Kenya National Highways Authority

Quality Highways, Better Connections

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, ENVIRONMENTAL AND SOCIAL IMPACT STUDY, PRELIMINARY AND DETAILED ENGINEERING DESIGN OF KERICHO BYPASS ROAD PROJECT

CONTRACT NO.: KENHA/RD/HPD/3175/2020

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT STUDY REPORT.

MAY 2023

Client:	**Submitted By:**
Kenya National Highways Authority Quality Highways, Better Connections **Director General,** **Kenya National Highways Authority,** **Barabara Plaza, Block A & C, Jomo Kenyatta International Airport(JKIA),** **Off Airport South Road, along Mazao Road** **P. O. Box 49712-00100,** **NAIROBI, KENYA.**	Wanjohi Mutonyi Consult Ltd. Engineers • Environmentalists • Project Managers **Wanjohi Mutonyi Consult Limited** **Corner Ngong/Ndemi Roads** **P.O. Box 21714-00505** **Nairobi, Kenya** **Tel: +254- 20-3876690/1/2** **Fax: +254-20-3876693** **Email: wce@kenyaweb.com**

AUTHENTICATION PAGE

CONSULTANT'S ADDRESS AND AUTHORIZED NEMA REGISTERED SIGNATORY

LEAD EXPERT

Name …….

NEMA Registration No…….

Signature……

Date …….....

ASSOCIATE EXPERT

Name…….

NEMA Registration No…….

Signature……..

Date……

For:

PROPONENT

Kenya National Highways Authority (KeNHA)
P.O Box 49712-00100
Nairobi
+254 (20) 8013842
dg@kenha.co.ke

I the undersigned confirm that the contents of this report are a true representation of the Environmental and Social Impact Assessment project report of the **Kericho Bypass Road Project.**

Name……

Designation……

Signature……..

Date ……

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF PLATES

LIST OF ABBREVIATIONS AND ACRONYMS

EA	Environmental Assessment
EMCA	Environmental Management and Conservation Act
ESIA	Environmental and Social Impact Assessment
GoK	Government of Kenya
KeNHA	Kenya National Highways Authority
km	kilometer
EMMP	Environmental Management and Monitoring Plan
Ltd.	Limited
MDD	Maximum Dry Density
MoTIHUD	Ministry of Transport, Infrastructure, Housing and Urban Development
NEMA	National Environment Management Authority
No.	Number
OSHA	Occupational Health and Safety Act
NGO	Non-Governmental Organization
PAPs	Project Affected Persons
PPE	Personal Protective Equipment
RAP	Resettlement Action Plan
Ref.	Reference
TOR	Terms of Reference
WCE	Wanjohi Consulting Engineers
WMCL	Wanjohi Mutonyi Consult Ltd.
HH	Household Head
KeRRA	Kenya Rural Roads Authority
KES	Kenya Shillings
NCA	National Construction Authority

EXECUTIVE SUMMARY

Project Background

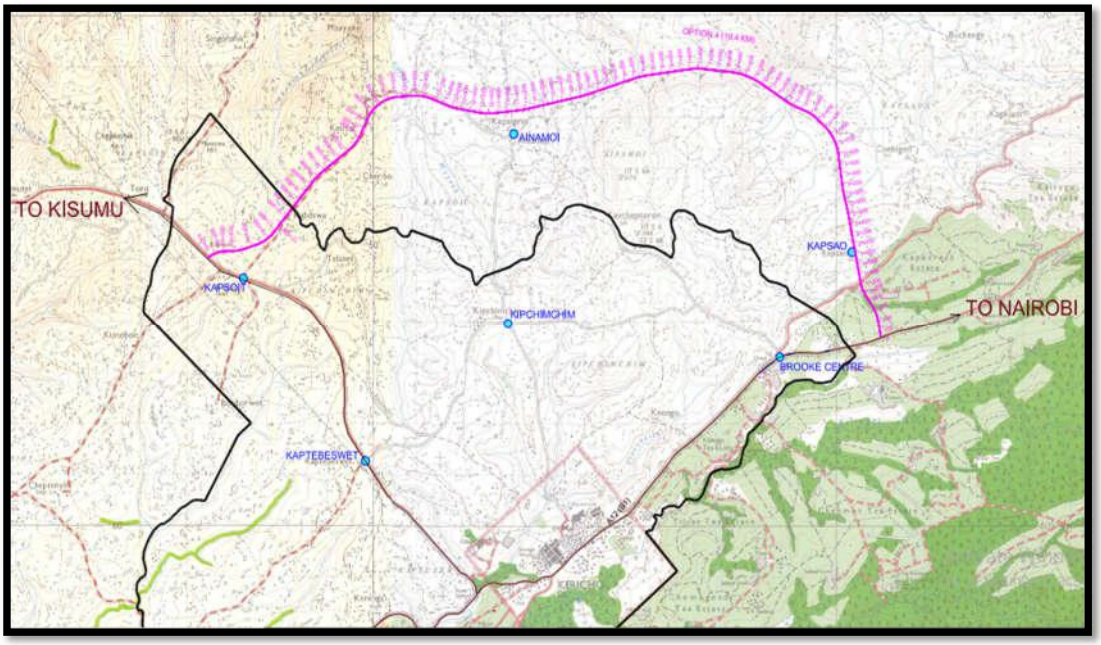
The Government of the Republic of Kenya (GoK) has earmarked funds through the Development Vote for use in engaging the services of a Consultancy Firm to undertake preliminary and detailed engineering design of Kericho Bypass. Kericho Bypass Road is one of the bypasses of Kenya major towns. The project is located in kericho County off the busy Mau Summit-Kisumu - Busia (A12) Highway. The bypass traverse to the northwest of Kericho town off the highway (Mau Summit-Kisumu). The project is critical to primarily alleviating traffic snarl ups within the town by rerouting through traffic away from the CBD.

The Government of Kenya, through its implementing agency, the **Kenya National Highways Authority (KeNHA)** has engaged **Wanjohi Mutonyi Consult Limited** to render all technical support services relevant to this exercise towards the achievement of the project objectives. Among other services preparation of The environmental and social Impact assessment (ESIA)has undertaken and conformed with Kenya legal requirement and the international best practices.

Project Description and Location

The project road is located in Kericho County towards the Western part of Rift Valley highlands. Kericho town is located at the T-junction between the Mau Summit-Busia (A12) road (formerly B1) and the Kisii-Litein-Kericho (B6) road (formerly C23).

The project road starts at approximately chainage km -2+300 from Brooke Centre (which is taken as chainage 0+000 for the purpose of this description) and traverses in a North Westerly direction up to Ainamoi Centre. It then takes a South-Westerly trajectory to join the A12 Highway at Kapsoit. The route measures about 19. 4km.The road passes through small scale mixed agriculture land use system with tea as the main crop grown.



Scope of work

The scope of services will involve, inter-alia,

a) Review of the existing data on the proposed road project and social and economic activities in the project study area and producing an economic feasibility study report
b) Collection of social, environment, and physical data that is necessary to assist in the
c) design of the project road
d) Preliminary engineering survey and design work for the optimum alignment and design standards including preliminary cost estimates and implementation schedule
e) Carrying out an environmental impact assessment study of the project area in relation to the proposed project best international standards, Kenyan legislation and NEMA guidelines.
f) Carrying out of gender analysis in relation to the proposed project as outlined in the Terms of Reference.
g) Preparation of draft bidding documents
h) Carry out a detailed engineering survey and design including engineering cost estimates
i) Materials investigations and tender documents for the selected alignment

Project Objectives

The project objectives are;

a) Alleviating traffic snarl ups within the town by rerouting through traffic away from the CBD area
b) To reduce travel times by giving motorists an alternative to the 50kph limits imposed on the highway within the town sections
c) Enhancement of road safety and safeguarding urban roads against heavy truck loading
d) Reducing noise and pollution caused by emissions by vehicles in urban centres.

Need for ESIA

The proposed bypass will be a dual carriage way with service lane and a median reserve. The road design has adopted 90m road reserve as the project road corridor. The project is anticipated to have environmental, social and economic effects during project design, implementation, operation and decommissioning phases. This ESIA report is prepared in a view to recognise the major impacts anticipated during the project life cycle and proposes measures that will eliminate, reduce, or mitigated all anticipated Negative impacts. Major anticipated impacts will be the displacement of people from their ancestral land among other effect. Due to these reasons a detailed environmental and social impact assessment study has been carried out for the proposed project.

Also, the study id fashioned to enhance the implementation and adoption of anticipated positive impacts during all project life cycle. This impact includes but not limited to; job creation, eases transportation in the region etc.

The study has assessed the anticipated effects of the project proposes their mitigation measures and developed an environmental and social management tool for monitoring and identification of unforeseen effects of the project during the project life cycle. The

Environmental and Social Impact Assessment Study has been carried out in accordance with environment management and coordination act of 1999 (amendment 2015).

Objective of the ESIA Study

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.

The specific objectives of the assignment are:

a) Identify all the potential significant positive and adverse environmental and social impacts, including direct, indirect and cumulative impacts associated with the project.
b) 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.
c) Develop an Environmental and Social Management Plan (ESMP)
d) 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.
e) 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.
f) To come with appropriate budget for environmental, social and, health and safety mitigation measures for the subproject.
g) To document all the above mitigation and development interventions in acceptable format to be further discussed and agreed with KeNHA in compliance with international best Practices on EHS guidelines.

The 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) was applied in the ESIA Study. Baseline data on the project was first carried out through discussion with the client and review of project documents. Opinions formed were validated through fieldwork entailing site investigations and interviews with key primary stakeholders (e.g. traders, shoppers, county government officials, and residents living along the road project, e.t.c). The study also entailed holding public consultation meetings with residents living along the road project and other stakeholders. Providing basis for identifying, predicting, analyzing, and evaluating potential impacts that may emanate from the project.

Diverse study methods and tools including scoping the project area, use of questionnaires, direct stakeholder consultations, holding public consultation meetings, and observations were employed. An Environmental and Social Management Plan comprising of an impact mitigation plan and modalities for monitoring and evaluation was then developed to guide environmental and social management during all phases of project development. 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 Alternative

No project Alternative- In the analysis of ‘‘no action’ option” scenario, the following criteria is used; past, current and future effect/ impacts of the road as currently existing, anticipated benefits of proposed Bypass plus any other considerations are analysed. The selection of “no action’ option” alternative would mean that no proposed Bypass is carried out and the road is retained in its existing form. As such, this alternative is likely to have the greatest implications on the socioeconomic environment of the area and surrounding communities.

Analysis of Alternative Construction Materials and Technology-The proposed Kericho bypass road project will be constructed using modern, locally and internationally accepted materials to achieve public health, safety, security and environmental aesthetic requirements. Equipment that saves energy and water will be given priority without compromising on cost or availability factors.

Solid Waste Management Alternatives-A lot of solid waste will be generated from the proposed development. An integrated solid waste management system is recommended. The proponent will give priority to reduction at source of the waste materials. This option will demand a solid waste management awareness programme in the management and the workers. Notices for proper waste management/handling should be posted at strategic places for the sake of visitors to the workers’ camps. The contractor will be required to engage a NEMA licensed waste management firm to collect both hazardous and non-hazardous waste.

Alternative Mode of Transportation-There are no viable alternatives to this Bypass Road that fulfils the functions of providing relatively fast, cheap land transportation. Air, rail, and water transport are unlikely to either complement or to substitute for roads or highways in this region. There is no railway transport system close to the project area connecting the project area and no water body that can be used as a mode of transportation in the project area. The only possible means is air transport but, the cost is prohibitive and therefore cannot be used as an alternative to road transport in this region

Route selection Criteria- Seven route options were identified by the consultant during the study. Four among the total were proposed by the client for consideration. All proposed routes were subject to a general multicriteria evaluation technic to assess which was more feasible. The Consultant carried out engineering and social-environmental studies on all the alignment options and then prepared a multicriteria considering Technical, Economic, Social and Environmental considerations which was used to

assess and rank all the possible alignment options identified to select the optimum alignment for preliminary and detailed engineering studies and design. The multicriteria prepared with weights assigned to each criterion is tabulated below

S/No.	Criteria	Weight (%)
A	Transportation and Traffic	30
B	Engineering	40
C	Social and Cultural Environment	30
D	Recommendation Score	100
E	Overall Selection Score	=SUM (A:D)
F	Overall Ranking	

From the multicriteria assessment and resulting rankings of all the potential Bypass alignment options, the Consultant ranked all the options considered in the order of preference from the best preferred alignment route for preliminary and detailed engineering design to the least preferred as shown below.

Potential Route Option	Overall Score (%)	Rank	
Option 4: Before Brooke Centre – Kapsao – Ainamoi – Kapsoit (19.4 km)	75.3	1	**Most Preferred**
Option 6: Greenfield option along the Southern Part of the Kericho Municipality (15.43km)	67.4	2	
Option 1: Brooke Centre – Kipchimchim – Kaptebeswet (11.7 km)	66.1	3	
Option 3: Brooke Centre-Ainamoi-Kapsoit (16.4 km)	63.3	4	
Option 2: Brooke Centre - Kipchimchim – Kapsoit (18.2 km)	60.0	5	
Option 5: Brooke Centre-Ainamoi-Kapsoit; Greenfield Tunnel Route (16.35 km)	59.4	6	
Option 7: Greenfield option along the Southern Part of the Kericho Municipality (21.77 km)	55.3	7	**Least Preferred**

Option 4: Before Brooke Centre – Kapsao – Ainamoi – Kapsoit (19.4 km)- is considered most feasible. The route has less physical displacement, involuntary land resettlement, environmental degradation and socio-economic disruption. An Overall Multi-criteria Route Selection Assessment is presented in **Appendix 11.7** of this report.

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. 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 Frameworks

- Sessional Paper No. 10 of 2012 on Kenya Vision 2030
- Sessional Paper No. 10 of 2014 on the National Environment Policy
- National Environmental Action Plan (NEAP) of 2009-2013
- The National Poverty Eradication Plan (NPEP) of 1999
- The Poverty Reduction Strategy Paper (PRSP) of 2000
- The National Biodiversity Strategy of 2000
- National Environment Policy, 2013
- The National Poverty Eradication Plan (NPEP) of 1999
- Gender Policy of 2011
- The Education Gender Policy (2007)
- Sexual and Gender Based Violence (SGBV) Policy 2017
- Kenya Rural Development Strategy (KRDS) 2002-2017
- KeNHA's Environment and Social Safeguards Policy, 2018
- Vision 2030 Development Strategy
- The Kenya National Climate Change Response Strategy of 2010
- Counties Integrated Development Plans

Legal and regulatory Framework

- The Constitution of Kenya 2010
- Explosives Act, Cap 115
- Labour relations Act no. 14 of 2007
- Occupation Health and Safety Act (OSHA), Cap 15 of 2007.
- Wildlife Act
- Public Health Act, Cap 242
- Work Injury Benefits Act, No. 13 of 2007
- Water Act, 2016
- Kenya Roads Act, 2007
- Traffic Act, 2014
- Employment Act, 2007
- National Construction Authority Act, 2011
- Land Act (No.6 of 2012)
- Land and Environment Court Act, 2012
- Physical Planning Act, 2019
- Climate Change Act, 2016
- Energy Act, 2019
- Mining Act, 2016

Institutional framework

- The Ministry of Transport, Infrastructure, Housing and Urban Development
- Kenya National Highways Authority
- The National Environment Management Authority
- Water Resource Authority (WRA), formerly WRMA
- National Transport and Safety Authority
- Kenya Roads Board
- Kericho County Government
- Directorate of Occupational Safety and Health Services (DOSHS)

National Environmental Legal Frameworks

- Environmental Management and Coordination Act (EMCA, Cap 387)
- The Environmental (Impact Assessment and Audit) Regulations 2003
- EMCA Waste Management Regulations, 2006
- EMCA (Water Quality) Regulations, 2006, Legal Notice 121.
- EMCA (Air Quality) Regulations, 2014
- EMCA (Noise and Vibration Control) Regulation, 2009
- EMCA (Conservation of Biological Diversity) Regulations, 2006

World Bank's Environmental and Social Policies.

- Environmental and Social Framework (ESS)
- World Bank Group Environmental, Health and Safety (EHS) Guidelines

AfDB Operational Safeguards

- Operational Safeguard 1: Environmental and social assessment
- Operational Safeguard 2: Involuntary resettlement - land acquisition, population displacement and compensation
- Operational Safeguard 3: Biodiversity, renewable resources and ecosystem services
- Operational Safeguard 4: Pollution prevention and control, hazardous materials and resource efficiency
- Operational Safeguard 5: Labour conditions, health and safety

Multilateral environmental agreements

- East African Community (EAC) Protocol on Environment and Natural Resources (EAC, 1999), Amendment 2006
- EAC Climate Change Policy (EACCCP) (EAC, 2011)
- The 1992 United Nations Framework Convention on Climate Change (UNFCCC
- The Paris Agreement, 2015
- Vienna Convention on the Protection of the Ozone Layer
- United Nations Convention on Biological Diversity (UNCBD)
- United Nations Convention to Combat Desertification (UNCCD)
- Convention on Biological Diversity (CBD Secretariat, 1992)
- Convention on Migratory Species – Bonn Convention
- Convention Concerning the
- Protection of the World Cultural & Natural Heritage (United Nations Educational, Scientific & Cultural Organisation, 1972)

Baseline Environmental and Social Parameters

Environmental Baseline Survey

Physiography and Geology - The road traverses a hilly/rolling terrain the overall slope of the land is towards the West, consequently drainage is in that direction. The county forms a hilly shelf between the Mau Escarpment and the lowlands of Kisumu County. To the North West are the hilly areas of Kipkelion rolling towards Koru. The Kericho plateau forms the central part of the county sloping gently from 2,500m to about 1,800m above the sea level.

Ecological Conditions- Kericho County lies in the Lake Victoria Basin. Its geology is characterized by volcanic rocks as well as igneous and metamorphic complexes. The county is predominantly underlain by tertiary lavas (phonolites) and intermediate igneous rocks. A small part of the county is dominated by undifferentiated basement system rock (granites), volcanic ash admixture and other prolific rocks. The hilly nature in some parts of the county encourages soil erosion.

Soils - The surface geological conditions in Kericho County seem intact and stable. The soils in this section are predominantly ferrasols rich in organic matter, well drained,

reddish brown and appropriate for farming.

