., access to the schools and borehole will need to be made friendly to PWDs).

## **5.5 Proposed strategies to incorporate the view of IPs**

The project will take deliberate measures to ensure that the IPs are consulted and have equal access to project benefits. This will include ensuring that they are involved in consultations on project siting and design, have access to employment and training opportunities, are involved in project management, and have access to benefits. In addition, efforts will be made to promote diversity in staffing and community level committees to reflect the local context. Communities also know vulnerable members of their communities better than external actors and should be engaged in the identification of the vulnerable and disadvantaged individuals and groups. Continuous stakeholder and community engagement will also be key in the sensitization of community level structures on the grievance mechanism.

The selection of sites will be discussed and agreed upon with the local communities to ensure that the IPs, are served as much as areas inhabited by the dominant clans and/or groups. To ensure equity in the distribution of the job opportunities, access to social amenities such as schools, health centres, water resources and points, etc, the engagement of representatives and members of these IP groups is critical. Where adverse impacts are likely, the PMT will undertake prior and informed consultations with the affected communities, based on the results of a local mapping exercise of the proposed subprojects. The primary objectives will be to:

- i. Understand the operational structures in the respective communities;
- ii. Seek the input/feedback of the IPs into the project to avoid or minimize the potential adverse impacts associated with the planned interventions;
- iii. Ensure equitable access to the social amenities and other project benefits;
- iv. Identify culturally appropriate impact mitigation measures; and
- v. Assess and adopt economic opportunities, which KeNHA could promote to complement the measures required to mitigate the adverse impacts.

Consultations will be carried out broadly in two stages. First, prior to commencement of any project activities, the PMT will arrange for consultations with community leaders, the existing local level development committees and representatives of the IPs, disadvantaged and vulnerable individuals and groups about the need for, and the



probable positive and negative impacts associated with, the project activities. Secondly, after initial roll-out of the project activities, a rapid assessment (perception survey) will be conducted to ascertain how the groups in general perceive the interventions and gather any inputs/feedback they might offer for better outcomes which would inform the project delivery. The PMT will:

- i. Facilitate the active participation of Ips, disadvantaged and vulnerable individuals and groups with adequate gender and generational representation; community elders/leaders; and CBOs;
- ii. Provide the groups with all relevant information about project activities including on potential adverse impacts;
- iii. Organize and conduct the consultations in forms that ensure free expression of the participants' views and preferences;
- iv. Document details of all consultation meetings, with the groups on their perceptions of project activities and the associated impacts, especially the adverse ones;
- v. Share any input/feedback offered by the target populations; and
- vi. Provide an account of the conditions agreed with the people consulted.

Once the IPs (and vulnerable and disadvantaged) groups are identified in the project area, the project will ensure mitigation measures of any adverse impacts of the project are implemented in a timely manner. The project should ensure benefits to the groups by facilitating their consultation, access to trusted complaints mechanism and benefits from project interventions.

The following activities will be undertaken during the implementation stage of the project:

- i. Provision of an effective mechanism for monitoring the implementation of this stakeholder engagement plan including the Ips, ;
- ii. Development of accountability mechanisms to ensure that planned benefits of the project are received by IPs, disadvantaged individuals and marginalized/vulnerable groups;
- iii. Involve suitably experienced CBOs/NGOs to assist in developing and implementing action plans;
- iv. Ensuring appropriate budgetary allocation of resources for the inclusion of this inclusion Plan;
- v. Provision of technical assistance for sustaining the activities that address the needs of the disadvantaged and vulnerable individuals and groups; and
- vi. Ensure that disadvantaged and vulnerable individuals and groups' traditional social organizations, cultural heritage, political and community organizations are respected and protected.

The plan presented in the Table below for when engagement is needed will be reviewed and updated throughout the lifecycle of the Project. During this process the focus and scope of the SEP may change to reflect the varying stages of project implementation and to encompass any changes in project design and lessons learnt from previous phases of the Project.

**Table 5-1: Stakeholder Engagement Methods and Tools**

<b>Target stakeholders</b>	<b>Topic(s) of engagement</b>	<b>Means of Communication</b>	<b>Project Activity</b>	<b>Timing / Frequency</b>	<b>Responsibilities</b>
National and County Governments and relevant institutions	Project information including Environmental and Social Safeguards instruments, benefits of the project, Grievance Redress Mechanism, Feedback	Information meetings (physical or virtual), Correspondence by phone/email Memos Letters Telephone presentations, workshops	Preparation stage  Throughout project cycle	As needed to establish intervention Channels for continuous feedback will also be in place (information desks, phone, email, web-platform).	KenHA
People likely to be affected by the project	Project information including Environmental and Social Safeguards instruments, benefits of the project, Compensation, livelihood/income restoration, Grievance Redress	Information meetings - One to one meeting Focus group discussions,  Surveys,  training programs, assessment studies  Project leaflets, presentations, workshops	Preparation stage Implementation stage  Throughout project cycle	As needed to establish intervention  Open channels for continuous engagement, GRC	KeNHA
Village and Local Authorities	Project progress, project information, benefits of the project, Grievance Redress Mechanism, Feedback	Information meetings - One to one meeting Focus group discussions,  Surveys,  training programs, assessment studies  Project leaflets, presentations, workshops	Preparation stage Implementation stage  Throughout project cycle	As needed to establish intervention  Open channels for continuous engagement, GRC	KeNHA

<b>Target stakeholders</b>	<b>Topic(s) of engagement</b>	<b>Means of Communication</b>	<b>Project Activity</b>	<b>Timing / Frequency</b>	<b>Responsibilities</b>
Civil society organizations and NGOs	Project progress, project information, benefits of the project, partnerships and joint programs, Feedback	Information meetings - One to one meeting  Periodic project consultations, Project related surveys, Trainings		As needed to establish intervention  Open channels for continuous engagement, GRC  Centrally managed and implemented consultations with wider stakeholder group	KeNHA
Vulnerable and Indigenous Peoples groups  (Vulnerable includes but not limited to Women and women/child-headed households; elderly; persons with disabilities and their caregivers; minority groups, etc.)	In addition to including them in all consultation activities listed above, vulnerable groups will be targeted for: <ul style="list-style-type: none"> <li>Enhancing project bene</li> </ul>	Information meetings - One to one meeting Focus group discussions, presentations, workshops  Periodic project consultations, Project related surveys, Trainings	Preparation stage Implementation stage  Throughout project cycle	In each settlement as part of demand assessment studies and project related surveys; Training programs and other activities implemented under the project	KeNHA
Other interested parties	Project progress, project information, benefits of the project, Grievance Redress Mechanism, Feedback	Information meeting, presentation	Preparation stage Implementation stage  Throughout project cycle	Various places throughout project implementation on a need basis	KeNHA