Climate - The county enjoys favourable climate and receives relief rainfall, with moderate temperatures of 170C and low evaporation rates. Temperatures range between 100C - 290C. The rainfall pattern is such that the central part of the county, where tea is grown, receives the highest rainfall of about 2,125mm p.a while the lower parts of Soin and parts of Kipkelion receive the least amount of rainfall of 1,400 mm p.a

Air quality - The project area is mainly rural, and most local roads are of earth or gravel standard. The edges of most of these roads are covered by vegetation such as grass, shrubs and trees. Dust levels along these roads are ordinarily low, with an appreciable increase during the dry season. Construction activities such vegetation removal and grading, excavations/earthworks, stockpiling of materials and spoils, and vehicular movements in the project area will generate additional dust and affect the local air quality.

Noise and Vibrations - The predominantly rural nature of the project area means that significant point sources of noise are absent, except in the towns and trading centres, and along the main highway. Noise sources in the urban areas are from various commercial and industrial activities, and vehicular traffic which blend into a din typically exceeding the WHO and NEMA guideline values of 55dB. Elevated background noise levels along the highway are attributable to roadway noise and increase with higher vehicle speeds

Social-Economic Baseline Survey

Social characteristics

Demography - The county's population was 875,689 in 2019 as per the 2019 National Population and Housing Census. This comprised of 434287 males and 441,379. The statistics show that men were more than women in the county. There were also 23 intersexual population in the cunty by year 2019.

Education - Under Early Childhood Development Education, pupils enrolment comprised 23,094 boys and 22,526 girls giving a total of 45,620 pupils thus boys representing 50.6% while girls represent 49.4%. The County has a total enrolment of 242,034 from both public and private schools. Kericho County has got 214 public and 15 private secondary schools with a total enrolment of 69,081 students. The County has 15 colleges and institutions that provide training on various disciplines.

Land tenure system - There are two major land tenure systems in the project area namely the Leasehold Tenure and the Freehold Tenure. The Freehold Tenure is governed under the Land Registration Act of 2012 and is mainly utilized for farming. On the other hand, Leasehold Land Tenure system is an interest in land for a definite term of years usually 99 years renewable upon request by the proprietor. All urban areas exist under leasehold tenure in the county which includes Kericho Town, Londiani Town, Kipkelion Town, Litein Town and parts of Sondu Town

Economic setting

Trade and commerce - Tea processing are the main industrial activities in the County. Tea factories are mainly Multi-national Corporation and are situated in Belgut, Bureti, Ainamoi and Kipkelion east sub-counties

Tourism - The main notable tourist attraction sites in the project area are as follows: - Forternan Museum , Chebulu Conservancy , Reresik Caves , Tulwap Kipsigis , Bagao

Caves , Chagaik Arboretum , Kapkatet Kipsigis Cultural Museum , Mau Forest , Agro tourism (Tea Plantation Areas) , Tagabi Monkey Sanctuary and other private farms offering camping facilities e.g. Chesumot Farm.

Farming and livestock rearing - The county is endowed with fertile soils and receives adequate rainfall throughout the year hence making it conducive for agricultural activities. The county produces both cash and food crops. The main crops grown include tea, coffee, sugarcane, potatoes, maize, beans, pineapples, horticulture (tomatoes, vegetables among others).

Health setting - The number of facilities in the county has been increasing over the years. Total number of CGOK facilities is currently at 136. More are yet to be opened up over the next five years.

HIV/AIDS - HIV prevalence in Kericho is lower than the national prevalence at 3.5% (Kenya HIV Estimates 2015). The HIV prevalence among women in the County is higher (4.9%) than that of men (2.9%), indicating that women are more vulnerable to HIV infection than men in the County. Kericho County contributes to 1.1% of the total number of people living with HIV in Kenya and is ranked the twenty seventh nationally. By the end of 2015, a total of 16,382 people were living with HIV in the County, with 15% being young people aged 15-24 years and 9% being children under the age of 15 years

Security and public safety - There are number of community policing activities which includes, Nyumba kumi initiative which exists at location, sub- location and village level. Its membership includes the provincial administration, the police, village elders, stakeholders and other members of the public. So far, the above has largely assisted in management and control of crime, however, more needs to be done in supporting its operation

Stakeholder Engagement and consultations

The public consultation and participation were conducted through the use of Household socio-economic survey online tool (Kobo-collect); 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. Consultations were held by the consultant in the following locations.

S/No	Meeting Type	Date
1	CC	18th Jan 2022
2	ACCs (Benson Mokami – ACC AinMoi, Janet Jawa,- ACC Kapsaos, Wilkister Alao – ACC Kericho East	19th Jan 2022
3	8 Chiefs at the County Commissioner Offices.	20thth Jan 2022
4	Meeting with locals at Kapsaos Tea buying Centre	23th Feb 2022, 11Am
5	Meetings with the locals at Ketepyese Primary School	23th Feb 2022
6	Meetings with the locals at Kaboswa Primary School	23th Feb 2022

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

project. The stakeholder consultations highlighted issues of concerns and views from communities as below;

Issues of Concern Discussed	Participants Views and Suggestions
Pre-Construction / Design Phase	
Land acquisition during design and surveying process	• A group number of participants wanted to know if their property will be affected through the alignment and road design.
Sources of raw materials for road construction, whereby an EIA will be required	• The road Contractor to consult the management of d local community before starting any extraction of materials
Identification of Environmental & Social sensitive location	• Community will assist the RAP team to identify all the Environmental & Social sensitive locations
Areas of social and cultural significance, - sacred trees or sites, grave sites.	• Contractor's failure to recognize and respect the areas of social significance can create conflicts with the community members. • The areas to be identified before the start of construction work.
Construction Phase	
Employment, - youth (men and women) during construction phase Location of workmen's camps and related impacts.	• Locals should be given job the opportunity, especially low-skilled tasks as opposed to the Contractor bringing in workers from elsewhere. • Women should be given job opportunities, mainly less strenuous tasks.
Haulage of raw materials from quarries and borrow pits	• Locals should be given the opportunity to supply raw materials to the contractor.
Operation Phase	
Insecurity for road users or tos driving along the project road	• Police posts to be constructed at the possible volatile areas.
Highway robbery during road operation.	• Additional police posts to be built along the project road. • Constant police control

Impact Assessment and mitigation

A summary of the positive and negative impacts envisaged during the implementation of different phases of the projects are presented below.

Positive impacts (Environmental, social and economic)

Environmental and Social-Economic

The implantation of the proposed Bypass Road project is anticipated to bring a number of the positive impact to all project stakeholders. The main positive and intended positive

includes.

- Alleviating traffic snarl up within the town by rerouting through traffic away from Kericho town CBD.
- Reducing travel time by giving motorist an alternative to the 50kph limited imposed on the high in the town sections
- Enhancement of road safety and safeguarding urban road against heavy truck loading.
- Reducing noise and pollution caused by emission by vehicles in urban centres

Other positive impact associated with the project development will include but not limited to:

- Improved and efficient transportation
- Increased opportunities for business and livelihood diversification
- Improved service delivery by the National and County Governments
- Increased employment opportunities
- Enhanced land value
- Enhanced gender parity
- Improved social well being
- Increase of local incomes during construction phase, - the contractor and road construction team, - will contribute to elevate the economy of local people and community.
- Creating employment opportunities: society along the road section will benefit from temporary jobs including food vendors and so forth.
- Less damage to vehicles, especially PSV plying along the project sites
- Lower vehicles operating costs, private and commercial.
- Easy access to administration centres, markets and schools.
- Travelling and waiting time for public transport to be shortened

Summary of anticipated impacts and Mitigation Measures

S/n	Parameter	Impacts	Mitigation Measures
1	Physiography and Geology	• Destabilization of terrain stability during earthwork, excavations • Alteration of baseline landforms during excavations, earthworks • Accelerated erosion after earthworks • Development of pits at material sites (quarries and borrow pits)	• Slope gradient maintenance and not to be vertical • Erosion control measures • Site reclamation or rehabilitation during decommissioning phase of the project.
2	Soils	• Soil pollution from inappropriate disposal of waste, e.g. used oils from the Contractor's camp, workshops or from spills. Pollutants will	• Earthworks operations shall be carried out such that surfaces shall be designed with adequate falls, profiling and drainage to promote safe run-off and prevent ponding

S/n	Parameter	Impacts	Mitigation Measures
		end up being soaked into the soil and will lead to soil contamination. • Soil erosion during earthwork	and flooding, with the associated soil erosion. • Run-off will be controlled to minimise the water effects in outfall areas. • Good housekeeping (site clean-ups, use of disposal bins, etc.) on the site project • Waste oil to be collected by a NEMA licensed waste dealer. • Provide professionals in running machinery, workshop. • Provide waste container for collecting waste • Excavations to avoid accelerating situations of soil erosion
3	Climate	• Damage of drainage structures due to erratic and heavy downpour as a result of climate change. • Possible emissions of CO2, CO, SO2, NOx and PM10 will result from the construction activities and operation of the proposed road.	• Designed and constructed of drainage structures to withstand periodic heavy floods and runoff water.
4	Air Quality	• Dust plumes from construction vehicles • Emissions of gaseous pollutants from diesel powered construction equipment • Fugitive dust emissions from excavating and moving earth, construction equipment and the concrete batch plant. • Project contribution to GHG emissions (CO2)	• Use of enclosures, hoods, shrouds, and sprays (wet batching) for possible concrete batch plant. • Monitor PM10 if concerns occur. • Employment of high-volume samplers if concerns occur regarding dust. • Active earthworks areas along the project road to be watered, mainly trading areas. Water misting or sprays will be used through water bowsers as required if particularly dusty activities are necessary during dry periods. • Vehicles delivering material with dust potential (soil, aggregates) will be enclosed or covered with tarpaulin at all times to restrict the escape of dust and observe minimal

S/n	Parameter	Impacts	Mitigation Measures
			speed especially within built up areas. • Diesel exhaust emissions from excavators, loaders, hauling trucks to be regularly checked. •
5	Surface and Groundwater Resources	• Pollution of groundwater sources during construction phase (bridges construction work). • Interference and depletion of existing community water sources during construction phase. • Infiltration of contaminants from on-site activities into soils, pollution and degradation of water quality of underlying aquifer during earthwork, excavations, oil wastes from the camp/garage. • Impact to human health - Human exposure through direct contact, drinking contaminated water / ingestion of contaminants.	• Drainage structures that will be constructed –cross culverts, at the river courses be at appropriate positions. • Stone pitching and side drains to cover meaningful lengths along the prone protection areas. • Timing of the construction of proposed bridges at Makirer,Koiboyet, Bagoa, Kapcheptentenyet, Cheplnget,Senetwet and Kashagi coincide with dry periods to avoid possible water pollution. • Contractor to avoid dumping of waste materials within the riparian zones/ within the watercourses. • Bitumen trucks should be washed at designated areas only.
6	Terrestrial/ Aquatic Environment: Flora and Fauna	• Direct impacts on landscape during earthworks, -fill and cut sections, removal of trees, borrow pits etc. • Impact on trees with cultural significance.	• Designs of the proposed bridges at major river crossings along the road to be extended so that they can avoid blocking watercourses.
7	Land Resources	• Temporary use of land for construction purposes, e.g. contractors camp, batching plant's site • Permanent acquisition of land for bypass and after road realignment from the existing corridor.	• Maximum utilization of land acquired to set up camps and batching plant to avoid unnecessary land disturbance • Ensure resettlement action plan is undertaken and PAPs compensated fairy. • Road signage should be installed in strategic location

S/n	Parameter	Impacts	Mitigation Measures
		• Road will attract new ribbon (linear) settlements within the trading centres neighbouring the Community. • Possible animal kills due to fast moving vehicles during the roads operation phase.	to avoid animal/human kills
8	Archaeological, Historical and Cultural Sites	• Possible destruction of cultural sites during construction phase, bush clearing, earthwork, sacred trees • Possible interference with existing grave sites during excavations and earth works on proposed bypass.	• Cultural sites, sites of historical importance, graves etc to be identified during design stage, and especially during the RAP process. • Existing grave sites, community commemoration sites (trees) to be identified during design stage and during the RAP process. •
9	Visual Aesthetics	• Direct encroachments on the scenic landscapes along the project road during cut and fill, cut sections and borrow pits. • Earthwork and excavation on natural greenfield along the project road, exposing an unsightly landscape	• Road alignment to avoid visual intrusion on scenic sites. • Adjustments to slopes and borrow pits, to be away from picturesque sites • Timely decommissioning of the borrow pits and quarries to be done to eliminate traces of visual intrusion on the landscape
10	Noise and Vibrations	• Noise related disturbances, discomfort to the road's immediate neighbours during construction phase. • Destruction of activities due to noise, e.g. near learning institutions	• Engineering Controls: Maintain the construction equipment, avoid unnecessary running/idling of work machinery, use noise screens, fix silencers on mobile and noisy equipment • Administrative Controls: restrict access to noisy working areas, run noisy equipment only when need be, Contractor rotate workers performing noisy tasks • Personal Protective Equipment (PPE): Contractor to provide workers with appropriate earplugs/earmuffs to reduce

S/n	Parameter	Impacts	Mitigation Measures
			their exposure to noise only
11	Solid and Liquid Wastes	• Waste generation from stripped top soil and excavations • Construction activities will generate solid wastes which includes trash, scrap items, oily rags and empty product drums. • Spills and leaks may also occur from vehicles and heavy equipment used during the construction operations, which may result in soil contamination. • Waste oil from the servicing of vehicles and miscellaneous solid wastes	• Consider waste minimization practices, Reduce, reuse, recycle (e.g. waste tyres from trucks, scrap metal). • Segregate waste at the point of generation, especially at Contractor's camp • All waste to be handled and managed in accordance with EMCA (Waste Management) Regulations, 2006
12	Social Characteristics	• Demographic: anticipated changes to population numbers and distribution within the existing (and yet to develop) trading centres in close proximity to the project road, from Brooke, kapsaos, Manyoro, Ainamoi,Kapsoit among others. • Cultural: Change of traditional customs and values – especially the Kalegins and Nandi communities due to internal migration of people with different cultural customs and values and from different ethnic background. • Socio-psychological: Possible change to quality of life and well-being after improved infrastructure and	• Local authorities to control unauthorized construction of shanty structures within the trading areas, which attracts the uncontrolled residential slums developments • Introduction of cultural events and sites along the trading centres and sites

S/n	Parameter	Impacts	Mitigation Measures
		associated developments amenities.	
13	Economic Settings	• Disruption of economic activities during construction period mainly within the trading areas/centres (negative) • Improve economic activities during operation phase of the road	• Planning for efficient access to markets (e.g., minimize or avoid works during • market days
14	Health Settings	• Potential impacts from generated dust during construction phase. • Increased potential effects from air emissions, caused by construction equipment. • Potential effects of waste management and control measures during the construction phase. • During operation phase, possible increased potential effects from air emissions, caused by vehicular traffic	• Conduct basic Occupational Health Training programs to construction workers during construction phase. • Ensure workers are oriented to the specific hazards of individual work assignment. • Conduct toolbox talks focusing on relevant health and safety issues. • HIV/AIDS, STDs awareness, training and prevention services to be offered throughout the project period. • A Code of Conduct should be distributed to all workers, and health personnel should reinforce their efforts to combat diseases during the construction period. • Workers to be sensitized on the consequences of social ills and promiscuous behaviours (over consumption of alcohol, STDs, HIV /AIDS etc). • Contractor to establish mobile clinic within the construction sites
15	Security and Public Safety	• Disruption of work progress as a result of insecurity within the workplace or at camps • Delay of work progress • Damage of property	• Provide security guards at camps and selected working areas on 24/7 basis. • Adhered to high standards of safety • Construction vehicles should drive carefully, • Gravel should be watered at construction sites/built up areas to avoid dust.

S/n	Parameter	Impacts	Mitigation Measures
			• Provide condoms to construction workers. • Use secure storage facilities for toxic materials. • Employees to be provided PPE. • Contractor to provide regular toolbox talks to the workers, to cover security and safety, among other issues.

Resettlement Action Plan

Approach and Methodology

The RAP was prepared in four stages. The first stage included literature review of design report, topographical survey data, collection of cadastral maps from Survey of Kenya (SoK) and refining data collection tools (asset register and socio-economic questionnaire).

The second stage involved Consultative Meetings and forums with the Local Administration in Aina Moi, Kapsaos, Kericho East and the County Commissioner (CC), Kericho County. The Meetings served as a platform of introducing the project to local administration. Further localized meeting with Local Administration who included Assistant County Commissioners (ACC), Local Chiefs and Village Elders provided entry channels into their respective areas. This was also a planning meeting on how the PAPs Census Surveys was to be undertaken without disruption.

The third stage comprised field surveys that included census survey, affected assets and socio-economic profiling of PAPs. These activities were undertaken from 1st March 2022 to 26th July 2022.

Fourth stage comprised RAP preparation including valuation of affected assets, social economic data analysis and generating maps of affected Assets. The Cadastral Mapping was generated from intensive ground surveying technique and Geographical Information System (GIS), system enabled management of both the physical and attributes information of affected assets.

Resettlement Impacts

Impacts on PAPs with land

Detailed category of impacts in numbers and percentages is presented in **Table below.**

Table: Summary of Resettlement Impacts on Land by wards

Ward	Number of Affected Properties	Total Area	Affected Area (Area in Proposed Road Reserve)	%
Ainamoi Ward	81	547.98	125.24	34.55 %
Kapsaos Ward	86	573.28	121.18	28.03 %

Ward	Number of Affected Properties	Total Area	Affected Area (Area in Proposed Road Reserve)	%
Kapsoit Ward	135	649.13	169.98	34.60 %
Chepseon Ward	0	0.00	0.00	0.00 %
Totals	**302**	**1,770.39**	**416.40**	

Mitigation Measures

Cash compensation for loss of land (calculated at full replacement cost based on the prevailing market value)

Impacts on PAPs with Structures

The Project will impact **639 PAPs** whose structures will be affected.

Affected Structure	Number
Main house	591
Kitchen	305
Children house	2
Poultry house	22
Latrine	277
Animal shed	246
Store	180
Bathroom	80
Borehole	1
Water tower	2
Car shed	8
Gate house	1
Bodaboda shed	1
Business shed	138
Tank	16
Office	1
Rental houses	3
Nursery	5
Church	1
Total	**1,880**

Mitigation Measures

- Cash compensation for loss of structures (calculated at replacement cost)
- Or In-kind compensation through replacement of the structure
- Right to salvage

Impacts on PAPs with Trees and Crops

The Project will impact **548 PAPs** with trees and **543 PAPs** with crops especially along the proposed road alignment. The Project will therefore ensure that there is appropriate consultation and advance planning to minimise impacts associated with the loss of trees and crops. The crops and trees include both seasonal vegetable, peri annual fruits trees, exotic and indigenous trees.

Crop	Area	Percentage
Maize	128.37	40.33
Tea	104.92	32.97
Coffee	17.971	5.65
Beans	23.48	7.38
Others	43.51	13.67

Types of Trees Affected	Number of Trees
Avocado, Gravelia, Eucalyptus, Cyprus, Mango, Orange, Guava, Pine, Indigenous trees, Pawpaw, Sugarcane, Bananas, Kuryot, Palm Trees, Bottle Trees, Umbrella Trees,	**305,827**

Mitigation Measures

- Provision of opportunity to harvest crops and trees.
- Cash compensation for crops at full replacement cost which is calculated using Ministry of Agriculture rates for different types of crops plus 15%
- Cash compensation for the damaged trees affected as per KFS schedule for trees damaged
- Livelihood restoration support measures (as per entitlement matrix)

Impacts on Institutional PAPs

The Project will impact 1 institution which is Unilever Ltd.

Type of Loss	Aina Moi	Chepsoin	Kapsaos	Kapsoit	Total
Institutions Impacted					
Unilever					1
Sub-Total of Institutions Impacted					**1**

Mitigation Measures

- In-kind compensation for land surrendered (Can be a land scaping and land improvements)
- Or Cash compensation for loss of land, trees and crops or structures (calculated at replacement cost)
- Right to salvage

Valuation of Graves

During our field inspections, it was noted that the land affected by the project have **85 graves sites**. Compensation value for graves that will be lost was based upon agreements with the PAHs with cost to cover for ceremonies associated with relocation of the graves including rituals etc to be covered directly by the project.

Stakeholder Consultations

Stakeholder Consultations were organized with affected persons and institutions within on the road corridor. Schedule of Meetings is as summarized in **Table 1.1** below.

Schedule of Consultative Meetings

S/No	Meeting Type	Date
1	CC	18th Jan 2022
2	ACCs (Benson Mokami – ACC Aina Moi, Janet Jawa,- ACC Kapsaos, Wilkister Alao – ACC Kericho East	19th Jan 2022
3	8 Chiefs at the County Commissioner Offices.	20th Jan 2022
4	Meeting with locals at Kapsaos Tea buying Centre	23th Feb 2022
5	Meetings with the locals at Ketepyese Primary School	23th Feb 2022
6	Meetings with the locals at Kaboswa Primary School	23th Feb 2022

Eligibility and Cut-off Dates

The Kericho By-pass Road Project will lead to physical and economic displacement by affecting PAPs land, structures and crops which are their main sources of livelihood. All affected persons are eligible for compensation and resettlement assistance. Majority of the PAPs have recognizable legal right or claim over the land affected and therefore the compensation will be conducted by National Land Commission.

The cut-off date for the Project was declared to be **1st August 2022** meaning assets present in the Project area at the date of the commencement of census and confirmation survey of PAPs will be eligible for compensation. No person is eligible to entitlements if moving into the designated resettlement site after the Cut-Off-Date. Updates of Project information will be made regularly based on information provided by the village authority.

PAPs enumerated within the cut-off date provisions are entitled to compensation for their affected assets and eligible for rehabilitation measures sufficient to assist them to improve or at least maintain their Pre-Project living standards, income-earning capacity and production levels.

Livelihood Restoration

The main types of livelihoods encountered in the Project affected area of influence are cash crop farming mainly tea. Therefore, selection of livelihood option for this RAP was limited to farming-oriented livelihood restoration measures such as provision of seeds, seedlings and microfinance including financial literacy.

Financial Management

All PAPs who will receive cash compensation for loss of land, structures, crops and trees will be eligible for financial management training as per the entitlement matrix. This is in recognition that the absence of financial training could lead to misuse of the compensation funds leading to increased vulnerability of the PAPs. Financial training will commence as soon as possible but before households get paid their cash compensation. The aim of the training is to ensure adequate money management skills and use of cash to enable livelihood restoration. The financial management training will be based on assessment of existing income-generating patterns.

Linking to Micro-Credit Facilities

PAPs will also be linked to micro-credit facilities in the area. This is to encourage savings and enable households to invest and restore their livelihoods.

Transitional Support

Transitional assistance measures are taken by the project to facilitate the transition of PAPs from their old situations to their new situations. Such transition assistance provides PAPs with smooth transition and hence minimizing adverse impacts of resettlement. If income recovery cannot be expected at the time of displacement, PAPs will be provided with transitional support. Transitional support will target all PAHs and will mainly include Project supported related to transport or costs of removal and re-establishment for relocation.

Employment During Construction

PAPs will be offered priority in employment as part of transitional allowance especially with respect to unskilled and semi-skilled employment. Contractor will prepare a Labour Recruitment Plan (LRP) to oversee employment opportunities for PAPs and locals.

HIV/AIDS Awareness Training

Training will be conducted by KeNHA on HIV/AIDS as part of the livelihood restoration measures specifically in view of the high incidences of HIV/AIDS occurrences due to in-migration workers.

RAP Budget

Valuation of land

Where applicable, as described in the eligibility criteria, losses recommended for replacement were valued at current market value. This is in line with the IFC Handbook for Preparing a Resettlement Action Plan on land acquisition and compensation. The full replacement cost approach is where the property value is assessed based on the cost of buying the site and setting up the lost asset. It is based on the reproduction/replacement value.

Valuation of Structures

To establish the replacement cost, the coordinates, type of structure, construction details, built up areas, accommodation details and occupancy, status of the different structures were recorded during the data collection phase. This was aimed at establishing the replacement cost of the different structures for compensation purposes. Due to limited reliable market information within and near the Project Area, a Sales Comparison approach could not be applied in the valuation of the affected structures. As a result, the structures have been valued based on the 'reproduction cost' i.e. the cost of reconstructing an identical structure by using the same materials and design at the time of appraisal without depreciation.

Valuation of Crops and Trees

Local rates from the State Department of Agriculture were adopted in determining the compensation values for crops. The value for trees based on the valuation adopted the local KFS (Kenya Forestry Services) rates, considering the age factor for trees.

Table Provides a summary of the costs of implementing the Resettlement Action Plan and a high-level implementation schedule. Critically, it also lists the assumptions that underpin both the Cost Estimate and the schedule.

Table: RAP Budget

Description	**Amount (Ksh)**
Land	1,018,558,048
Structures	1,037,109,030
Crops and Trees	2,838,286,207
Graves	135,000,000
Sub Total 1	**5,028,953,285**
Livelihood Restoration Programs (Lump sum)	502,895,329
Facilitation of Grievance Redress and Resettlement Committees (5%)	251,447,664
Monitoring and Evaluation 5%	251,447,664
Contingency Costs (15%) to deal with unforeseen costs.	754,342,993
Sub Total 2	**1,760,133,650**
Grand Total	**6,789,086,935**

Grievances Redress Mechanism

The objective of RAP Grievance Redress Management (GRM) is to provide a set of clear and traceable procedures by which any grievance arising from the Implementation of this RAP can be reported. Grievance can be reported by an affected person/household, community member, it is then heard and resolved. An effective GRM is mainly done through an informal alternate dispute resolution process that is consistent with best practices before pursuing legal formal justice (judicial process) which still remains the right of every affected person in the project area. A five-level grievance management is provided for in this RAP to ensure amicable review and settlement of grievances. The grievance levels include: -

i) Elders / Community Leaders Disputes Resolution Committee
ii) Sub-Location Resettlement and Grievance Redress Committee
iii) Sub-County Resettlement and Grievance Redress Committee
iv) County Arbitration Committee
v) Resort to Judicial recourse - Environment and Land Court. The Environment and Land Court established under the Environment and Land

Act 2012 addresses land related matters and PAHs will be free to ignore the project's GRM and use the formal legal system at any time or point.

Conclusion

Although potential adverse impacts were identified in the construction and operation of the proposed project, various opportunities were also identified for the mitigation of these impacts. It is considered that with good environmental and social practices and procedures during construction, the project has potential to enhance benefits and sustainability, while avoiding environmental degradation.

The safeguards identified in this Report when applied by the Contractor and the project proponent will ensure environmental protection, health and safety of the workers and the public. Sound environmental management practices during operations will also enhance community benefits and social acceptance of the project.

An environmental audit of the project is recommended upon completion of the construction works to corroborate the implementation of the proposed mitigation measures. Any unforeseen project impacts will be identified and addressed through annual environmental audits.

The Consultant proposes that project approval and an Environmental Impact Assessment license be issued by NEMA based on the environmental and social management measures contained in this ESIA Report.

1.0 CHAPTER ONE: INTRODUCTION

1.1 Overview

This Report details the findings of an Environmental and Social Impact Assessment (ESIA) of the proposed Kericho Bypass Road Project (hereafter referred to as 'The Project'). The hereby ESIA for the proposed Bypass project road was undertaken by **Wanjohi Mutonyi Consult Ltd, a NEMA certified EIA/EA firm of experts**.

The Environmental Management and Coordination Act (EMCA) 1999 and the Amendment Act of 2015 provide for the conduct of an ESIA before undertaking a project of the proposed nature. The ESIA should be carried out at the planning stages of the proposed undertaking to ensure that significant impacts on the environment are taken into consideration during the design, construction, operation and decommissioning stages of the project.

This Study Report has therefore been prepared to comply with Section 58 of the EMCA, 1999 and the Amendment Act 2015, Legal Notice No 31 of April 2019 on the Act, Part 2 Section 7 of the Environmental (Impact Assessment and Audit) Regulations, 2003, and Legal Notice No 32 of April 2019 on the Regulations.

1.2 Developer Identification

The project Clients are the Kenya National Highway Authority (KeNHA). The state corporation was established under the Kenya Roads Act 2007 with the responsibility for the management, development, rehabilitation and maintenance of trunk roads.

1.2.1 The developer and the consultants

KeNHA	Consultant
Director General, Kenya National Highways Authority, Barabara Plaza, Block A & C, Jomo Kenyatta International Airport(JKIA), Off Airport South Road, along Mazao Road P. O. Box 49712-00100, NAIROBI, KENYA.	Wanjohi Mutonyi Consult Limited Corner Ngong/Ndemi Roads P.O. Box 21714-00505 Nairobi, Kenya Tel: +254- 20-3876690/1/2 Fax: +254-20-3876693 Email: wce@kenyaweb.com

Table 1: The developer and the consultants

1.3 Regional Description of the Project Site

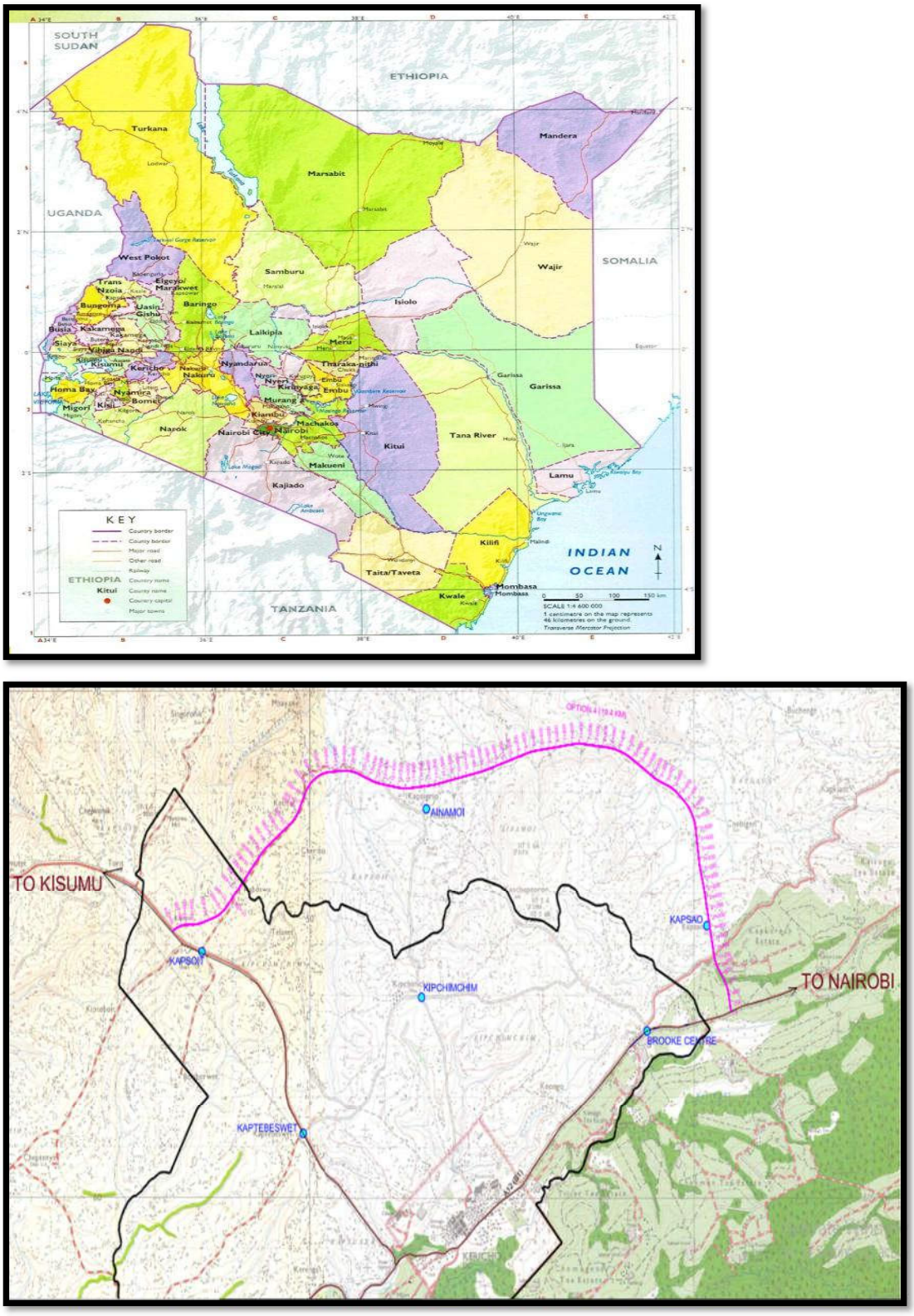


Figure 1: Regional Description of the Project Site

The project road is located in Kericho County towards the Western part of Rift Valley highlands. Kericho town is located at the T-junction between the Mau Summit-Busia (A12) road (formerly B1) and the Kisii-Litein-Kericho (B6) road (formerly C23). The project road starts at approximately chainage km -2+300 from Brooke Centre (which is taken as chainage 0+000 for the purpose of this description) and traverses in a North Westerly direction up to Ainamoi Centre. It then takes a South-Westerly trajectory to join the A12 Highway at Kapsoit. The route measures about 19.4km.

The Project Road has relatively low Traffic volumes from Brooke Centre to Ainamoi where the road is of gravel standard recently graded with fairly good riding surface conditions. From Ainamoi to Kapsoit, the Traffic is more than the previous section with the road being a single carriageway of bitumen standard with good surface riding conditions. It is anticipated that projected diverted Traffic and generated Traffic will significantly contribute to the Kericho Nothern Bypass design requirements and considerations.

1.4 Project Background, Overview, Justification and Objectives

1.4.1 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 preliminary and detailed engineering design of Kericho Bypass. Kericho Bypass Road is one of the bypasses of Kenya major towns. The project is located in kericho County off the busy Mau Summit-Kisumu - Busia (A12) Highway. The bypass traverse to the northwest of Kericho town off the highway (Mau Summit-Kisumu). The project is critical to primarily alleviating traffic snarl ups within the town by rerouting through traffic away from the CBD.

The Government of Kenya, through its implementing agency, the **Kenya National Highways Authority (KeNHA)** has engaged **Wanjohi Mutonyi Consult Limited** to render all technical support services relevant to this exercise towards the achievement of the project objectives. The environmental and social Impact assessment study (ESIA)has conformed with Kenya legal requirement and the international pest practices.

1.4.2 Need/purpose for ESIA

The purpose of this study and its overall objective is to ensure that all the environmental concerns are integrated in the implementation of the project cycle in order to contribute to sustainable development of the general project area and areas in close proximity to it. There is the need to assess the potential environmental impacts and socioeconomic conditions which will be associated with the activities for the proposed road project. Pursuant to Environmental Management and Co-ordination Act (EMCA) of 1999 amendment 21015,This road project has been subjected to an ESIA study in accordance with the NEMA requirement as stipulated in the second schedule of the Act.

The main objective of this Act is to provide for the establishment of an appropriate legal and institutional framework of the management of the environment in Kenya, including the establishment of a National Environment Management Authority (NEMA). The proposed initiative has therefore carried out the ESIA which will be reviewed by, among others, NEMA before issuance of an approval and license to start construction work.

Secondly, the study is intended to propose workable mitigation measures and thirdly to formulate an environmental management and monitoring plan articulating the mitigation measures, responsible persons, frequency of monitoring, required resources, time frame

for its implementation and possible costs

The major impact anticipated will be the displacement of people from their ancestral land among other effect. Due to these reasons a detailed environmental and social impact assessment study has been carried out for the proposed project.

The main objective is to assess the anticipated effects of the project proposes their mitigation measures and develop an environmental and social management tool for monitoring and identification of unforeseen effects of the project during the project life cycle. The Environmental and Social Impact Assessment Study has been carried out in accordance with environment management and coordination act of 1999 (amendment 2015).

1.4.3 ESIA Objective

The project is listed under the second schedule requiring an environmental and social impact assessment study report to be prepared and submitted to NEMA for review, Approval and licensing for implementation.

The ESIA for the proposed Kericho Bypass Road project objectives are;

a) Identify all the potential significant positive and adverse environmental and social impacts, including direct, indirect and cumulative impacts associated with the project.
b) 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.
c) Develop an Environmental and Social Management Plan (ESMP)
d) 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.
e) 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.
f) To come with appropriate budget for environmental, social and, health and safety mitigation measures for the subproject.
g) To document all the above mitigation and development interventions in acceptable format to be further discussed and agreed with KeNHA in compliance with international best Practices on EHS guidelines.