## **5.6 Proposed Strategy for Consultation**

A variety of methods will be used to disclose information to project stakeholders. Disclosed information will allow stakeholders to understand the risks and impacts of the project, and potential opportunities. The project team will provide stakeholders with key information about the project:

- a) The purpose, nature and scale of the project;
- b) The duration of proposed project activities;
- c) Potential risks and impacts of the project on local communities, and the proposals for mitigating these;
- d) The proposed stakeholder engagement process highlighting the ways in which stakeholders can participate;
- e) The time and venue of any proposed public consultation meetings, and the process by which meetings will be notified, summarized, and reported; and
- f) The process and means by which grievances can be raised and will be addressed.

## **5.7 Review of stakeholder comments**

Upon disclosure of project information, a provision will be made for websites of implementing agencies where dedicated space in their portal will be provided for the general public and concerned stakeholders to submit their comments, observations and questions regarding the projects and various studies, assessments, proposals and draft regulations.

For information disclosed through meetings, instant feedback will be collected through designated rapporteurs who will be available during the meetings. Participating stakeholders shall also be given the freedom to take their own minutes of the proceedings and share a copy with the rapporteurs.

The project will conduct a survey at least bi-annually and receive feedback on various aspects of the project from the targeted project stakeholders, vulnerable and disadvantaged groups and the general public, and integrate the results into the project annual planning and review cycle. The results of the surveys will be disclosed through the website of the implementing agency.

## **5.8 Proposed strategy for Information Disclosure**

The project strategies for information disclosure will be tailored to the different stakeholders at the national and district levels.

In consideration of Covid-19 restrictions, the project will innovate ways for effective and meaningful consultations to meet project and stakeholder needs and adhere to the restrictions put in place by the government to contain virus spread. Strategies to be employed will include smaller meetings, small Focus Group Discussions (FGDs) to be conducted as appropriate taking full precautions on staff and community safety. Where meetings are not permitted, traditional channels of communications such as radios and public announcements will be implemented. Other strategies will include one-on-one interviews through phones and skype for community representatives, CSOs and other interests' groups. Appropriate formats and methods of disclosure and information sharing will be used. A central/national depository of all disclosed information will be maintained with the project implementing agency website.

Information on the different project components will be disclosed on the websites of the respective project implementing partners. Other means of communication including print media, local radio, television, public events, brochures fliers, social media, etc., will also be used.

In addition, information disclosure (including any safeguards documents) will be available at all county administration offices and county offices, with a summary of documents in local languages that can be understood by the local communities.

The information will also be disclosed in a variety of ways including on relevant government websites (on the website of the KeNHA that will be implementing the project, in a manner that is accessible and culturally appropriate, taking into account any specific needs of groups that may be differentially or disproportionately affected by the project or groups of the population with specific information needs (such as, disability, literacy, gender, mobility, differences in language or accessibility

## 6 GRIEVANCE REDRESS MECHANISM (GRM)

Grievance redress mechanisms (GRM) provide a formal avenue for affected groups or stakeholders to engage with the project implementers or owners on issues of concern or unaddressed impacts. Grievances are any complaints or suggestions about the way a project is being implemented. They may take the form of specific complaints for damages/injury, concerns about routine project activities, or perceived incidents or impacts. Identifying and responding to grievances supports the development of positive relationships between projects and affected groups/communities, and other stakeholders.

Grievance mechanisms should receive and facilitate resolution of the affected institutional or communities' concerns and grievances. AfDB Safeguard Policies states the concerns should be addressed promptly using an understandable and transparent process that is culturally appropriate and readily acceptable to all segments of affected communities, at no cost and without retribution. Mechanisms should be appropriate to the scale of impacts and risks presented by a project.

Grievances can be an indication of growing stakeholder concerns (real and perceived) and can escalate if not identified and resolved. The management of grievances is therefore a vital component of stakeholder management and an important aspect of risk management for a project. Projects may have a range of potential adverse impacts to people and the environment in general, and identifying grievances and ensuring timely resolution is therefore very necessary.

The following sections describe the proposed procedures that will be followed to address complaints or concerns submitted by people who may benefit from or impacted by the proposed project. It intends to provide clarity and predictability on how complaints will be received, assessed, sorted, resolved and monitored.

### 6.1 Grievance Handling Mechanism Structure

#### 6.1.1.1 Members of the Grievance Redress Committee (GRC) at project Level

The Deputy County Commissioner will be the chairman of the GRC, with the RE being the secretary of the committee or a person the RE might appoint as his representative.

The proposed members of the grievance committee are as follows.

Table 6-1: Proposed structure of the GRC

Name / organization	Representing
Local Administration (eg Sub County Commissioner)	Government - Chairman
Area Administration (eg Chief)	Government - member
Community representative	Community - member
Resident Engineer (RE)	Consultant – Secretary
Safeguard specialist (Consultant)	Consultant - Member
NEMA representative	NEMA – Member
Contractor representative	Contractor - Member
NGOs	NGOs – representative of various NGOs
County Government	Appointed member from the county - Member
Institution stakeholders (eg traders, transporters etc)	Users – Member
Other Stakeholders	As may be determined during the implementation of the project

**NB: Other members can be added or removed as required depending on the needs of the communities as advised by the local leadership.**

The main role of the committee will be arbitration through mediation and negotiation when complaints arise to ensure that cases are resolved quickly and fairly. The above committee shall normally meet once per month and may form special sub-committees or ad-hoc committee that shall meet on a weekly basis or more frequently as the nature of some grievances may demand. Such sub-committees or special ad-hoc committee will report their findings and recommendations to the main committee for ratification or approval.