1.4.4 Overview of the Project

The project's purpose is to form Kericho Bypass Road corridor to alleviate traffic snarl ups within kericho. The project aligned of Kenya's Vision 2030's infrastructure projects to open up major town and ease accessibly by motorist to transport goods and services to enhance social-economic growth of region across the county. Construction of the bypasses will also seek to reduce travel times by giving motorists an alternative to the 50kph limits imposed on the highway within the town sections.

No.	Name of Road	Length (km)	Current Status	Scope of Services				
				Design Review	Aerial Mapping	Full Design	Full materials Investigation & Pavement Design	ESIA & RAP
1	Kericho bypass	19.4km	New route	✓	✓	✓	✓	✓

Table 2:Details of the Project Scope and Extent.

1.4.5 Project justification/rationale

Kericho town has grown drastically of the last few years since promulgation of Kenya constitution 2010 and devolution of the national government to county governments. Kericho County has attracted high population and increased motorist at Kericho CBD area. This has coursed traffic snarl ups in town. Effort like dualing of the B12 road at Kericho town to reduce snarl ups at town area has been undertaken by the government. Further, to the latter action the government through its implementation agency Kenya national highway authority KeNHA has proposed Kericho bypass project.

Given the strategic importance of the project road on the local, regional, national and levels, a large number of sectors and economic activities will benefit from implementation of the project. The main beneficiaries will be:

- The transporters and vehicle owners operating on the road, whereby it will be more efficient and less expensive to ply along the road.
- The local population (consumers, producers, traders, etc)
- Improvement of services and economic activities within Kericho County. (Commerce, industry etc).
- Improve d the county administration.
- Enhance deliverance of social services.
- The improvement of socioeconomic activities at regional level will create ripple effects at national level whereby fast development in various sectors will be achieved.

The proposed project road addresses the aspirations of the Vision 2030. The Vision aspires for a country firmly interconnected through a network of roads, railways, ports, airports, and water ways, and telecommunications. By 2030, it is envisaged that it will become impossible to refer to any region of our country as “remote”. To this effect and as stated in the Vision 20130, to ensure that the main projects under the economic pillar are implemented, investment in the nation’s infrastructure will be given the highest priority. The proposed infrastructure will therefore foster travel, trade, skills empowerment, and ultimately economic development.

1.4.6 Technical expertise involved in the ESIA process

Name	Role	Qualifications	Experience (years)
Eng.I.G Wanjohi	Lead Expert(Environment)	Environmentalist/Engineer	30
Elijah Kimani	Social expert	Sociologist	17
Eng.James Muli	Assistance Environmentalist	Engineer	10

Robert Ngunjiri	Environmental Expert	Environmentalist	5

Table 3: Technical expertise involved in the ESIA process

1.5 Terms of Reference

The ESIA was carried out in compliance with the Government of Kenya's Environmental Management and Co-ordination Act (EMCA) of 1999 and the Environmental (Impact Assessment and Audit) Regulations, June 2003, among other relevant laws, regulations and guidelines standards, as well as the Banks Environmental and Social Assessment procedures.
The scope of services that were undertaken by the consultant included but not limited to the following:

Task 1. Description of the baseline environment:
To collect, collate and present baseline information on the environmental and social characteristics of the existing situation in the proposed route. This involved:

a) *Physical Environment (*topography, landforms, geology, soils climate and meteorology, air quality, hydrology etc.).
b) *Biological Environments (*i.e., flora and fauna types of diversity, endangered species, sensitive habitats etc.).
c) *Social and cultural environment,* including present and projected, where appropriate (i.e., population, land use, planned development activities, community structure, gender employment and labour market, sources and distribution of income, cultural properties etc.). This shall also include identification of any resettlement and compensation needs that could trigger the need to prepare a Resettlement Action Plan (RAP)

Task 2: Detailed Description of the Proposed Project: The consultant is to concisely describe the proposed project, its geographic location, ecological, general layout of facilities including maps at appropriate scale where necessary.
Task3: Legislative and Regulatory Framework: The consultant shall identify and describe all pertinent regulations and standards of governing the environment quality, solid and liquid waste management, health and safety, protection of sensitive areas, land use control at the national and local levels and ecological and socio-economic issues. Compliance issues to be stated.
Task 4: Identify Potential Environmental and Social Impacts that could Result from the Project:
The consultant shall analyse and describe all significant environmental and social impacts expected due to the proposed project. These would encompass environmental, ecological and social impacts, both positive and negative, as the result of interaction between the proposed project and the environment that are likely to bring about changes in the baseline environmental and social conditions discussed in Task 1. The consultant shall differentiate between short-, medium- and long-term impacts. During the analysis, the consultant shall consider both biophysical and socioeconomic factors that will include the impacts of: population change and migration; socio-economic characteristics of the different target groups along the proposed routes; forms of social organization and co-operation; physical and social infrastructure, change in economic activities; development resources, vegetation clearance; mechanical disturbance; removal of structure/sites; effects on flora and fauna; air quality; improved access; accident rates and visual/aesthetic change.
Task 5: Occupational Safety and Health Concerns: The consultant shall analyse and describe all occupational and healthy concerns likely to arise as a result of construction and operations of the proposed facility. The consultant shall make recommendations on corrective and remedial measures to be implemented under the environment and social management plan. The consultant will include emergency /disaster preparedness plans

for the project.

Task 6: Carry out public participation and consultations on the positive and negative impacts of the project: The consultant shall carry out a social due diligence which will involve a description of the social, economic and cultural status of the project area. The consultant shall organize public forums for participation to enable interested and affected parties, including Civil Society Organizations/NGOs, to present their concerns and opinions regarding the proposed project. Deliberate efforts will also be made to ensure inclusion of women in the public consultation. The views of the public will be solicited and incorporated in the main actual report.

Task 7: Propose mitigation measures to the identified environment and social impacts. The consultant shall come up with the feasible mitigation measures for the negative impacts that could result from the proposed project

Task 8: Development of Environmental and Social Management plan to mitigate negative impacts: The Consultant shall develop a comprehensive Environmental and Social Management Plan (ESMP). The plan should recommend a set of mitigation, monitoring and institutional measures to eliminate, minimize or reduce to acceptable levels of adverse environmental impacts and/or maximize socio-economic benefits. The Consultant shall provide cost outlays for the proposed measures as well as their institutional and financial support.

Task 9.Developmen of Environmental and Social Monitoring Plan: The consultant is required to give specific descriptions, and technical details of monitoring measures, including the parameters to be used ,methods to be used, sampling locations, frequency of measurements, and definition of thresholds that will signal the need for corrective actions as well as deliver monitoring and reporting procedures .The consultant will provide time frames and implementation mechanisms ,staffing requirements and cost outlays.

The Consultant shall present the report to the National Environment & Management Authority (NEMA) for approval in the required number of copies.

1.6 Structure of Report

The ESIA study report constitutes descriptions of possible environmental and socioeconomic impacts likely to occur during the design, preparation, construction and operation phases of the proposed road project. The report has been divided into chapters covering executive summary, project description, environmental and social impact methodology, policy, legal framework and regulatory framework, baseline environmental and social parameters, analysis of project alternatives, climate change and adaptation, environmental and social impact assessment, environmental and social management plan, conclusions and recommendations and references.

2.0 PROJECT DESCRIPTION

2.1 Overview

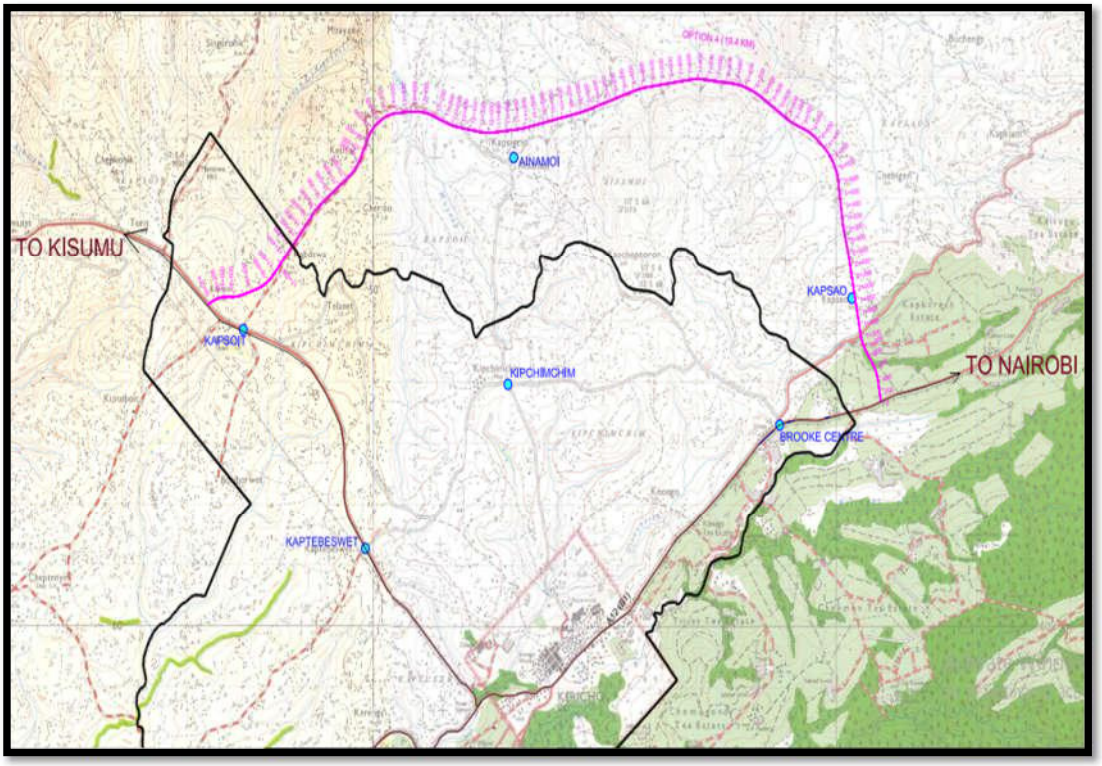
The Government of the Republic of Kenya (GoK) has earmarked funds through the Development Vote for use in engaging the services of a Consultancy Firm to undertake preliminary and detailed engineering design of the proposed kericho bypass road project.

The Government of Kenya, through its implementing agency, the Kenya National Highways Authority (KeNHA) shall require the Consultant to render all technical support services relevant to this exercise. The detailed descriptions of the consulting services to be performed were as described in the Terms of Reference (ToR). The Contract period is 18 Consecutive Months, and the Commencement Date of the assignment was set to be 2nd March, 2021 and Completion Date shall be 2nd September, 2022.

2.2 Project Description

The project road is located in Kericho County towards the Western part of Rift Valley highlands. Kericho town is located at the T-junction between the Mau Summit-Busia (A12) road (formerly B1) and the Kisii-Litein-Kericho (B6) road (formerly C23).

The project road starts at approximately chainage km -2+300 from Brooke Centre (which is taken as chainage 0+000 for the purpose of this description) and traverses in a North Westerly direction up to Ainamoi Centre. It then takes a South-Westerly trajectory to join the A12 Highway at Kapsoit. The route measures about 19. 4km.The road passes through small scale mixed agriculture land use system with tea as the main crop grown.



2.2.1 Overview of Road Construction

The ESIA constitutes part of the consultancy services contracted to Wanjohi Mutonyi Consult Ltd by KeNHA for the proposed Kericho Bypass road project. As part of the overall consultancy, the ESIA is also informed by the other concomitant studies and activities contributing to the achievement of the assignment. The ESIA took into consideration the following contemporaneous aspects of the project.

2.2.2 Economic feasibility study

Optimal Route Selection

The Consultant carried out the optimum route selection by employing the following methodology: Reconnaissance site visits; Desk study; Preliminary identification of potential corridors; Engineering studies and comparison using scored multi-criteria analysis. From the reconnaissance site visits and desk studies seven number potential route options for the Kericho Bypass were identified which are listed below:

- ✓ Option 1: Brooke Centre – Kipchimchim – Kaptebeswet (11.7 km)
- ✓ Option 2: Brooke Centre - Kipchimchim – Kapsoit (18.2 km)
- ✓ Option 3: Brooke Centre-Ainamoi-Kapsoit (16.4 km)
- ✓ Option 4: Before Brooke Centre – Kapsao – Ainamoi – Kapsoit (19.4 km)
- ✓ Option 5: Brooke Centre-Ainamoi-Kapsoit; Greenfield Tunnel Route (16.35 km)
- ✓ Option 6: Greenfield option along the Southern Part of the Kericho Municipality(15.43km)
- ✓ Option 7: Greenfield option along the Southern Part of the Kericho Municipality(21.77 km)

The Consultant carried out engineering studies on all the alignment options and then prepared a multi-criteria considering Technical, Economic, Social and Environmental considerations which was used to assess and rank all the possible alignment options identified in order to select the optimum alignment for preliminary and detailed engineering studies and design.

The multi-criteria prepared with weights assigned to each criterion are tabulated below:

S/No.	Criteria	Weight (%)
A	Transportation and Traffic	40
B	Engineering	30
C	Social and Cultural Environment	30
D	Recommendation Score	100
E	Overall Selection Score	=SUM (A:D)
F	Overall Ranking	

Table 4: Multi-criteria weighing summary

From the multi-criteria assessment, the Consultant ranked all the options considered in the order of preference from the best preferred alignment route to the least preferred for the Bypass as shown below

Potential Route Option	Overall Score (%)	Rank
Option 4: Before Brooke Centre – Kapsao – Ainamoi – Kapsoit (19.4 km)	77.4	1
Option 6: Greenfield option along the Southern Part of the Kericho Municipality (15.43km)	61.4	2
Option 3: Brooke Centre-Ainamoi-Kapsoit (16.4 km)	60.9	3
Option 5: Brooke Centre-Ainamoi-Kapsoit; Greenfield Tunnel Route (16.35 km)	60.1	4
Option 7: Greenfield option along the Southern Part of the Kericho Municipality (21.77 km)	57.8	5
Option 2: Brooke Centre - Kipchimchim – Kapsoit (18.2 km)	54.4	6
Option 1: Brooke Centre – Kipchimchim – Kaptebeswet (11.7 km)	48.6	7

Most Preferred

Least Preferred

Table 5: Potential route option

From the above ranking, the Consultant recommended Alignment Option 4 with the highest overall score of 77.4% and ranked 1st as the best alignment route for preliminary and detailed engineering study and design. The recommended Option 4 is a dual carriageway highway bypassing Kericho Town of approximately 19.4 Kilometres. The proposed Bypass starts off about 2 km before Brooke Centre along the Mau Summit – Kericho (A12) highway and passes through Kapsao and Ainamoi, Towns/Centres and terminates at Kapsoit Town Centre along Kericho – Kisumu (A12) highway.

2.2.3 Traffic survey and analysis

Traffic survey was carried out on five (5 No.) Traffic Survey Locations in line with the approved Traffic Survey plan. The traffic data was analysed to establish both the volume and the traffic loading on the project road.

2.2.4 Survey and geometric design

(a) Topographical surveys

Eleven Control Points were established along the existing road approximately every two Kilometers and the terminals. These were tied to the National Grid System. 57 secondary control points were established at intervals of approximately 150-300metres. They were coordinated X, Y using RTK GPS measurements from nearest Primary Control Points. Using Automatic levels double way leveling was carried out through the primary and the secondary control points. The levels were extended from Survey trig point 117S5 also through spirit leveling.Mapping of the road corridor was then carried out by carrying out aerial survey. A digital Terrain Model was then developed with a contour interval of 1m to be used for preliminary design.

A 400m wide lidar survey corridor was generated centered along this alignment and a KMZ file prepared using Global mapper software. Using Zenmuse L1 Lidar equipment onboard DJI Matrice 300 RTK drone covering point clouds were captured in the field in X,Y,Z.The Lidar Data was processed DJI Terra Lidar software to remove points above ground such as those on top of buildings, trees, power-lines etc. and generated a ground surface model. The ground surface model from lidar was processed using Global Mapper Software to generate a DTM of the road corridor. Contours were generated at 1m interval.

Spots heights were also generated at 1,5 and 10 metres grid interval.
Staking out was carried out every 100 metres along the preliminary design centreline using RTK equipment. Levels (OGL) obtained were compared with those generated from the Lidar DTM. Discrepancies noted were between -+5cm and -+10cm

(b) Geometric Design

- *Cross Section*

From the Road Design Manual Part 1, traffic volumes are the key consideration for the proposed cross section. Taking into consideration that the proposed Bypass Road connects an international trunk road A12 and the Client irreducible minimums for design for the proposed bypass route (Two-way dual carriageway), the design pavement cross section adopted is Type I; i.e. 7 meters carriageway, 1.0m and 2m for inner and outer shoulders respectively.
Considering the terrain along the road alignment, the project design standards have been chosen to accommodate an average design speed of between 50 Km/h for sections through towns and 80 Km/h-100 Km/h on rolling sections.

- *Horizontal Alignment*

Horizontal alignment which is a major component of the road geometry generally maintained the existing alignment with the exception of some isolated sections with tight curves or apparent kinks and the three alignments for Kapsao, Ainamoi and Kapsoit shopping Centres where the alignment completely shifts from the existing road.
Super elevation was applied for all curves with radius less than 4000m. The maximum permissible super elevation of 6% was used on several horizontal curves.
Junction design has ensured adequate capacity at the intersections (to avoid bottlenecks that would result to extended delays) and also safe operationof traffic by reducing the number of conflict points.

- *Vertical Alignment*

The design consideration for each of the elements was such that optimization of earthworks was achieved. During the design of vertical alignment, the gradients have been designed through balancing the user costs with construction costs. This has been achieved by balancing cut and fills sections while reducing grades so as to minimize fuel consumption to road users. The design of vertical alignment has also considered the crest and sag geometry together with the achievement of appropriate sight distances.

2.2.5 Materials investigations and pavement design.

Material Investigations
Material investigations were carried out for both alignment soils and for construction material for pavement layers.Alignment soils investigation was carried out by excavation of trial pits at intervals of 500m at a minimum depth of 1m all along the proposed alignment. Samples were collected and taken to the laboratory for testing in accordance with the Road Design Manual Part III. The samples were tested at the Consultant's Laboratory and at the Materials Testing and Research Division (MTRD). Pavement material investigations were carried out by identifying possible sources of materials for pavement structure. Trial pits were excavated at grids of 30-60m on the identified sources and samples were taken for testing in accordance to the Road Design manual part III. This was done for both gravel sources and hard stone sources.

Pavement Design
Pavement design is based on the recommendations stipulated in Road Design Manual Part III of the Ministry of Roads and Public Works (1987). According to the Traffic Survey and analysis conducted on the project road, the road has one homogeneous pavement section in respect to traffic classification. The whole road section has traffic classification of Class T2. The road being designed as a dual carriageway; service roads will also be provided. On analysing of the Origin – Destination Survey data obtained from this study,

it was found that 30% of the traffic is local and circulates around the town sections. The traffic class adopted for design of the Service Roads in towns and in all turnings is Traffic Class T3. A subgrade class of S3 of 10% CBR was adopted for design.

Pavement Structure for Main Road

The Main Road was designed with the design traffic class is T2. After evaluation, three options of pavement structures were proposed. These are Type 8 and Type 11 and Type 12. The following are pavement options recommended for the road project.

a) Pavement Option 1 – Type 8

- **Wearing Course:** Double surface dressing of 14/20 and 6/10 chippings
- **Surfacing:** The surfacing will consist of 100mm Asphalt Concrete Type 1. (Two layers)
- **The Base:** 150 mm thick Graded Crushed Stone
- **Subbase:** 150 mm thick made of 2-4% Cement improved material (Base quality).
- **Shoulder:** To be constructed in the same standard as the Carriageway up to the Base layer. However, the surfacing will be Double surface dressing of 14/20 and 6/10 chippings.

b) Pavement Option 2 – Type 11

- **Wearing Course:** Double surface dressing of 14/20 and 6/10 chippings **Surfacing:** The surfacing will consist of 50mm Asphalt Concrete Type 1.
- **The Base:** 125 mm thick Dense Bitumen Macadam
- **Subbase:** 225 mm thick made of 2-4% Cement Improved Material (Base quality).
- **Shoulder:** To be constructed in the same standard as the Carriageway up to the Base layer. However, the surfacing will be Double surface dressing of 14/20 and 6/10 chippings.

c) Pavement Option 3 – Type 12

- **Wearing Course:** Double surface dressing of 14/20 and 6/10 chippings
- **Surfacing:** The surfacing will consist of 50mm Asphalt Concrete Type1
- **The Base:** 125 mm thick Dense Bitumen Macadam
- **Subbase:** 225 mm thick made of Graded Crushed Stone (Base quality).
- **Shoulder:** To be constructed in the same standard as the Carriageway up to the Base layer. However, the surfacing will be Double surface dressing of 14/20 and 6/10 chippings.

During the detailed design, the Consultant will carry out a detailed evaluation of the proposed pavement structures to come up with the most suitable pavement structure for the project road.

Pavement Structure for Service Roads

The traffic class adopted for design of the pavement structure is traffic class T3. The service roads will be provided after dualling of the road to link the local towns to the main road. This pavement structure will also be used for construction of service lanes provided in the junctions (turning points).

The recommended options for the pavement structure are type 3 and type 7 for service roads is.

a) Option 1 – Type 3

- **Wearing Course:** Double surface dressing of 14/20 and 6/10 chippings
- **Surfacing:** The surfacing will consist of 50mm Asphalt Concrete Type
- **The Base:** 150 mm thick made of 2-4% Cement improved material
- **Subbase:** 200 mm thick made of 2 – 4% Cement improved material.

b) Option 2 – Type 7

- **Wearing Course:** Double surface dressing of 14/20 and 6/10 chippings
- **Surfacing:** The surfacing will consist of 50mm Asphalt Concrete Type
- **The Base:** 150 mm thick Graded Crushed Stone
- **Subbase:** 175 mm thick made of 2 – 4% Cement improved material.

2.2.6 Hydrology, drainage and design of structures

Hydrological investigations
These were carried out along the road through establishment of the catchment areas of every catchment traversed by the project road. The catchment characteristics were studied and various issues were considered. The existing drainage structures were also studied to establish their suitability.

Drainage Design
Waterway opening(s) for a highway stream-crossing can be provided for by either culvert(s) or a bridge. Analysis of risks associated with each will indicate which structure based on economics. For small catchments with low run-offs, pipe culverts have been proposed. For larger catchments, box culverts and Bridges have been proposed. The minimum recommended size for cross culvert was 900mm diameter and 600mm for access culverts.

2.2.7 Ancillary works

Junction designs, guardrails and culvert marker posts provision in accordance with RDM part I and II has been carried out. Road lighting design has also been carried out.

3.0 POLICY, LEGAL AND REGULATORY FRAMEWORK

3.1 Overview

Several laws and regulations that govern environmental and social issues have been developed. The main legislation is the Environmental Management & Coordination (Amended) Act (EMCA) of 2015. The Act emphases that every person in Kenya is entitled to a clean and healthy environment in accordance with the Constitution and relevant laws and has the duty to safeguard and enhance the environment. It also empowers stakeholders to participate in sustainable management of the natural resources. It calls for Environmental and Social Impact Assessment (ESIA) to guide the implementation of environmentally and socially sound decisions. There are other relevant local laws and regulations that have been investigated. They include but not limited to, the Constitution, the Water Act of 2016, and The County Government Act 2012 among others.

The World Bank Safeguards Policies and Procedures that would trigger by this project are also evaluated. An outline of the legislative, policy and regulatory framework that the proponent will need to observe when implementing this project to comply with the environmental and social requirements.

3.2 Policy Frameworks

The Republic of Kenya has a policy, legal administrative framework for environmental and social management. The broad objectives of the policy are: -

- ✓ To ensure optimal use of natural resources while improving environmental quality.
- ✓ To conserve natural resources such that the resources meet the needs of the present without jeopardizing future generations in enjoying the same.
- ✓ To develop awareness that inculcates environmental stewardship among the citizenship of the country.
- ✓ To integrate environmental conservation and socio-economic aspects in the development process.
- ✓ To ensure that national environmental and social goals contribute to international obligations on environmental management and social integrity

To achieve the above policy objectives, it is a policy directive that appropriate reviews and evaluations of all forms of developmental project plans and operations are carried out to ensure compliance with the environmental policy and legal frameworks. The following section provides details on the relevant policies in the country.

3.2.1 Sessional Paper No. 10 of 2012 on Kenya Vision 2030

The Kenya Vision 2030 is a comprehensive national development plan for the period 2008 to 2030. The plan was developed following successful implementation of the Economic Recovery Strategy for Wealth and Employment Creation which ensured the country's economy was back on the path for realization of rapid economic growth since 2002. The country's GDP growth rose from 0.6% to 7% in 2007 but declined to 1.7% and 1.8% in 2008 and 2009, respectively. The objective of the Vision 2030 is to transform Kenya into a middle-income country with a consistent annual economic growth of 10 % by the year 2030.

The 2030 goal for urban areas is to achieve "a well-housed population living in an environmentally-secure urban environment." This goal is expected to be achieved by developing basic infrastructure services such as roads, streetlights, water and sanitation facilities, storm water drains, footpaths, and others while ensuring that the country has a

clean, secure and sustainable environment by 2030 through reduction of pollution and improvement of waste management. The proposed road project will contribute to the realization of the goals of Vision 2030 through improvement of a reliable and efficient road infrastructure facility, provision of employment opportunities, and provision of faster and efficient mode of transport among other benefits.

3.2.2 Environment and Development (Sessional Paper No. 6 of 1999)

Kenya's policy paper on the Environment and Development was formulated in 1999. The policy defined approaches that will be pursued by the Government in mainstreaming environment into development. The policy harmonized environmental and developmental objectives with the broad goal of achieving sustainable development.

The policy paper also provided guidelines and strategies for government action regarding environment and development. Regarding wildlife, the policy reemphasized government's commitment towards involving local communities and other stakeholders in wildlife conservation and management, as well as developing mechanisms that allow them to benefit from the natural resources occurring in their areas. The policy also advocated for the establishment of zones that allow for the multiple use and management of wildlife. This policy is relevant to the proposed development project in view of the potential impacts on the environment and involvement of the public in project planning.

3.2.3 Sessional Paper No. 10 of 2014 on the National Environment Policy

The policy seeks to provide the framework for an integrated approach to planning and sustainable management of natural resources in the country. It recognizes the various vulnerable ecosystems and proposes various policy measures not only to mainstream sound environmental management practices in all sectors of society throughout the country but also recommends strong institutional and governance measures to support achievement of desired objectives and goals

3.2.4 National Environmental Action Plan (NEAP) of 2009-2013

The 1992 Earth Summit held in Rio de Janeiro came up with various recommendations, among them Agenda 21, a Global Environmental Action Plan. The theme of the Summit focused on how nations could attain sustainable development. The Government of Kenya embraced this idea by developing the first National Environment Action Plan (NEAP) in 1994.

The NEAP report addresses environmental issues from various sectors in an integrated manner and their significance in development planning. It proposed a strategy for achieving sustainable development in line with Kenya's quest to meet the Millennium Development Goals (MDGs), Vision 2030 and Medium-Term Plan (MTP). The report brings out several proposed interventions, legal and institutional framework to be incorporated into sectorial development plans and programmes. Its implementation is monitored through the Annual State of the Environment Reporting.

3.2.5 The National Poverty Eradication Plan (NPEP) of 1999

The National Poverty Eradication Plan (NPEP) was formulated with an objective of reducing the high levels of poverty in Kenya by 50 per cent by the year 2015, as well as to strengthen the capabilities of the poor and vulnerable groups to earn income. The plan also aimed at reducing gender and geographical disparities to create a healthy, better educated and more productive population. The formulation of the plan was guided by the

goals and commitments agreed during the World Summit for Sustainable Development (WSSD) of 1995. The plan therefore focuses on the delivery of four WSSD themes of poverty eradication; reduction of unemployment; social integration of the disadvantaged people and creation of an enabling economic, political, and cultural environment through development of transport and communication sector.

The plan is implemented by the Poverty Eradication Commission (PEC) that was established in collaboration with various Government Ministries, bilateral and multilateral donors, the private sector, Community Based Organizations (CBOs) and Non-Governmental Organizations (NGOs). The NPEP is relevant since the proposed road will create an enabling environment that will contribute immensely in the enhancement of economic growth in Kenya. The proposed project would also impact businesses, agricultural and tourism related activities that have great relevancy to poverty eradication in the country

3.2.6 The Poverty Reduction Strategy Paper (PRSP) of 2000

The Poverty Reduction Strategy Paper (PRSP) for Kenya has the broad objective of reducing poverty and promoting economic growth. This policy articulates Kenya's commitment and approach to tackling endemic poverty through involvement of the poor communities in both rural and urban areas in various socio-economic development activities. The proposed project, during and after implementation will offer various employment opportunities to Kenyans and will therefore contribute directly towards the realization of the broad national goal of reducing poverty in the country. In addition, the project would stimulate economic development by creating an enabling environment for other key sectors of the economy to thrive.

3.2.7 The National Biodiversity Strategy of 2000

The National Biodiversity Strategy and Action Plan (NBSAP) was formulated to enable Kenya address national and international commitments defined in Article 6 of the Convention on Biological Diversity (CBD). The strategy is a national framework of action for ensuring that the present rate of biodiversity loss is reversed, and 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 share the benefits arising fairly and equitably 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. The proposed road project will need to comply with the requirements of this strategy since the project may lead to loss of biodiversity in some sections along the proposed route. Before works commence an in-depth biodiversity assessment will be carried out on the Chagaik to Kapsaos swamps to understand their status, wildlife sustainability and productivity (wildlife, agriculture, livestock, water quality, soil, etc.), to identify potential impact of construction and operation of the road on the wetland productivity and to identify mitigation / enhancement measures.

3.2.8 National Environment Policy, 2013

This policy aims to protect the environment. Section (5.6) on Infrastructural Development and Environment 5.6.1 states that Infrastructural development includes among other buildings, roads, ports, railways, ICT, pipelines, irrigation systems, airports and electricity transmission. This section also emphasizes that the environment aspects of such infrastructural developments are distinct and unique such as effects on flora and fauna,

social and psychological disruption, vegetation clearance, excavation works and spillages during construction. This policy states that the government will:

- Ensure Strategic Environmental Assessment (SEA), Environmental Impact Assessment, Social Impact Assessment and Public participation in the planning and approval of infrastructural projects
- Develop and implement environmentally friendly national infrastructural development strategy and action plan
- Ensure that periodic Environmental Audits are carried out for all infrastructural projects

3.2.9 The National Poverty Eradication Plan (NPEP) of 1999

The National Poverty Eradication Plan (NPEP) was formulated with an objective of reducing the high levels of poverty in Kenya by 50 per cent by the year 2015, as well as to strengthen the capabilities of the poor and vulnerable groups to earn income. The plan also aimed at reducing gender and geographical disparities in order to create a healthy, better educated and more productive population. The formulation of the plan was guided by the goals and commitments agreed during the World Summit for Sustainable Development (WSSD) of 1995.

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3.2.10 Gender Policy of 2011

The purpose of the Gender Policy is to institutionalize The Kenya National Policy on Gender and Development (NPGD), within Gender, Children and Social Development. It articulates the policy approach of gender mainstreaming and empowerment of women at the ministry level. The policy seeks to have a society where women, men, children and persons with disabilities enjoy equal rights, opportunities and a high quality of life. This report has in depth addressed matters to do with gender and development and in the concession period the entire project period the project shall be governed under this principle.

3.2.11 The Education Gender Policy (2007)

This policy addresses prevention and response to school related gender-based violence. It recommends mainstreaming of policies that address GBV at all education levels; establishing modalities for dealing with SGBV including harassment; and developing and implementing clear anti-sexual harassment and anti-gender-based violence policies at all levels in the Ministry of Education and all educational institutions.

3.2.12 Sexual and Gender Based Violence (SGBV) Policy 2017

The purpose of this policy is to put in place a framework to accelerate implementation of laws, policies and programmes for prevention and response to SGBV. The overall objective of the policy is to progressively eliminate sexual and gender-based violence through the development of a preventive, protective, supportive, and transformative environment

3.2.13 Kenya Rural Development Strategy (KRDS) 2002-2017

This was a long-term framework outline, with a broad range of strategies for the improvement of rural Kenya over the next 15 years.

- ✓ It emphasized food security as the initial step towards poverty alleviation/reduction and rural development. Kenya adopted the policy of rural decentralization as a fundamental policy for rural development.
- ✓ The thrust of the policy was to achieve balanced development in rural areas as well as improvement and sustenance of the livelihood of the rural household. The intention of this policy was to use rural development as a vehicle that would enhance transformation of Kenya's rural economy enabling the rural society, among other things, to achieve better living conditions from increased productivity, improved transportation facilities and new market opportunities, to promote social system close to the people based on their perceived needs and requirements as well as to stimulate growth of the national economy and ensure sustainable development

3.2.14 KeNHA's Environment and Social Safeguards Policy, 2018

The revised policy is set within KeNHA Vision of quality, safe and adequate National Trunk Roads network. It contains the actions KeNHA will take to ensure that the Authority activities do not negatively harm the environment and adversely affect the social fabric in communities where it works. Working in an environmentally and socially responsible and safe manner are conditions of employment of contractors for various projects. This policy is therefore targeting all its staff, contractors and other service providers. The Policy will be mainstreamed to all bidding and contract documents for the civil works.

3.2.15 Vision 2030 Development Strategy

Bypasses Roads programs is part of the Kenya Vision 2030 Strategy which is the national long-term development policy that aims to transform Kenya into a newly industrializing, middle-income country providing a high quality of life to all its citizens by 2030 in a clean and secure environment. The Vision comprises of three key pillars: Economic; Social; and Political. The Economic Pillar aims to achieve an average economic growth rate of 10 % per annum and sustaining the same until 2030.

The proposed Kericho bypass road project is an important component towards achieving the infrastructure development agenda and therefore fully consistent with the Vision 2030.

3.2.16 The Kenya National Climate Change Response Strategy of 2010

This strategy on Climate Change provides measures that the Government of Kenya is taking to address issues related to the impact of climate change on various sectors of the economy. The proposed road will need to take on-board the effects of changing climate in the country and apply applied climate change mitigation measures. This is important because climate change will in future affect the operation of the road

3.2.17 Counties Integrated Development Plans

One of the objectives of the Kericho Bypass study is to integrate the transportation system and land use pattern to optimally exploit the potential of the Country. The Kericho Bypass Road project is therefore fully consistent with aims and objectives of the Regional Development plans.

3.3 Legal and regulatory Framework

3.3.1 The Constitution of Kenya 2010

In Part 2 of the Constitution, on the Rights and Fundamental Freedoms, under Article 42 states that, "Every person has the right to a clean and healthy environment, which includes the right.

a) 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
b) To have obligations relating to the environment fulfilled under Article 70".

Further, in Part 2 of the Constitution on Environmental and Natural Resources, Article 70 (1) on Enforcement of environmental rights, it states that,"(1) If a person alleges that a right to a clean and healthy environment recognized and protected under Article 42 has been, is being or is likely to be, denied, violated, infringed or threatened, the person may apply to a court for redress in addition to any other legal remedies that are available in respect to the same matter.(2) On application under clause (1), the court may make any order, or give any directions, it considers appropriate–

a) to prevent, stop or discontinue any act or omission that is harmful to the environment.
b) to compel any public officer to take measures to prevent or discontinue any act or omission that is harmful to the environment; or
c) To provide compensation for any victim of a violation of the right to a clean and healthy environment.

3.3.2 Explosives Act, Cap 115

The contactor, apart from acquiring a license, should use explosives magazines as specified by The Explosive Act 115, subject to the provisions of the explosives (blasting explosives) rules, subsidiary legislation and special conditions. Within all the quarries and where possible, the contractor should use low tension explosives (class 2) that do not cause fright of fragments.

Before carrying out the explosion exercise, the quarry supervisor should make sure that there is no one within the vicinity, especially children, men, women, idlers and livestock. The low-tension blast should not be noticed after a radius of approximately 100 meters away, the safe blasting distance.

3.3.3 Labour relations Act no. 14 of 2007.

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 democratization of trade unions and employers organizations 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.