The GRC shall be issued with ToRs by the implementing agency (KeNHA) on their roles and responsibilities, with a clear period of tenure. In addition, facilitation of the GRC shall be done accordingly based on applicable government rates. A provisional budget of Kshs 20 Million for GRM implementation and facilitation has been provided for in the ESMP of the projects.

## **6.2 Key staff coordinating Grievance Redress**

The Resident Engineer will be designated as the person in charge of Grievance Redress. In regard to GRM, the following will be their responsibilities;

- Coordinate formation of Grievance Redress Committees (GRCs) before the commencement of construction to resolve issues.
- Act as the Focal Point for the client (KeNHA) on Grievance Redress issues and facilitate the grievance mechanisms.
- Create awareness of the Grievance Redress Mechanism (GRM) amongst all the stakeholders through public awareness campaigns.
- Assist in Redress of all Grievances by coordinating with the concerned parties.
- Maintain information of grievances and Redress.
- Monitor the activities on Redress of Grievances.
- Prepare the progress for monthly/quarterly reports.
- Provision of resources to cover the operational costs of the GRM (facilitation costs etc).

## **6.3 6.3 Receiving Complaints**

### ***Points of receipt of complaints***

The various points of receiving complaints would be as follows:

- i. County Governments administration;
- ii. Local chief's office;
- iii. KeNHA office (at headquarters)
- iv. Contractor or RE office
- v. Ministry of Transport, Infrastructure, Housing and Urban Development (MoTIHUD)
- vi. Representative at the community level

### ***Mode of receipt and recording of Complaints***

The complaints can be made in writing, verbally, over the phone, by fax, emails or any other media. As soon as the officer receives a complaint he /she would issue an acknowledgement of the complaint, including the details of the person bringing the grievance. The officer receiving the complaints should try to obtain relevant basic information regarding the grievance and the complainant and will immediately inform the safeguard specialist the receipt of the complaint.

The RE will maintain a Complaint / Grievance and Redress register or log book and the responsibility of keeping records collected from relevant bodies will be the responsibility of the supervising consultant safeguard specialist.

After registering the complaint in the Grievance Redress Registration and Monitoring Sheet, the safeguard specialist would study the complaint made in detail and forward the complaint to the concerned officer with specific dates for replying and redressing the same. He/she would hold meetings with the affected persons / complainant and then attempt to find a solution to the complaint received. If necessary, meetings have to be held with the concerned affected persons / complainant and the concerned parties to find a solution to the problem and fix up plans to redress the grievance. The deliberations of the meetings and decisions taken are recorded and minutes of the meetings filed.

A grievance process is presented in Table 9-1 in the next page.

### ***Registry and Monitoring***

All complaints received will be entered into a publicly accessible system that will allow complaints to be tracked and monitored. The system will also present a database showing:

- No of complaints received.
- No and % of complaints that have reached agreement.
- No and % of complaints that have been resolved.
- No and % of complaints that have gone to mediation
- No and % of complaints that have not reached agreement.

The database should also show the issues and geographic areas most complaints circle around. The information provided by the database is expected to help KeNHA to improve the Grievance Redress Mechanism and better understand and address the environmental and social impacts of the project.

Table 6-2:: **Grievance Redress Process**



Process	Description	Time frame	Other information
Identification of grievance	Face to face; phone; letter, e-mail; recorded during public/community interaction; others	1 Day	Email address; hotline number
Grievance assessed and logged	Significance assessed and grievance recorded or logged (i.e. in a log book)	4-7 Days	Significance criteria: Level 1 –one off event; Level 2 – complaint is widespread or repeated; Level 3- any complaint (one off or repeated) that indicates breach of law or policy or provisions in other project documents
Grievance is acknowledged	Acknowledgement of grievance through appropriate medium	7-14 Days	-
Development of response	Grievance solved at Tier 1 Resolved at East Africa Skills for Transformation and Regional Integration Project (EASTRIP level) Response development with input from management/ complainant/relevant stakeholders.	4-14 Days	RE and complainant to sign off
Response signed off	Grievance closed Redress action approved at appropriate levels	Within above timelines	RE to sign off
Grievance not solved, passed to GRC	Grievance passed to appropriate party for resolution (GRC) – Tier 2. Redress action approved at appropriate levels.	7-14 Days	GRC and complainant to sign off
Implementation and communication of response	Redress action implemented and update of progress on resolution communicated to complainant.	Within 7 days	
Complaints Response	Redress action recorded in grievance log book.  Confirm with complainant that grievance can be closed or determine what follow up is necessary.	4-7 Days	
Grievance not solved,	Grievance passed to appropriate party for resolution. Final decision communicated to complainant.	7 -14 days	Complainant to sign off
Close grievance	Record final sign off of grievance.  If grievance cannot be closed, return to step 2 or refer to sector minister or recommend third-party arbitration or resort to court of law.	4-7 Days	Final sign off on by KeNHA

#### 6.4 Grievance Redress Mechanism Process

The stakeholders are informed of various points of making complaints (if any) and the RE collect the complaints from these points on a regular basis and record them. This is followed by coordinating with the concerned people

to address the grievances. The RE will manage the grievance activities at the respective stakeholder's level to address the Grievances and would act as the focal point in this regard.

The complaints are received at various points as described above.

A 3- tier Redress structure is proposed to address all complaints for the proposed project effectively.

**a) First tier of Redress**

The first tier is divided into two parts where a complainant can register his grievances and resolved quickly:

- i. Village redress led by local leadership such as the Local Chief or Assistant chief, Nyumba Kumi leaders, or any other locally recognized respected member of the society
- ii. Project level redress led by Resident Engineer and/or Contractor's representative

**i. Village Level GRM**

Some parties show preference for an alternative mechanism which utilizes the use of Village Level GRC. The village level GRC is categorized with the following recommended membership;

- Assistant/sub locational chief,
- Nyumba Kumi Leader
- Nyumba Kumi representatives
- One project affected youth,
- One project affected woman,
- One project affected male
- Persons with Disability
- Ward Administrator
- Contractor representative

**ii. Resident Engineer**

The other resolution at this first tier will be normally be by the RE at the project level. If the affected party / complainant does want to use the Village level GRC, he is free to forward his grievances to the Resident Engineer's office directly.

Resolutions at Village GRC or the RE shall be done within 14 working days and notified to the concerned through a disclosure form. Should the Grievance not be resolved within this period, this would be referred to the next level of Grievance Redress. However, if any of the above two mechanisms feels that adequate solutions are worked out but it would require a few more days for actions to be taken, the leaders of these mechanisms can decide on retaining the issue at this level by informing the complainant accordingly. However, if the complainant requests for an immediate transfer of the issue to the next level, it would be accepted and the issue would be taken to the next tier, especially if the issue is not addressed within 21 days.

**b) Second tier of Redress**

The Grievance Redress Committee (GRC) would be the one which would address the grievance in the next level in case the problem is not solved at the first tier. The RE will coordinate with the respective chairman of the GRC in getting this Committee to meet and get the necessary circulars issued in this regard so that they can be convened whenever required.

The RE will coordinate the convening of the meetings of the GRC. He / She is also responsible for briefing the GRC on the grievances and deliberations of the first level of Redress, outcomes and on the views of both the parties (project and complainant).

The GRC will hold the necessary meetings with the affected party / complainant and attempt to find a solution acceptable at all levels. The GRC would record the minutes of the meeting and filed by the RE. The decisions of the GRC will be communicated to the complainant formally and if he/she accepts the resolutions, the complainant's acceptance is obtained in writing and signing off is done between the complainant and the GRC.

If the complainant does not accept the solution offered by the GRC, then the complaint is passed on to the next level / or the complainant can reach the next level for redress. The Chairman of the GRC would be required to forward the issue to the Third Tier to facilitate in exploring a solution to the grievance. In any case, the grievance should be forwarded to the next level if no solution is reached within 14 days of the case reaching the second level. However, in cases nearing offering an amicable solution, it can be retained to an extent of 21 days.

### **c) Third tier of Redress**

If the affected party / complainant does not agree with the resolution at the 2nd level, or there is a time delay of more than a month in solving the issue, the complainant can opt to consider taking it to the third level.

Where an agreement has not been reached, the complainant will be offered the option of an independent mediation process at an alternative arbitration body such as local arbitration arrangements, local administration, or other avenues as might be prescribed in the country constitution before legal redress. The RE will collect all the details of the Grievance including the deliberations of first tier efforts and of the GRC and present it to the 3rd level tier. The 3rd tier structure will deliberate upon the issue and give suitable recommendations. The minutes of the meetings will be recorded and kept at KeNHA office.

The decisions of the 3rd tier structure would be final from the project side and will be communicated to the complainant formally and if he/she accepts the resolutions, the complainant's acceptance is obtained and signed off by the complainant and the 3rd tier structure, including the project GRC.

The Complainant may decide to take a legal or any other recourse if he /she is not satisfied with the resolutions of the deliberations of the three tiers of GRM.

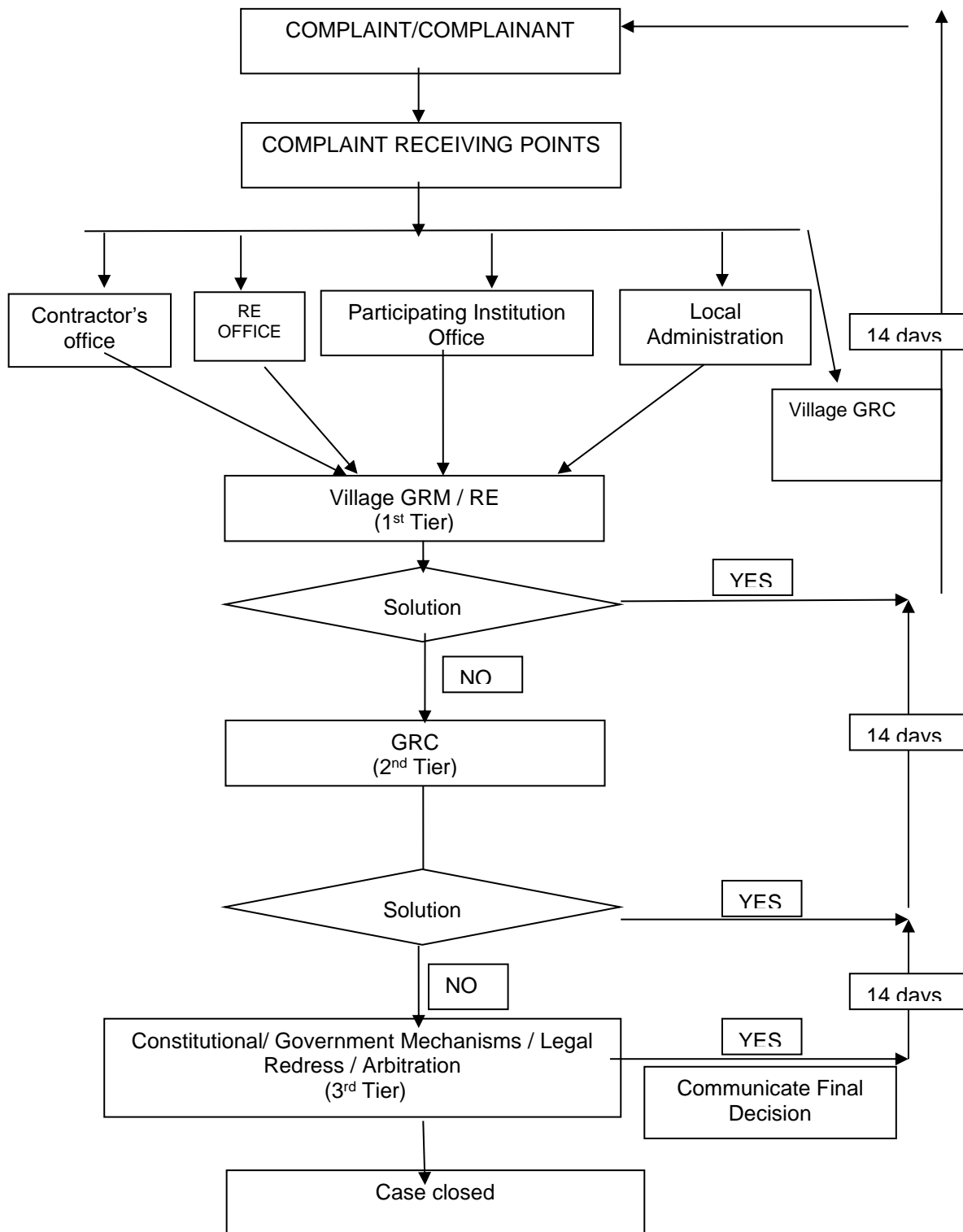
***It should be encouraged that the 2 levels of handling the grievances should be exhausted extensively before one goes to courts as last resort.***