3.3.4 Occupation Health and Safety Act (OSHA), Cap 15 of 2007.

The OSHA outlines and explains issues relating to safety, health and welfare of the workers and all persons lawfully present at workplaces. During the road construction phase, the contractor must comply with the following issues explained in this Act which are:

- Duties of employees
- Prohibition against creation of hazards.
- Machinery safety and safety general provisions.

3.3.5 Wildlife Act

The wildlife Act of 2013 is meant to safeguard the wildlife and their habitats from any form of harm and negative exploitation. Infrastructural development such as the construction of roads may affect wildlife in different ways such as passing through their habitats hence an agent of stress and population fragmentation. The construction process may also introduce pollutant elements into the wildlife habitat, hence the need for the protection by the act. Some of the specific chapters of the Act associated with the infrastructural development include:

Section I subsection 2 defines the application scope for the act to include all wildlife resources on public, community and private land, and Kenya territorial waters. This therefore covers any kind of wildlife that may be found the project site.

Section on conservation, protection and management Article 26 states that the environmental law, EMCA of 1999 will be applied in the management of the wildlife resources. The other law that will work in tandem with this Act is the Water Act under point 28. This gives anyone the right to use any water resource, reservoir or point, as may be needed in the construction process in this infrastructural development. Article 27 states no exemption of anyone from the application of the other environmental laws even if they have a licence/permit from the service.

3.3.6 Public Health Act, Cap 242

Section 118 of this Act states that any factory or trade premises not kept in a clean state or free from offensive smell arising from any drain, privy, water closet or urinary or not ventilated as far as practicable, any gases or so overcrowded or so badly lighted or injurious or dangerous to the health of those employed therein is liable to be dealt with as provided in the Act. The contractor must put in place the following measures to avoid the above factors that are injurious to the surrounding and to the employees, especially within the workmen's camp, asphalt plant or at quarries:

- Use of protective gear to be emphasized and monitored.
- To maintains that the toilets are cleaned and disinfected regularly.
- Working area at the workshop to be spacious enough spacious and comfortable for workers (ergonomic considerations at workplace).

3.3.7 The Sexual Offences Act of 2006

This is an Act of Parliament to make provision about sexual offences, their definition,

prevention and the protection of all persons from harm from unlawful sexual acts, and for connected purposes. Considering that there are various primary schools and secondary schools within the project road areas, the contractor and his employees, especially men, should be well informed that they should desist in developing unlawful relationships with pupils with the objective of deceiving them. The law of Sexual Offences will be applied to them if found doing so and convicted in a court of law.

3.3.8 Work Injury Benefits Act, No. 13 of 2007

This Act provides provisions for compensation to employees for work related injuries and diseases contracted in the course of their employment and for connected purposes. The obligation of the employer is to make sure that the employer is insured and registered with an approved insurer in respect of any liability that the employer may incur under this Act, Rights to Compensation, e.g., in case of an accident and avoid any exposure of the employee to occupational diseases. The contractor should:

- Make sure the permanent workers are insured and registered with an insurer.
- Make sure there is an effective HIV/AIDS programme undergoing to the employees during the road construction phase.
- Make sure there is a trained First Aider at the working places and provide a well-equipped First Aid Kit.

3.3.9 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.

3.3.10 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, to provide for the powers and functions of the authorities and for 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.

Relevance

n 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 reducing 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.

3.3.11 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.

3.3.12 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 provides the basic minimum conditions for 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 observed.

3.3.13 HIV/AIDS Prevention and Control Act, 2006

This law requires HIVAIDs 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 tis achieved by bidders.

3.3.14 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 conduct of construction works will be required to meet registration and approval requirements with NCA.

3.3.15 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

3.3.16 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.

3.3.17 Physical Planning Act, 2019

This is the main Act that governs land planning and it is a 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 project appointed contractor will seek approval for the construction of the 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 corridor.

3.3.18 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 the counties to ensure that the project is in line with the set-out strategies by the county in mitigating climate change as per the Act.

3.3.19 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".

This Act also created the Energy Petroleum Regulatory Authority (EPRA) whose functions and powers include issuance of licenses, 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 ERC shall be required in line with this Act.

3.3.20 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 include:

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

3.4 Institutional framework

The main administrative structures are described in the following sections

3.4.1 The 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. 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.

3.4.2 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 and 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 regard to this project, this department will play a key role in setting standards for compliance with the Environment and Social Management Plan (ESMP) produced in this Report. This will include but not limited to ensuring the contractor prepares the CESMP and approving the same, induction and training of the contractors and supervision consultants, participating in monthly site meetings, monitoring and supervision of the ESIA/ESMP, carrying out compliance EHS audits, and reporting of the implementation of project safeguards.

3.4.3 The National Environment 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 ESIA license before implementation It will also participate in subsequent stages of construction environmental management and annual environmental audits review.

3.4.4 Water Resource Authority (WRA), formerly WRMA

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 authorization from WRA to abstract any underground or surface water resources.

3.4.5 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 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.

3.4.6 Kenya Roads Board

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 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 integrated National transport policy in the construction and maintenance of the road.

3.4.7 Kericho County Government

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 government 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.

3.4.8 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.

3.5 National Environmental Legal Frameworks

3.5.1 Overview

The Republic of Kenya has numerous statutes that guide environmental management and conservation in the country. Most of these statutes are sector specific and cover a

wide range of issues including public health, soil conservation, protected areas conservation, endangered species, public participation, water rights, water quality, air quality, excessive noise control, vibration control, land use, among others. The relevant legislations are described in the following sections.

3.5.2 Environmental Management and Coordination Act (EMCA, Cap 387)

Environmental Management and Co-ordination Act (EMCA, Cap 387) is the main environmental law governing the management and protection the environment in Kenya. The Act provides both legal and institutional framework needed for sustainable management of the environmental resources. It provides for the development of other subsidiary and more specific regulations to help in environmental management. Additionally, it establishes different institutions that carry out specified roles in the environmental management. These include NEMA, NEC and NET.

EMCA, Cap 387 brings in the Environmental Impact assessment as an important tool to be used in the management of the environment and ensuring the integrity of the environment is maintained especially by the projects that can potentially have negative impacts on the environment. This Act puts the responsibility of ensuring the adherence to the EIA on NEMA, hence the involvement of the body in the EIA development process. These are directed in subsection 1 and 2 of Section 58 of the Act. The Act goes further to list the kind of projects which require EIA prior commencement under the Second Schedule. Road construction is listed under part 3 (a) and (b). Section 50 of the Act covers conservation of biological diversity and part (c) states the Authority (NEMA) shall identify potential threats to biological diversity and devise measures to remove or arrest their effects", and infrastructural development is a potential threat, hence the importance to consider how biodiversity and the environment in general can be impacted.

3.5.3 The Environmental (Impact Assessment and Audit) Regulations 2003

These regulations were developed following the directive by EMCA, Cap 387 specifically Section 147 which calls for the Minister in charge of environmental affairs to develop regulations to guide the enforcement of the environmental law. According to Section 4 subsection concerning the approval of EIA (1) No proponent shall implement a project (a) likely to negatively affect the environment and (b) which requires an EIA to be carried out.

EIA has to be carried out and approved as guided by the law. Subsection 2 forbids any licencing authority from issuing a licence to any project requiring EIA before an EIA has been done and the proponent issued with an EIA certificate. Under the Subsection 4 of these regulations, if the EIA raises issues that can affect more than one district/County, then the Authority shall submit the application to the relevant County Environment Director. This is very likely scenario for this project given that the road shall traverse several Counties. The importance of the local input by the people who are likely to feel the impact of a project is covered in Section 17 subsection (1).

3.5.4 EMCA Waste Management Regulations, 2006

The Environmental Management and Coordination (Waste Management) Regulations, 2006 were developed under the directive of EMCA, Cap 387 to guide the management of waste materials in the environment, ensuring a clean and healthy environment to man and other forms of biodiversity. These regulations are relevant in this project for several reasons. First, this project will see people congregate at the project site and waste material are sure to be introduced in the environment. These will be in the form of wastes from the consumables, food stuff, packaging materials and even the some that will be

used in the road construction process. Under Part II on the general provisions are the responsibilities of waste generators.

The first responsibility states that no person shall dispose of any waste on a public highway, street, road, recreational area or in any public place except in a designated waste receptacle. The second responsibility says that any person whose activities generate waste shall collect, segregate and dispose or cause to be disposed of such waste in the manner provided for under these Regulations. These responsibilities are summarized in the third regulations that any person whose activities generates waste has an obligation to ensure that such waste is transferred to a person who is licensed to transport and dispose of such waste in a designated waste disposal facility. This will be important because all along the project area, waste materials will be produced and these will inform the development of a proper waste management system.

Such handling is further guided in subsection 5 of the regulations under Segregation of the waste by the generator which states that Any person whose activities generate waste, shall segregate such waste by separating hazardous waste from non-hazardous waste and shall dispose of such wastes in such facility as is provided for by the relevant Local Authority. It is therefore important that the local authorities in the project sites are well informed so that they know of the kind of wastes the project will produce and consequently develop proper handling mechanisms in case they are not their already. Such will include proper transportation for which the guidelines are provided under the subsections 7, 8 and 9 of the regulations. It is also important for the project to know of the disposal ability of the local facilities and whether they can properly handle the kinds of wastes generated by the project as directed by subsections 12 and 13 of the waste management regulations and the relevant schedules therein.

3.5.5 EMCA (Water Quality) Regulations, 2006, Legal Notice 121.

Environmental Management and Coordination (Water Quality) Regulations, 2006, Legal Notice 121 outlines the protection of sources of water for domestic use, especially prevention of water pollution, protection of rivers, streams, springs, wells and other water sources. It also entails regulations on discharge of effluent into the aquatic environment, application for effluent discharge license, abstraction from a water body under environmental management plan as well as water pollution prohibition. The contractor should therefore, among others and as the situation will demands:

- Obtain water abstraction permit from the relevant authority (WRMA) before collecting water for road construction from any watercourse.
- Avoid dumping road construction spoil material into watercourses.
- Discharge his effluent at designated places only, which are approved by NEMA.

3.5.6 EMCA (Air Quality) Regulations, 2014

The Contractor shall ensure the compliance to emission of the air pollutants levels in adherence to the Ambient Air Quality levels specified in the regulations. The regulations have an objective to provide for prevention, control and abatement of air pollution to ensure clean and healthy ambient air. The first paragraphs-Numbered 58 and 59- of Part XI detail the requirements on monitoring and assessment of ambient air quality. The construction activities will result to increased dust and gas emissions. Some construction machinery and trucks will generate exhaust fumes such as Carbon Oxides (CO_2), Sulphur Oxides (SO_2) and Nitrogen Oxides (NO_2). The main sources of air emission and pollutants during the project cycle will be:

- Dust emission from the road construction activities
- Construction plant and equipment onsite
- Vehicular movement along the road under construction and from the identified raw material sites, -borrow pits and quarries.

During the construction phase, there will be the need for establishment of baseline levels of priority air pollutants set out in the second schedule of the regulation under Part I; General source pollutants and include particulate matter, nitrogen oxides and sulphur oxides. The limits included in the first schedule of the regulations.

3.5.7 EMCA (Noise and Vibration Control) Regulation, 2009

Section 5 of the regulation warns on operating beyond the permissible noise levels while Section 6 gives guidelines on the control measures for managing excessive noises. In this context, the project team should observe the noise regimes for the different zones especially so for working in areas termed as silent zones which include institutions, and worship places, amongst others. These areas are permitted exposure to Sound Level Limits of not exceeding 40 dB (A) during the day and 35 dB (A) at night.

- The regulation states that a day starts from 6.01 a.m. to 8.00 p.m., while night starts from 8.01 p.m. – 6.00 a.m. Construction sites near the silent zones are allowed maximum noise level of 60 dB (A) during the day, whilst night levels are maintained at 35 dB (A). The time frame for construction sites is adjusted and the day is considered to start at 6.01 a.m. and ends at 6.00 p.m. while night duration starts from 6.01 p.m. and ends at 6.00 a.m.
- Part III of the regulation gives guidelines on noise and vibration management from different sources. Sections 11, 12 and 13 of the stated part give guidelines on noise and vibration management from machines, motor vehicles and night time construction respectively. Section 15 requires owners of activities likely to generate excessive noise - e.g. quarries- to conduct an ESIA. The above time limits must therefore be observed.

3.5.8 EMCA (Conservation of Biological Diversity) Regulations, 2006

The Regulations requires proponents to conduct ESIA if their activities may have adverse impacts on ecosystems or lead to unsustainable use of natural resources or/and lead to introduction of exotic species. The regulation aims at increasing the coverage of protected areas and establishing new special status sites by providing guidelines for protecting endangered species. Section 5 of the regulation provides guidelines on Conservation of threatened species and Part III of the regulation guides on the access to genetic materials. The Section states that, the Authority shall, in consultation with the relevant lead agencies, impose bans, restrictions or similar measures on the access and use of any threatened species to ensure its regeneration and maximum sustainable yield.

- During the road's slope protection work within the deep terrains and along the various watercourses and wetland where the road will traverse, landscaping should be done by authorised specialists with showcases in road protection work, e.g. by the use of vetiver grass among other slope protection shrubs.
- No plant should be introduced either for landscaping or slope protection without the approval of the project's Client.

3.5.9 Environmental Assessment and Monitoring Agencies

The National Environment Council: The Council is responsible for policy formulation and

directions for the purposes of developing the EMCA. The Council also sets national goals and, objectives, and determines policies, and priorities for the protection of the environment.

The National Environment Management Authority (NEMA): NEMA is responsible for general supervision and, co-ordination of all matters relating to the environment and is the principal instrument of government in the implementation of all policies relating to the environment. The authority is also responsible for monitoring compliance with all the NEMA regulations.

The Standards and Enforcement Review Committee (SERC): NEMA through EMCA has established standards for the various environmental parameters that require management and these include the water quality standards, noise and vibration control standards, and the waste management standards, amongst other. SERC, through the Compliance and Enforcement Department of NEMA monitors the compliance level of the project to ensure environmental control standards are implemented. The committee also follows on complaints reported by the public.

The County Environment Committees: These committees contribute to decentralization of activities undertaken by NEMA and thus enable local communities to have access to environmental management information. The committees also conduct quick site visits and review environment related reports of the projects and on occasions could attend site meetings.

3.6 World Bank's Environmental and Social Policies.

3.6.1 Environmental and Social Framework (ESS)

The table below summarises the provisions of World Bank's 2016 Environmental and Social Framework.

Standard/Guideline	Provision
Environmental and Social Safeguard (ESS 1) Assessment and Management of Environmental and Social Risks and Impacts	• Provides for identification and evaluation of environmental and social risks and impacts of a project. • Provides for the adoption of a mitigation hierarchy to anticipate and avoid, minimize, and, where residual impacts remain, compensate/offset for risks and impacts to workers, affected communities, and the environment. • Provides for improvement in environmental and social performance through the effective use of management systems. • Provides for mechanisms to ensure that grievances from affected communities and external communications from other stakeholders are responded to and managed appropriately; • Provides for mechanisms for adequate engagement with affected communities throughout the project cycle on issues that could potentially affect them;

Standard/Guideline	Provision
	• Provides for measures to ensure that relevant environmental and social information is disclosed and disseminated
Environmental and Social Safeguard (ESS 2) Labour and Working Conditions	• Provides for measures to promote the fair treatment, non-discrimination, and equal opportunity of workers. • Provides for measures to establish, maintain, and improve the worker-management relationship. • Provides for measures to promote compliance with national employment and labor laws. • Provides for measures to protect workers, including vulnerable categories of workers such as children, migrant workers, workers engaged by third parties, and workers in an organization's supply chain. • Provides for mechanisms to promote safe and healthy working conditions, and the health of workers; and • Provides for measures to avoid the use of forced labor.
Environmental and Social Safeguard (ESS 3) Resource efficiency and Pollution Prevention	• Provides for measures to avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities. • Provides for measures to promote more sustainable use of resources, including energy and water. • Provides for measures to reduce project-related GHG emissions.
Environmental and Social Safeguard (ESS 4) Community Health, Safety and Security	• Provides for mechanisms to anticipate and avoid adverse impacts on the health and safety of the affected community during the project life from both routine and non-routine circumstances; and • Provides for measures to ensure that the safeguarding of personnel and property is carried out in accordance with relevant human rights principles and in a manner that avoids or minimizes risks to the affected communities.
Environmental and Social Safeguard (ESS 5) Land Acquisition and Involuntary Resettlement	• Provides for measures to ensure the avoidance, and when avoidance is not possible, minimization of displacement by exploring alternative project designs. • Provides for measures to ensures the avoidance of forced eviction.

Standard/Guideline	Provision
	• Provides for measures to ensure the anticipation, avoidance or minimization of adverse social and economic impacts from land acquisition or restrictions on land use by (i) providing compensation for loss of assets at replacement cost and (ii) ensuring that resettlement activities are implemented with appropriate disclosure of information, consultation, and the informed participation of those affected. • Provides for measures to ensures the improvement or restoration of the livelihoods and standards of living of displaced persons; and • Provides measures to ensure the improvement of living conditions among physically displaced persons through the provision of adequate housing with security of tenure at resettlement sites.
Environmental and Social Safeguard (ESS 6) Biodiversity Conservation and Sustainable Management of Living Natural Resources	• Provides for measures to ensure the protection and conservation of biodiversity. • Provides for measures to ensure the maintenance of benefits from ecosystem services; and • Provides for measures to promote the sustainable management of living natural resources through the adoption of practices that integrate conservation needs and development priorities.
Environmental and Social Safeguard (ESS 7) Indigenous Peoples	• Provides for measures to ensure that the development process fosters full respect for the human rights, dignity, aspirations, culture, and natural resource-based livelihoods of Indigenous Peoples. • Provides for measures to ensure the anticipation and avoidance of adverse impacts of projects on communities of Indigenous Peoples, or when avoidance is not possible, to minimize and/or compensate for such impacts. • Provides for measures to promote sustainable development benefits and opportunities for Indigenous Peoples in a culturally appropriate manner. • Provides for measures to establish and maintain an ongoing relationship based on Informed Consultation and Participation (ICP) with the Indigenous Peoples affected by a project throughout the project's life-cycle; and

Standard/Guideline	Provision
	• Provides for measures to respect and preserve the culture, knowledge, and practices of Indigenous Peoples.
Environmental and Social Safeguard (ESS 8) Cultural Heritage	• Provides for measures to protect cultural heritage from the adverse impacts of project activities and support its preservation. • Provides for measures to promote the equitable sharing of benefits from the use of cultural heritage; and • Provide for measures to address impacts on physical cultural resources in projects proposed for Bank financing, as an integral part of the environmental assessment (EA) process.
Environmental and Social Safeguard (ESS 9) Financial Intermediaries	• Recognizes that strong domestic capital and financial markets and access to finance are important for economic development, growth and poverty reduction.
Environmental and Social Safeguard (ESS 10) Stakeholder Engagement and Information Disclosure	• Recognizes the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice • It supports the development of strong, constructive and responsive relationships that are important for successful management of a project's environmental and social risk • Stakeholder engagement is most effective when initiated at an early stage of the project development process, and is an integral part of early project decisions and the assessment, management and monitoring of the project's environmental and social risks and impacts • . Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation.