## **6.5 GRM Jurisdiction**

The proposed GRM is project specific and scaled to the risks and impacts of the Project. It is meant to solve the project's concerns by the stakeholders or any complainant. The proposed GRM is however not intended to bypass any Governments' own existing redress process; rather is intended to address affected people's concerns and complaints promptly, making it readily accessible to all segments of the affected people. Any established Government Redress mechanisms takes priority over the proposed GRM. The GRC's term shall have a Terms of Reference (ToR), tenure and timeless when the GRC will be closed.

The figure on the next page shows a proposed Grievance Redress Mechanism flow process for the proposed project. This will be reviewed and customized to address any missing gaps before establishment as required.

Figure 6-1 Grievance Redress Flow Process



## 6.6 GBV Related Grievance Redress Mechanism

When GBV related complaint is received at the first or second tier of GRM, the complaint should be kept confidential, by the person/persons receiving the complaint, and immediately reported to KeNHA and the national police as required by the law. The complaint should be reported to the relevant committee and immediate actions should be taken that is consistent with the wishes and choices, rights and dignity of the complainant. The complainant should be given information in simple and clear terms on the steps for filing complaints and the possible outcomes, the timelines and the types of supports available to be able to make informed decision.

For GBV cases, it is important to ensure that access to the complaints processes is as easy and as safe as possible for the complainant survivor. The recording of incidence should be limited to the nature of complaint put exactly in the words of the complainant, the age of the survivor and if possible, to the best of their knowledge, the perpetrator was associated with the project. The complainant should decide on whether they would like to be referred to the grievance committee and the complainant should give consent to share basic monitoring data.

**Safety & Well-Being:** The safety of the survivor shall be ensured at all times including during reporting, investigation, and the provision of victim assistance. Those involved in the management of complaints will need to consider potential dangers and risks to all parties (including the survivor, the complainant if different, the subject of the complaint, and the organizations involved), and streamline ways to prevent additional harm in all the complaint handling process.

The survivor is never to blame for reporting an act of GBV and should never be made to feel investigated. On the contrary, it is important that she/he feels that her/his story is heard, believed and valued. The actions and responses of the complaint mechanism will be guided by respect for the choices, needs, rights, and the dignity of the survivor.

**Confidentiality:** The confidentiality of complainants, survivors, and other relevant parties must be respected at all times. All GBV-related information must be kept confidential, identities must be protected, and the personal information on survivors should be collected and shared only with the informed consent of the person concerned and on a strict need-to-know basis.

**Survivor-Centred Approach:** All prevention and responses action will need to balance the respect for due process with the requirements of a survivor-centred approach in which the survivor's choices, needs, safety, and wellbeing remain at the center in all matters and procedures. As such, all actions taken should be guided by respect for choices, needs, rights and dignity of the survivor, whose agency and resilience must be fostered through the complaint process.

**Accessibility and non-discrimination:** The mechanism must be accessible to all potential complainants and sufficient information must be given on how to access it, making the complaints process accessible to the largest possible number of people. This includes identifying and instituting various entry points that are both gender and context sensitive. To facilitate incidents reporting and avoid stigmatization, reports from third parties (witnesses, people suspicious or aware of an incident, etc.) must also follow accountability protocols.

## 6.7 Handling GBV and SEAH

Cases of GBV/SEAH can be reported through the general Project Grievance Mechanism (GM). However, GBV/SEAH survivors will have the opportunity and right to report an incident to anyone: project staff, community member; GBV case manager; or service provider. Given to the sensitive nature of GBV/SEAH complaints, the GM will provide different ways to submit grievances such as phone, text message and email. All relevant staff of the PMT and contractors will receive training on handling GBV/SEAH complaints and referral systems, ideally during the project initiation phase and as part of the staff welcome package. The GM operators will be trained on key protocols including referral, reporting and informed consent protocols on receiving GBV/SEAH cases in an appropriate manner and immediately forward them to the GBV/SEAH referral system. The GM operators will ensure appropriate response by: (i) providing a safe caring environment and respect confidentiality and wishes of the survivor; (ii) if the survivor agrees, obtain informed consent, and make referrals; and (iii) provide reliable and comprehensive information on the available services and support to GBV/SEAH survivors.

The GM proposes the following key features on preventing GBV/SEAH: (i) establish quotas for women in community level grievance management to facilitate safe reporting; (ii) provide multiple channels to receive complaints (channels to be determined after community consultation); (iii) resolve complaints at the point of service delivery to reduce information and transaction costs; (iv) avail gender sensitive independent channels for redress; and (v) communicate GM services at the community level to create GBV/SEAH awareness and enable project-affected persons to file complaints.

Beneficiaries and communities will generally be encouraged to report all GBV/SEAH cases through the dedicated GBV/SEAH referral system and complaints resolution mechanism. This will be made explicit in all community awareness sessions, as well as be part of the publicly disclosed information. The GBV/SEAH referral system will guarantee that survivors have access to the critical services they may need, including medical, legal, counselling, safety and that cases are reported to the police should the survivor choose to do so. Formal processes for disclosing, reporting, and responding to cases of GBV/SEAH will be articulated within the SEAH Prevention and Response Plan.

If a GBV/SEAH case is reported through the Project GM, the GM operator will report the case within 72 hours to the PMT, and the PMT is obliged to report this case to the AfDB within 24 hours. Furthermore, cases of SH will be reported through the workers' GM, if it concerns a direct worker or a worker from a sub-contractor, NGO partner or even a community worker following a survivor-centered approach. The PMTs will oversee holding sensitization sessions for contractors and primary suppliers regarding the Code of Conduct (CoC) obligations and awareness raising activities in communities. All reporting on GBV/SEAH will limit information in accordance with the survivor's wishes regarding confidentiality, and in case the survivor agrees on further reporting, information will be shared only on a need-to-know-basis, avoiding all information which may lead to the identification of the survivor and any potential risk of retribution.

#### **6.7.1 Gender Based Violence Referral System**

Given the sensitivity and the low level of understanding of GBV related matters in the community at large and the stigma attached to it; also taking into consideration the social and psychological damages that are usually associated with it, all cases of GBV will be handled through a special Internal Task Force for GBV. The task force will include project staff namely: Social Safeguards Specialist from the PMT, County Gender Monitoring Officer, Social Safeguards Specialist from the supervising firm, Women representative from the GRC at project level and Contracted GBV service provider in the area of GBV prevention and referral pathways for the GBV survivors for the project (and any other relevant person or stakeholder that might be identified in the area). From there onward, all existing legal channels will be used and in case of conviction the perpetrator will be punished in accordance with the law. The same mechanism applies to any sexual interaction between employees with underage children. In any case, the PMT E&S Specialists will closely follow up.

#### **6.8 Building Grievance Redress Mechanism Awareness and Training**

The Project Environmental and Social Specialists will initially train all staff of the project office, the KeNHA Project team, and consultants on the Grievance Redress Mechanism and GBV complaints mechanism of the Project and explain to them the procedures and formats to be used including the reporting procedures.

The project Social Specialist will brief all project stakeholders on the Grievance Redress Mechanism of the Project and explain the procedures and formats to be used including the reporting procedures. Training and awareness campaigns shall be conducted targeting project stakeholders to inform them of the availability of the mechanism; various mediums will be used. The GRM will also be published on the website of the implementing agency and those of the implementing partners. A project site board will be erected on the project sites indicating the existence of the mechanism and a phone number, email and address for further information. The GRM will be translated into the local language as appropriate, and information about the GRM distributed at all administration offices and county offices along the project area of influence.

## **6.9 Monitoring and Reporting of GRM**

The Social Safeguards Specialists and/or Environmental Specialists for the project will prepare the Monthly Reports on the Grievance Redress issues of the project.

The Grievance Redress Committee may review the nature of grievances that have been represented and if grievances are repeated, recommend suitable changes in implementation procedures and forward these to the Project team for implementation.

The following indicators could be used as monitoring purposes:

- Number of active project complaints and appeals recorded and reported in different sites
- Percentage of grievance redressed claims settled within the specified/reporting period
- Percentage of unresolved complaints or disputes during the monitoring/reporting period
- Comments received by government authorities, women, youth, family, community leaders and other parties and passed to the Project.

## 7 STAKEHOLDER ENGAGEMENT MONITORING AND EVALUATION

Stakeholder Engagement monitoring involves collecting data, assessing the level of engagement and using insights from the data collection to adjust strategies and tactics for engaging effectively with stakeholders. These will be responsibility of KeNHA Project team in collaboration with stakeholders at the project level.

Monitoring will verify Compliance and effectiveness of the SEP and other safeguards instruments, and application of the recommended standards, stakeholder engagement and implementation of the grievances redress mechanism

Annual reviews of the project and the implementation of the SEP and other Safeguards Instruments will be conducted at the end of each year. The monitoring reports for E&S implementation will be prepared by an independent consultant and will be used as a monitoring and review tool to track effectiveness. In the review process, the Project team will play the lead role in coordinating the process with key stakeholders.

### 7.1 Monitoring and Evaluation

The project will establish and maintain a database and activity file detailing public consultation, disclosure information and grievances collected throughout the project, which will be available for public review on request. Stakeholder engagement shall be periodically evaluated by the Project team. The following indicators (but not limited ) will be used for evaluation:

- i). Bi-annual grievances received, speed of resolution and how they have been addressed; and
- ii). Level of involvement and participation of stakeholders including project affected people (disaggregated by gender and vulnerable groups).
- iii). Incidents and accidents
- iv). Number of women who participated in focus group meetings, workshops and other public meetings
- v). Number of women and men in underserved communities who participated in FGD, public meetings and workshops
- vi). Number of communication materials produced and disseminated in local languages in underserved places

### 7.2 Reporting

The Project team will prepare and regularly avail important information on project status to stakeholders (based on information need) including project implementation progress, actions on commitments made to various stakeholders and any new or corrected information since the previous report. Table 10 outlines some of the reports, target audience, method of correspondence and timelines

**Table 7-1: Methods and frequency of reporting to stakeholders**

Reporting Party	Reporting Method	Stakeholder	Reporting Information	Frequency
KeNHA Project Team (led by Safeguard Team)	Official Correspondence ✓ Correspondence by email or postal mail ✓ Website and social media	✓ All relevant stakeholders	Project progress ✓ Plans for next step ✓ Issues and changes	Quarterly ✓ when changes occur



### 7.3 Stakeholder Monitoring Plan

Stakeholders' engagement plan shall be developed and implemented in the project, and shall aim at identifying the key stakeholders, their roles in the program, and form and frequency of engagement over the project cycle. Further, monitoring will be done to assess overall progress in implementation, and if implementation is as per the plan, any challenges and lessons learnt in the process of implementation and possible corrections. The monitoring results will be made available to the stakeholders for review and comments in an accessible place, mainly at the project level for transparency