3.6.2 World Bank Group Environmental, Health and Safety (EHS) Guidelines

The Environmental, Health and Safety (EHS) Guidelines 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 to provide mitigation measures for the various environmental and social impacts that will be identified in this report. The main EHS guidelines that will be used alongside local policies include:

- Environmental Guidelines
- Occupational Health and Safety Guidelines
- Community Health and Safety Guidelines
- Construction and Decommissioning Guidelines

3.7 AfDB Operational Safeguards

AfDB has adopted a series of five Operational Safeguards (OS) which set out the Bank's overarching requirements to identify, assess, and manage the potential environmental and social risks and impacts of a project, including climate change issues. The safeguards also and set out specific requirements relating to different environmental and social issues, including gender and vulnerability issues, that are triggered if the assessment process reveals that the project may present certain risks (AfDB, 2013).

3.7.1 OS 1: Environmental and social assessment

The OS provides for conducting the environmental and social assessment (Strategic Environmental and Social Assessment, or Environmental and Social Impact Assessment) and for developing, as an integral part of project documentation, an appropriate plan for managing possible impacts. The OS requires:

- Screening of the project for environmental and social impacts including climate change impacts, potential adaptation and mitigation measures, and the vulnerability of populations and their livelihoods—to determine the specific type and level of environmental and social assessment.
- Scoping of the project's components, including delineating the project's geographic and temporal area of influence, consideration of alternatives, and assessment of cumulative impacts, where relevant. Scoping activities also determine the range of likely potential risks and impacts and also determines whether specific requirements of the Bank's OSs apply. All relevant direct and indirect environmental and social risks and impacts, including those specifically covered the other Operational Safeguards would be addressed in an integrated manner.
- Consideration of real alternatives to the project's location and/or design to avoid adverse impacts. The mitigation hierarchy to be applied includes: if avoidance is not possible, reduce and minimize potential adverse impacts; if reduction or minimization is not sufficient, mitigate and/or restore; and as a last resort compensate for and offset.
- Assessment to comply with the relevant legislation and standards applicable in the local jurisdiction, bearing in mind the equivalence of standards with those of the Bank. Assessment to also take into consideration national or regional- level programming documents that are under implementation or in preparation.
- assessment process to support and strengthen existing country systems for environmental, climate, and social risk management, including those specifically related to OSs 2-5, such as systems and institutions covering resettlement, biodiversity protection, pollution control, and labor standards.
- The assessment to be conducted according to the principles of proportionality and adaptive management. The level of assessment and management required should be proportionate to the level of risk that the project poses as identified during

categorization and scoping—and the management measures adopted should be capable of being adapted to changing circumstances during the full project cycle.

- Assessment to include the development of a comprehensive and implementable ESMP with a realistic timeframe, incorporating the necessary organizational capacity (including further training requirements) and financial resources to address and manage the environmental and social risks that may occur during the full project cycle.
- Categorization of projects following the principle of using the appropriate type and level of environmental and social assessment for the type of operation. The categories include:

  - ✓ *Category 1- projects likely to induce significant and/or irreversible adverse environmental and/or social impacts, or to significantly affect environmental or social components that the Bank or the borrowing country considers sensitive*
  - ✓ *Category 2: Projects likely to have detrimental site-specific environmental and/or social impacts that are less adverse than those of Category 1 projects. Likely impacts are few, site-specific, largely reversible, and readily minimized by applying appropriate management and mitigation measures or incorporating internationally recognized design criteria and standards*
  - ✓ *Category 3: Projects which do not directly or indirectly affect the environment adversely and are unlikely to induce adverse social impacts. They do not require an environmental and social assessment. Beyond categorization, no action is required.*
- Category 4: Projects which involve Bank lending to financial intermediaries that on-lend or invest Categorization of projects following the principle of using the appropriate type and level of environmental and social assessment for the type of operation. The categories including subprojects that may produce adverse environmental and social impacts
- The environmental and social assessment process to systematically identify vulnerable groups based on a careful screening and analysis of the social and economic context in which the project will operate. particular attention to be given to assessing the risks and potentially adverse impacts of the project on local communities, including direct and indirect impacts on their health or safety and indirect impacts on their socioeconomic conditions and livelihoods.
- Assessment to identify and qualify the tangible and intangible cultural heritage likely to be affected by the project, and appropriate measures for avoiding or mitigating these impacts.
- Free, prior and informed consultation with communities likely to be affected by environmental and social impacts, and with local stakeholders, and also for ensuring broad community support.
- maximum disclosure, enhanced access to information, and limited exceptions in the environmental and social assessment process ensuring progressive disclosure of documents at key stages during the project cycle and making documents available to the public on request.
- establishment of a credible, independent and empowered local grievance and redress mechanism to receive, facilitate and follow up on the resolution of affected people's grievances and concerns about the environmental and social performance of the project; and
- Implementation of the environmental and social mitigation measures contained in the ESMP and Resettlement Action Plan (RAP) during project

implementation, and reporting to the Bank on key management or monitoring tasks set out in the ESMP and RAP

3.7.2 OS 2: Involuntary resettlement - land acquisition

The OS relates to Bank-financed projects that cause the involuntary resettlement of people. It seeks to ensure that when people must be displaced, they are treated fairly, equitably, and in a socially and culturally sensitive manner; that they receive compensation and resettlement assistance so that their standards of living, income-earning capacity, production levels and overall means of livelihood are improved; and that they share in the benefits of the project that involves their resettlement. The OS requires:

- Consideration of feasible alternative project designs, including re-siting and re-routing, to avoid or minimize physical or economic displacement, while balancing environmental, social, and financial costs and benefits.
- Open, inclusive and effective consultation with local communities entailing appropriate notice to all potentially affected persons that resettlement is being considered, advance dissemination of relevant information, and public hearings that provide affected persons and/or their legally designated representatives with opportunities to challenge the resettlement design and process.
- Consultations with the affected people about their preferences pertaining to resettlement and presentation of genuine choices among technically, economically, and socially feasible resettlement options
- The carrying out of a comprehensive socioeconomic survey in line with international standards for social and economic baseline studies as agreed to in the environmental and social assessment process, including a population census and an inventory of assets (including natural assets upon which the affected people may depend for a portion of their livelihoods.
- Conformance to any relevant host government procedures.
- Establishment of a grievance and redress mechanism to resolve, in an impartial and timely manner, any disputes arising from the resettlement process and compensation procedures.
- Preparation of a Full Resettlement Action Plan (FRAP) for (i) any project that involves 200 or more persons or (ii) any project that is likely to have adverse effects on vulnerable groups. an Abbreviated Resettlement Action Plan (ARAP) is to be prepared for any project in which the number of people to be displaced is fewer than 200 people and land acquisition and potential displacement and disruption of livelihoods are less significant.
- Consultation with those to be displaced to decide on the units that are entitled to compensation (e.g., family, household, and individual);
- That affected people are compensated for all their losses at full replacement costs before their actual move; before land and related assets are taken; and, if the project is implemented in phases, before project activities begin for each phase.
- That the criteria for assessing the value of land, housing and other property are standardized and transparent, and the benefits of the resettlement are clearly established.
- A detailed analysis of host communities to identify potential problems associated with receiving displaced people, and to address these problems so that adverse impacts on host communities are minimized and the host communities can share in the development opportunities provided through the resettlement process.

- The protection of the physical, social, and economic integrity of vulnerable groups and paying particular attention to health needs, particularly for women, including access to female health care providers and to such services as reproductive health care and appropriate counselling for sexual and other abuses.
- The implementation, monitoring and evaluation of the activities set out in the Resettlement Action Plan. Monitoring activities include a review of the grievance and redress mechanism and of the physical progress and impact of the Resettlement Action Plan; and
- The carrying out of an independent ex-post evaluation to examine the effectiveness of the mitigation measures recommended and implemented and to derive lessons learned to inform similar types of projects in the future

3.7.3 OS 3: Biodiversity, renewable resources and ecosystem services

The OS provides for (i) identification and implementation of opportunities to conserve and sustainably use biodiversity and natural habitats, and (ii) observing, implementing, and responding to requirements for the conservation and sustainable management of priority ecosystem services. The OS requires*:*

- Identification and assessment during the environmental and social assessment, the potential opportunities for, risks to, and impacts on biological diversity and ecosystem services, including direct, indirect, cumulative and pre-mitigation impacts.
- That attention be given to the major threats to biodiversity and ecosystem services, such as pollution and contamination, land conversion, habitat fragmentation, natural habitat loss, deforestation, over-exploitation of natural areas and resources, invasive alien species, migration barriers, the capturing of wild animals, the harvesting of endemic species and indigenous ornamental flora and fauna, and wildlife poaching.
- That if projects are to be developed in natural habitats or are to have potential adverse downstream impacts on natural habitats, they should include mitigation measures to achieve either net benefit or no net loss of biodiversity.
- That any proposed development should be consistent with the protected area/internationally recognized area's management plan or, in the absence of a management plan, with the objectives determined by the responsible natural resource, protected area, or wildlife agency.
- Taking precautions to avoid introducing any potentially invasive alien species (that is, species not currently established in the country or region of the project unless such an introduction is in accordance with any existing applicable regulatory framework or the introduction is subject to a risk assessment, which may be part of the environmental assessment, to determine the potential for invasive behavior.
- That for projects that affect water resources, altering flow regimes in ways that prevent water resources from fulfilling their functions for important upstream and downstream ecosystems and their services to local communities should be avoided.
- The assessment and management of environmental flows for the conservation and sustainable use of biodiversity and ecosystem services.
- The maintenance of flows so that they are optimally managed to allow for the multipurpose use of water, including water's ecological functions, and the integrity of river systems and wetlands.

- That the environmental and social assessment uses appropriate methodologies to address the issue of environmental flows according to best practice, including the recommendations of the World Commission on Dams.
- Environmental flow analysis and management are carried out to the extent feasible in the context of river basin planning, so that the basin's entire water balance, now and in the future, is the framework in which environmental flows are determined.
- The development and implementation of a sustainable resources procurement policy, procedures, and action plan to ensure that only resources of a legal and sustainable origin are purchased, and that the resources do not originate from legally protected areas or internationally recognized areas of high conservation value; and
- Performing an ecosystem services review to identify the risks where it is determined that the project may affect important ecosystem services

3.7.4 OS 4: Pollution prevention and resource efficiency

The OS provides for the main pollution prevention and control requirements to achieve high quality environmental performance, and efficient and sustainable use of natural resources, over the life of a project. The OS requires:

- The application of pollution prevention and control measures consistent with national legislation and standards, applicable international conventions, and internationally recognized standards and good practice, particularly the World Bank Group Environmental Health and Safety (EHS) Guidelines.
- The inclusion of resource-efficiency and pollution prevention principles as part of the project policy, in accordance with the principles of cleaner production.
- The avoidance or, where avoidance is not possible, the control and reduction in the generation of pollutants at their source.
- The prevention of discharge of pollutants into the air, surface water and groundwater, land and soil during planned activities as well as unplanned events or emergencies that may result in local, regional, and transboundary impacts. If total prevention is not feasible, specific actions to reduce or minimize the effluents or volume of discharges should be taken.
- The avoidance or, where avoidance is not possible, control and reduction of the generation of hazardous and non-hazardous waste at source, in compliance with applicable international conventions.
- That any chemicals that are banned or subject to phase-out by international treaties, including ozone-depleting substances and persistent organic pollutants shall not be manufactured, traded, donated or used.
- A determination of whether the project poses any operational risk of accident or emergency events, and an assessment of the options for responding to such situations. If appropriate, an emergency response plan proportionate to the risk should be developed, to respond to accidents or emergency events that may pose risks to human health and the environment; and
- An evaluation and, if appropriate, implementation of financially feasible and cost-effective measures for improving efficiency in the project's consumption of resources such as energy, water, raw materials, and other resources

3.7.5 OS 5: Labour conditions, health and safety

The OS provides for the protection of the rights of workers and meeting their basic needs. The OS requires:

- The development and implementation of a human resources policy and procedures appropriate to the nature and size of the project, with the scale of the workforce in alignment with this OS and with applicable national laws;
- That employees be provided with documents that contain information on their employment terms, conditions and rights, including national employment law;
- The provision of reasonable working conditions and terms of employment that, at a minimum, comply with national law and are otherwise consistent with this OS;
- The provision of all basic services including water and sanitation and medical care where residential or temporary accommodation is provided to workers;
- That employment decisions will not be made on the basis of personal characteristics unrelated to inherent job requirements, including race, gender, nationality, religion or belief, disability, age, sexual orientation, or ethnic, social and indigenous origin.
- That special measures be taken to address harassment, intimidation, and/or exploitation, especially in relation to women. In addition, measures shall also be taken to prevent social exclusion of or employment inequalities to women and workers with family responsibilities.
- That a workforce grievance mechanism be permanently available to workers (including workers supplied by third parties) and their organizations to raise reasonable workplace concerns in a transparent manner without fear of retribution.
- That children shall not be employed in any manner that is economically exploitative or is likely to be hazardous or to interfere with the child's education or to be harmful to the child's health or physical, mental, spiritual, moral, or social development as stipulated in national laws in compliance with the provisions of ILO Convention C138 and C182.
- That no forced labour will be employed, that is, any work or service not voluntarily performed that is exacted from an individual under threat of force or penalty.
- That workers be provided with a safe and healthy work environment, considering risks inherent in the particular sector and specific classes of hazards in the work areas, including physical, chemical, biological, and radiological hazards.
- The implementation of a health, safety and environmental programme that includes plans or procedures to prevent accidents, injury, and disease arising from, associated with, or occurring in the course of work; and
- Compliance with all local and national environmental, health and safety laws and regulations

3.8 Multilateral environmental agreements

Relevant obligations in international agreements

MEA	Relevant environmental obligations
East African Community (EAC) Protocol on Environment and Natural	Article 13- Management of water resources requires that Partner States shall utilize water resources sustainably

MEA	Relevant environmental obligations
Resources (EAC, 1999), Amendment 2006	
EAC Climate Change Policy (EACCCP) (EAC, 2011)	Section 3.1.3 Climate change adaptation Relevant sectorial obligations: c) Infrastructure (i) Promoting climate change integration in all planning and design of infrastructure
The 1992 United Nations Framework Convention on Climate Change (UNFCCC)	States to establish methods to minimize global warming and the emission of the greenhouse gases
The Paris Agreement, 2015	The Agreement provides the framework to address climate change for a safer and sustainable future. Prevention of a global temperature increase above 1.5 degrees Celsius relative to pre-industrial levels by reduction of Greenhouse gas emissions
Vienna Convention on the Protection of the Ozone Layer	Phasing out ozone depleting substances to protect the Ozone Layer; Intergovernmental cooperation on research, systematic observation of the ozone layer, monitoring of CFC production, and the exchange of information
United Nations Convention on Biological Diversity (UNCBD)	Conservation and sustainable use of biodiversity
United Nations Convention to Combat Desertification (UNCCD)	Requires partners to address the problem of the degradation of land by desertification and the impact of drought
Convention on Biological Diversity (CBD Secretariat, 1992)	• Conservation and sustainable of biodiversity (Article 1) • International cooperation in biodiversity conservation (Article 5) • In-situ conservation protected areas (Article 8a) • Prevention of alien species (Article 8h) • Ex-situ conservation (Article 9)
Convention on Migratory Species – Bonn Convention	• Conserving migratory species and protecting their habitats (Article 2.1) • Engagement in regional and international agreements on conservation of migratory species in Appendix 1 & II (Article 5) • Prevention of alien species (Article 5.5e) • Establishment of new wildlife habitats for migratory species (Article 5.5g) • Removing threats to migratory corridors and migratory species (Articles 5.5h & i)
Convention Concerning the Protection of the World Cultural & Natural Heritage (United Nations	• Identifying, protecting and conserving natural heritage (Article 4)

MEA	Relevant environmental obligations
Educational, Scientific & Cultural Organisation, 1972)	• Cooperation between countries and involvement of local communities (Articles 6 & 7)

4.0 BASELINE ENVIRONMENTAL AND SOCIAL PARAMETERS

4.1 Introduction

This chapter will describe the baseline environmental and social settings as described in the approaches on Environmental and Social Impact Assessment methodology. It will mainly entail environmental baseline survey and environmental related social and economic baseline.

4.1.1 Layout of the Chapter

Issues that will be addressed in this section will include; Geographical Aspects and Boundaries; Administrative Set-up; Communications and Transport; Government, Non-Governmental and Community Based Organizations.

Environmental baseline survey will address Physiography and Geology, Soils, Climate, Air Quality, Surface and Groundwater Resources, Water Quality and Terrestrial Environment all within the areas traversed by the project. Further Aquatic Environment, Land Resources and Parks, Archaeological, Historical and Cultural Sites, Visual Aesthetics, Noise and Vibrations and management of Solid and Liquid Wastes will all be addressed.