**Table 7-2: Stakeholder Monitoring Plan- SEP**

No.	Program Phase	Type of Stakeholder	Consultation Method	Expected Outcome	Monitoring Indicator
1.	Planning and Assessment	Implementing institutions	meetings, Information Education and Communication (IEC) Materials	Full participation of Institutions on design and implementation	Report of the meetings
		Beneficiaries, Vulnerable individuals	meetings, Information Education and Communication (IEC) Materials	Extends program knowledge to beneficiaries	Disseminated materials
		Ministries/Agencies, Development Partners (DPs)	Information sharing, meetings, workshops	Attain needed support from other stakeholders, systematic engagement of stakeholders	No of consultations, Report of the meetings
		ALL	Information sharing, meetings, workshops Publication of environmental and social documents in the website	Informed all interested parties on the activities to be undertaken	Documents published on the website No. accessing the documents on the site
2.	Implementation phase	implementing institutions	Information sharing, meetings, workshops meetings, Information Education and Communication (IEC) Materials	Full participation on design, implementation and participatory monitoring	Disseminated materials, implementation reports
		PAPs, Participants, Vulnerable individuals	Information sharing, meetings, workshops Information Education and Communication (IEC) Materials, FGD	Full participation of communities (including vulnerable groups) on Program design, implementation and monitoring.	Minutes of FGD, Disseminated materials
		Project financier	Meetings	Provide needed support to Program design, implementation and participatory monitoring	Report from meetings, missions executed

## 7.4 Proposed SEP Timelines

A proposed SEP implementation timeline is proposed below. However, this can be changed to fit the dynamics of the project during implementation.

**Table 7-3: Stakeholder engagement plan and timeline**

Activity	Responsibility	Timing
Printing of communication materials for SEP and GM, establishment of toll free number, websites, etc	PMT	1 month before commencement of the civil works
Training of stakeholders on SEP and GM	PMT	1 month before commencement of the civil works
Inclusive consultations on selection and design of associated facilities	PMT and Counties	During the first year of project implementation
National and county stakeholder consultations workshop and updates on the project and GM	KeNHA	Quarterly
Community Engagement outreach meetings/workshop and updates on the project and GM, GBV/SEAH etc	County departments of transport and environment/Social	Quarterly
Communication on GRM, GBV/SEAH	PMT and independent consultants	Monthly
Project affected persons and beneficiary communities' awareness creation and progress reporting meetings	PMT/Supervising Consultants, 3 <sup>rd</sup> party monitoring consultants	Monthly
Stakeholder satisfaction/feedback survey	PMT/ Consultants	Annually

## 7.5 Performance of the SEP

The SEP will be periodically revised and updated as necessary (at least every 3 months) in the course of project implementation in order to ensure that the information presented therein is consistent and is the most recent, and that the identified methods of engagement remain appropriate and effective in relation to the project context and specific phases of the development.

## 8 RESOURCES AND RESPONSIBILITIES FOR IMPLEMENTING STAKEHOLDER ENGAGEMENT

The overall responsibility for implementation of the SEP lies with KeNHA. A designated staff member within the project implementation team will be designated to oversee implementation of the SEP and manage the grievance redress mechanism and all related outreach and training activities.

The project coordinator, other project team members, and all contractors and consultants implementing project activities will also share some of the responsibilities in the SEP and in the GRM process.

Table 8-1:: *Roles in the implementation of SEP*

Task team	Roles in implementation
KeNHA Project Management team (Including supervising consultants)	<ul style="list-style-type: none"> <li>▪ Manage and implement the Stakeholder Engagement Plan (SEP)</li> <li>▪ Dissemination of project information monitoring and reporting on project progress to all the relevant stakeholders – KeNHA will organize, at regular intervals, workshops involving representatives of all stakeholders to present project progress and seek stakeholder input</li> </ul>
Environmental and social specialists	<ul style="list-style-type: none"> <li>▪ Implement stakeholder engagement in line with the SEP.</li> <li>▪ Interface with stakeholders and respond to comments or questions about the project or consultation process.</li> <li>▪ Provide contact information if stakeholders have questions or comments about the project or consultation process.</li> <li>▪ Document any interactions with external stakeholders.</li> <li>▪ Maintain database, records for the SEP</li> <li>▪ Coordinating public meetings, workshops, focus groups etc.</li> <li>▪ Make sure the SEP is being adhered to and followed correctly.</li> <li>▪ Raise awareness of the SEP among project implementation unit, employees, contracted firms and relevant external stakeholders</li> <li>▪ Deliver information to stakeholders on complaint mechanism and procedures of the SEP</li> <li>▪ Update the SEP including updating the stakeholder identification, as relevant</li> </ul>

The stakeholder engagement activities featured above cover a variety of issues, which may be part of other project documents, so it is possible that they might have also been budgeted in other plans.

The table below summarizes key stakeholder engagement activities for better coordination and monitoring. KeNHA will review this plan on an annual basis to determine if any changes to stakeholder classification or engagement are required. If so, the plan will be updated and the budget will be revised accordingly.

**Table 8-2: Estimated SEP Budget**

<i>Stakeholder Engagement Activities</i>	<i>Quantity</i>	<i>Unit Cost, Kshs</i>	<i>Total cost (USD)</i>	<i>Remarks</i>
Community Engagement outreach meetings in different counties	12	400,000	4,800,000	Quarterly for 3 years
County Project Coordination team meeting	12	400,000	4,800,000	Quarterly for 3 years
Trainings on outreach and GRM for project staff, local authorities, other stakeholders (KeNHA & Counties)	6	200,000	2,400,000	3 Uasin Gishu, Trans Nzoia and Kakamega counties 1 West Pokot 2 Turkana 1 month before commencement of the civil works
Communication materials (leaflets, posters, PR kits including design, per county, establish tollfree lines, websites, etc)	-LS	-	2,000,000	Materials for distribution to counties and stakeholders 1 month before civil works commencement
Stakeholders satisfaction/feedback surveys	3	2,000,000	6,000,000	Annual for 3 years
<b>Total (SEP Management)</b>			<b>20,000,000</b>	Figure provided in the BoQ
<b>Project management costs for GRM Implementation</b>	<b>LS</b>		<b>20,000,000</b>	Provisional sum provided in the BoQ for staff travel, GRC allowances, hiring of halls, meals and accommodation, etc

## ANNEXES

### 8.1 Annex 1: Grievance Receipt and Resolution

Grievance/Complaint Registration Number..... Date.....

A. COMPLAINANT
<p><b>1. Important information of the Complainant</b></p> <p>First Name ..... Middle Name ..... Last Name: .....</p> <p>Occupation: ..... Title.....</p> <p>Address: .....</p> <p>Mob. Phone..... E-mail: .....</p> <p>Does the Complainant want his/her name to be revealed? YES..... NO....</p> <p><b>2. Who is complaining?</b></p> <p>i. Project Affected Persons (PAPs).....</p> <p>Specific PAPs are:</p> <ul style="list-style-type: none"> <li>• Institution staff.....</li> <li>• Student .....</li> <li>• Representative of complainant.....</li> <li>• Others .....</li> </ul> <p>ii. Technicians .....</p>
B. EXPLANATION OF THE GRIEVANCES
<p>1. Source of Grievance/Complaint.....</p> <p>2. Brief explanation of the Grievance/Complaint emanating from the project implementation....</p> <p>.....</p> <p>.....</p> <p>3. Event/person being complained about</p> <p>.....</p> <p>.....</p> <p>4. Place where the event occurred .....Date of the event .....</p> <p>5. Have you ever filed the same grievance before? .....Yes..... .....No.....</p>
C: LODGING THE GRIEVANCE/COMPLAINT
<p>1. Method used to lodge the grievance/complaint</p> <p style="padding-left: 40px;">Letter      Phone      Face to face      E-mail</p> <p>Others (Mention).....</p> <p>2. Name of Person registered and filed the complaint</p> <p>Name..... Position..... Date.....</p> <p>3. Agreed time frame for feedback on the processed grievance/complaint:</p> <p>(a) Immediately    (b) Three days    (c) One week    (d) Two weeks</p>
GRIEVANCE/COMPLAINTS RESOLUTION
<p>1. Date of conciliation session.....</p> <p>2. Was the complainant present? <b>Yes</b>    <b>No</b></p> <p>3. Was field verification of complaint conducted? <b>Yes</b>    <b>No</b></p> <p>4. Findings of field investigation</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>5. Summary of Conciliation Session</p>

.....

.....

6. Was agreement reached on the issues? **Yes**      **No**

7. If agreement was reached, give the details of the agreement

.....

.....

.....

8. If agreement was not reached, specify the points of disagreement and promise given to the client

.....

.....

.....

---

**Signed (Arbitrator/ Complaints handling Officer-GHO): .....** **Date.....**

**Signed (Complainant).....** **Date.....**

**Signed (Independent Observer) .....** **Date.....**

## 8.2 Annex 2: Grievance Acknowledgement Form (GAF)

The project acknowledges receipt of your complaint and will contact you within 7 working days.

<b>Date of grievance/complaint:</b> (dd/mm/yyyy)	
<b>Name of Grievant/Complainant:</b>	
<b>Complainant's Address and Contact Information:</b>	
<b>Summary of Grievance/Complaint:</b> (Who, what, when, where)	
<b>Name of Project Staff Acknowledging Grievance:</b>	
<b>Signature:</b>	
<b>Date:</b> (dd/mm/yyyy)	

**8.3 Annex 3: Grievance Redressal Registration Monitoring Sheet**

No	Date	Name	Sex	Contact	Address	Institution/ Organization	Complaint detail	Feedback	Date of closure
1.									
2.									
3.									
4.									
5.									
6.									
7.									
8.									



## 8.4 Annex 4: People met during consultations

### *Uasin Gishu County*

S/n	Name	Designation	Organization
1.	H.E Governor Jackson Mandago	Governor, Uasin Gishu County	Uasin Gishu County Government
2.	Eng Gedion Birir	CECM Roads, Transport, Public Works and Energy	Uasin Gishu County Government
3.	Eng Nelson Maritim	CECM Lands, Housing, Physical Planning and Urban Development	Uasin Gishu County Government
4.	Mr Kenneth Mbeka,	Chief Office Physical Planning and Urban Development	Uasin Gishu County Government
5.	Planner Daniel Koech	Director, Physical Planning and Urban Development	Uasin Gishu County Government
6.	Ms Ruth Chelashaw	Chief Officer, Lands and Housing	Uasin Gishu County Government
7.	Eng Benjamin Kirongo	Director, Roads	Uasin Gishu County Government
8.	Cyprian Chesire	Senior Planner	Uasin Gishu County Government
9.	Jael Maritim	Communication	Uasin Gishu County Government
10.	Stephen K Kihara	County commissioner office Uasin Gishu County	National Government

### *Trans Nzoia County*

1.	HE Governor Patrick Khaemba	Governor, Trans Nzoia County	County Government
2.	Pierra Ntongai	Assistant County Commissioner (ACC) Moi's Bridge (Uasin Gishu)	National Government
3.	Charles Moyaya	DCC Lukuyani(Kakamega County)	National Government
4.	Catherine sicela	Head teacher	St Teresa Matunda- Kakamega County
5.	Jane Makokha	Head teacher	Matunda primary -Kakamega County
6.	Tima Omar	Administrative 1 officer 1	Trans-Nzoia County
7.	Charles Munialo	Deputy CEC road and transport-	Trans-Nzoia county

### *West Pokot County*

S/n	Name	Designation	Organization
11.	H.E Governor John Lonyangapou	Governor	West Pokot County Government
12.	Mr. Luka Chepelion	, County Executive Committee (CEC), Department of Water, Environment and Natural Resources	West Pokot County Government
13.	Eng Nelson Maritim	CECM Lands, Housing, Physical Planning and Urban Development	West Pokot County Government
14.	Mr. Abraham Powon,	Director of Water	West Pokot County Government
15.	Mr. Cliff Barakach	, County Director	NEMA

S/n	Name	Designation	Organization
16.	Stephen K Kihara	Deputy County Commissioner	National Government
17.	Johnathan Karita	County Secretary	West Pokot county
18.	Linus Losialima	Chief Officer Civic Education	West Pokot county
19.	Partson Lipa	Security advisor	West Pokot county

**Turkana County**

S/n	Name	Designation	Organization
1.	Josphine Ekal	Snr. Chief	Lokichar
2.	Henry Etabo	Chief	Kalemongorok
3.	Patrick Longit	Ass. Chief	Kaptir Junction (Katilu Location)