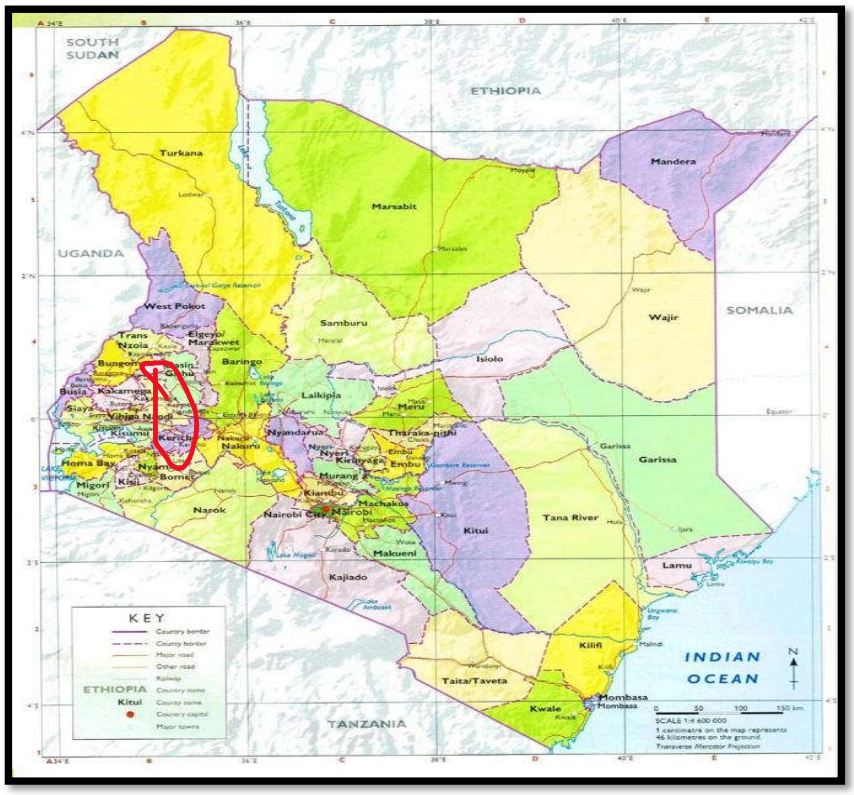
Section dealing with Environment-related Social and Economic Baseline aspects will address the following issues: Demography, Education, Housing, Land Tenure Systems, Labour Force, Livestock and Crop Production, Trade, Commerce and Industry, Health Settings, Security and Public Safety, Community Views and Concerns and Corporate Social Responsibility.

4.1.2 Geographical Aspects and Boundaries

Kericho County is one of the 47 counties in the Republic of Kenya. It is located in the South Rift of the Great Rift Valley, about 256kilometers from Nairobi, the capital city of Kenya. The County lies between longitude 35º 02’ and 35º 40’ East and between the equator and latitude 0 23’ South with an altitude of about 2002 meters above the sea level.

The county is bordered by the Uasin Gishu County to the Northwest, Baringo County to the North, Nandi County to the North-West, Nakuru County to the East and Bomet County to the South. It is bordered to the Southwest by Nyamira County and to the West by Kisumu County. The county occupies a total area of 2,479 square kilometers and is divided into 6 sub-counties, 30 wards, 88 locations and 211 sub locations.

Geographical Aspects of the Project Road and Site



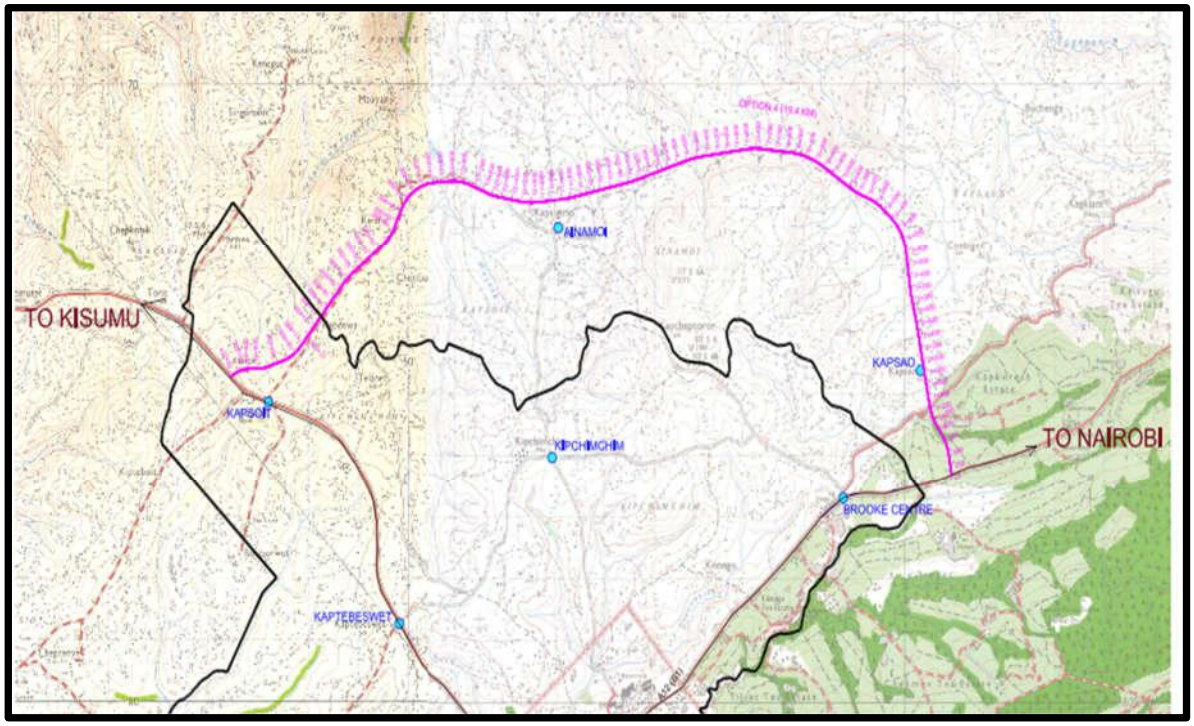


Figure 2: Geographical Aspects of the Project Road and Site

4.1.3 Administrative Structure

The County is divided into 6 sub- counties, which are further sub-divided into 85 locations and 209 sub- locations. The project road will traverse mainly through Ainamoi constituency. The tables below present this area distribution per various administrative units.

Constituency	Sub- Counties	Divisions
Ainamoi	Kericho East	Ainamoi
Belgut	Kericho West	Kabianga
Sigowet/Soin	Sigowet	Soin
Kipkelion West	Kipkelion West	Kunyak Chilchila Kamasian Kipkelion
Kipkelion East	Kipkelion East	Londiani Sorget Chepseon
Bureti	Bureti	Bureti Roret Cheborge

Table 6: Administrative units

Source: County Commissioner's Office, Kericho, 2022

Kericho County Administrative and Political Units

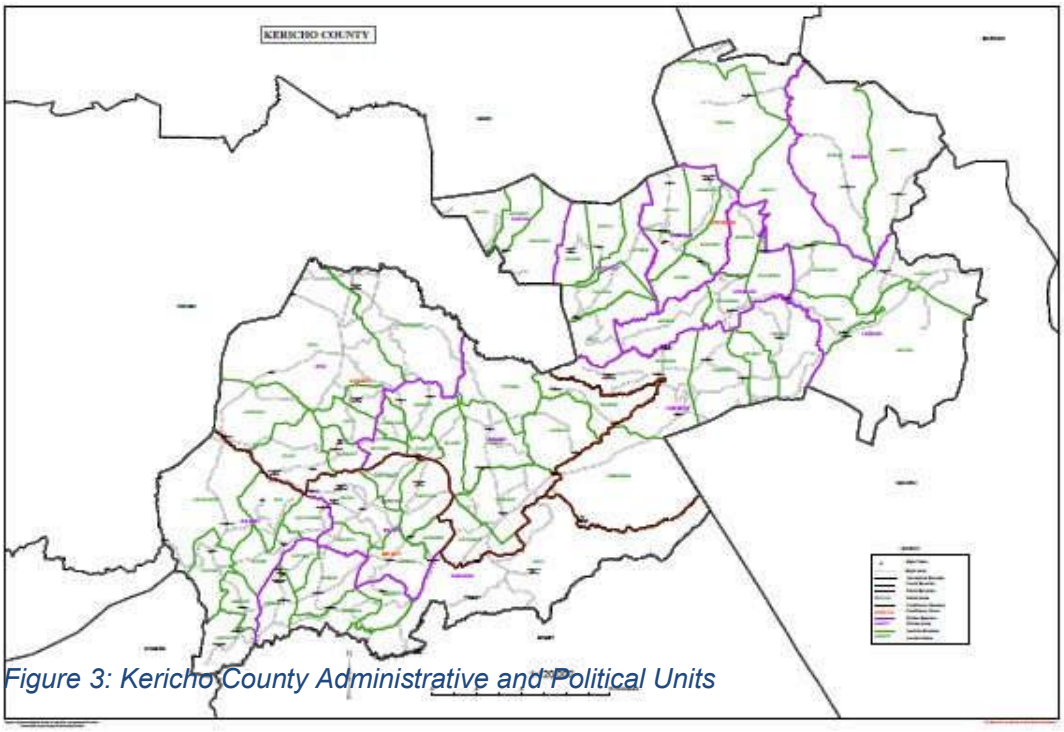


Figure 3: Kericho County Administrative and Political Units

4.1.4 Public Benefits Organizations (PBOs).

Kericho County has several NGOs, and their services range from health matters to rights advocacy. The major players within the health sector are Marie Stopes, JICA, Red Cross, PATH, PEPFAR and Family Planning Health Option. Those inclined to financial services include Samoei Community and South Economic Empowerment Women Organization (SEEWO). Walter Reeds Project, which operates across the county, does research on HIV and AIDS vaccines and other related activities.

There are over 6500 self-help registered groups in the county. These groups engage in diverse activities but most of them focus on activities that can improve the living standards of the members. The members pool resources which empower them to invest in income generating ventures. With the introduction of the Women Enterprise Fund, women within the county have made a commendable stride after having been empowered economically. This has enabled them to invest in income generating activities to add to their disposable income and enable them to repay their loans. Youth Enterprise Development Fund is another government initiative whose objective is to create self-employment among the youth. The youth invest these loans in Income Generating Activities (IGAs) which enable them to repay their loans and improve on their financial status.

Generally, youth and women groups obtain their loans at lower interest rates as compared to those offered by commercial financial institutions. Apart from engaging themselves in economic activities, these groups carry out social activities such as those related to HIV and AIDS.

4.1.5 Transport Facilities

The infrastructural development is mainly carried out by the Department of Public Works, Roads and Transport. Public Works sub sector is involved in the provision of planning, maintenance and supervision services of public buildings and structures. The goal is therefore to ensure standards are followed during construction of the public projects and safety concerns are adhered to as per the building and construction codes.

The roads subsector is mandated to open up county road networks countywide, build drainage structures, and maintain urban and rural county roads. The sub sector is set to achieve opening up of specific lengths of priority road networks identified in the Annual Development Plan. The transport subsector also implements the transport policy and is set to achieve specific road safety initiatives in specific roads identified, issue licenses to public transport with aim of management of the transport services and increase the targeted value of revenue that is also expanded through enforcement of axle load controls at toll stations.

Plate 1: Section of road B12 at Kapsoit and section of exiting KeRRA Road Kapsaos

4.1.6 Communication

The Size of population connected to internet in the county has increased and the population has been able to access information better than before through the vernacular radio stations. The costs of mobile phones are now affordable to most citizens. The county government has provided free Wi-Fi in several spots within the county and so have the private investors in the hospitality industry. Televisions are also more affordable and most public facilities have them. There is one Huduma centre in the county located in Kericho town providing a one stop-shop facility for processing basic documents required by the public.

Plate 2: Kericho County Huduma Centre

4.2 Environmental Baseline Survey

4.2.1 Physiography and Geology

The county is characterized by undulating topography. The altitude of Kericho County where the bypass road traverses has its lowest parts at an altitude of about 1800m while its highlands lie at an altitude of over 2,188m above sea level.

The road traverses a hilly/rolling terrain the overall slope of the land is towards the West, consequently drainage is in that direction. The county forms a hilly shelf between the Mau Escarpment and the lowlands of Kisumu County. To the North West are the hilly areas of Kipkelion rolling towards Koru. The Kericho plateau forms the central part of the county sloping gently from 2,500m to about 1,800m above the sea level.

The county is surrounded by Tinderet Hills to the North and to the North-East is the Mau Escarpment and between them is the gently rolling land which forms Londiani hills (Tuluap-sigis). The central part of the county rises eastward towards 3,000m above sea level. The county is well drained with a good number of rivers that include Chemosit, Kiptaret, Kipsonoi, Timbilil, Maramara, Itare, Nyando, Kipchorian and Malaget. Some of these rivers are characterized by rapids and falls which could be harnessed for hydro-electric power generation. Some of the rivers with the waterfalls include Maramara, Itare and Kiptare.
The small water fall is located about 100m north of River Bagoa which is crossing the road alignment at KM 10+000.

Plate 3: Small waterfall along the proposed road alignment (view from different angle)

4.2.2 Ecological Conditions

Kericho County lies in the Lake Victoria Basin. Its geology is characterized by volcanic rocks as well as igneous and metamorphic complexes. The county is predominantly underlain by tertiary lavas (phonolites) and intermediate igneous rocks. A small part of the county is dominated by undifferentiated basement system rock (granites), volcanic ash admixture and other prolific rocks. The hilly nature in some parts of the county encourages soil erosion. This problem is however minimized by the presence of a dense vegetation cover, except in a few areas like Sigowet in Soin-Sigowet sub-county, Chilchila in Kipkelion west and partly the lower zones covering Koitaburot in Ainamoi sub-county.

Plate 4: Serenity vegetation cover lower zone of Ainamoi

4.2.3 Soils

The surface geological conditions in Kericho county is intact and stable. The soils in this section are predominantly ferrasols rich in organic matter, well drained, reddish brown and appropriate for farming

Plate 5:Sample alignment soil investigation trial pits

4.2.4 Climate

The county enjoys favourable climate and receives relief rainfall, with moderate temperatures of 170C and low evaporation rates. Temperatures range between 100C - 290C. The rainfall pattern is such that the central part of the county, where tea is grown, receives the highest rainfall of about 2,125mm p.a while the lower parts of Soin and parts of Kipkelion receive the least amount of rainfall of 1,400 mm p.a. The county experiences two rainy seasons: the long rainy season between April and June and the short rainy season between October and December. The dry season starts in January and progresses through March although weather shocks have changed the patterns. The variations in the temperatures and rainfall are mainly determined by the altitude of the place.

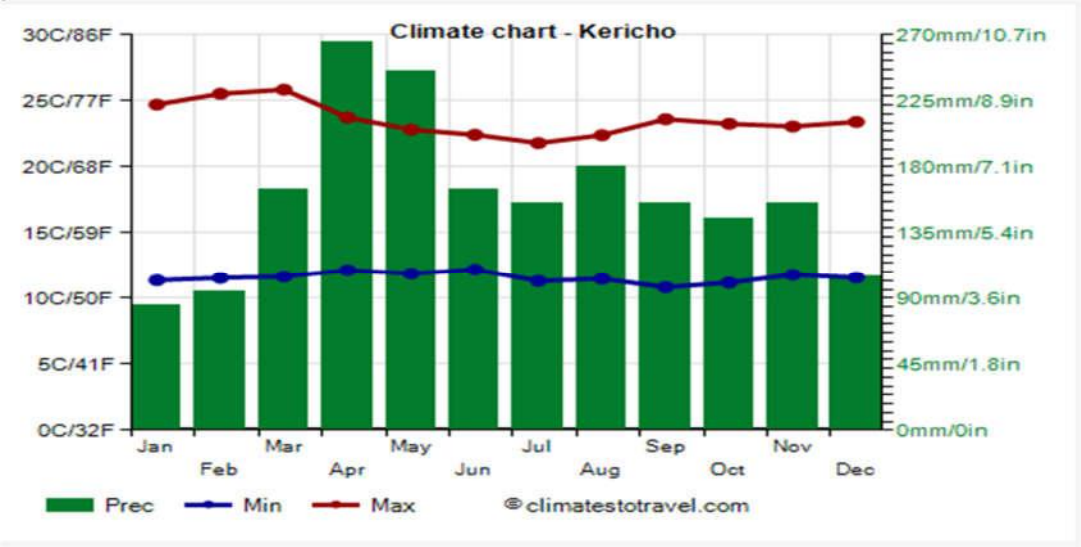


Figure 4: Average weather, temperature, rainfall, sunshine hours

4.2.5 Air quality

The project area is mainly rural, and most local roads are of earth or gravel standard. The edges of most of these roads are covered by vegetation such as grass, shrubs and trees. Dust levels along these roads are ordinarily low, with an appreciable increase during the dry season. Construction activities such vegetation removal and grading, excavations/earthworks, stockpiling of materials and spoils, and vehicular movements in the project area will generate additional dust and affect the local air quality.

Once airborne, dust will generally travel downwind before resettling. The distance travelled depends primarily on wind speed and particle size. For example, smaller particles and strong winds result in greater dilution effects but mean that the dust is deposited over a larger area

4.2.6 Surface and groundwater resources

The road alignment crosses several drainage channels that have water mainly during rainy seasons with few permanent ones. The table matrix below shows all rivers and their chainages along the project corridor:

S/No.	Chainage (Km)	River/Stream Crossing	Photograph
1.0	Km 4+140	Makirer	
2.0	Km 6+700	Koibeyot	
3.0	Km 10+000	Bagao	
4.0	Km 10+500	Kapchepten-tenyet	

S/No.	Chainage (Km)	River/Stream Crossing	Photograph
5.0	Km 11+300	Cheplanget	
6.0	Km 12+200	Senetwet	
7.0	Km 15+350	Kapshagi/Kipkwes	

Table 7: Surface water resources along the road alignment.

4.2.7 Terrestrial/ Aquatic Environment: Flora and Fauna

The altitude of Kericho County where the bypass road traverses has its lowest parts at an altitude of about 1800m while its highlands lie at an altitude of over 2,188m above sea level. The road traverses a hilly/rolling terrain.

4.2.8 Land Resources

4.2.9 Land ownership categories/classification

There are two major land tenure systems in Kericho County namely the Leasehold Tenure and the Freehold Tenure. The Freehold Tenure is governed under the Land Registration Act of 2012 and is mainly utilized for farming. On the other hand, Leasehold Land Tenure system is an interest in land for a definite term of years usually 99 years renewable upon request by the proprietor. All urban areas exist under leasehold tenure in the county which includes Kericho Town, Londiani Town, Kipkelion Town, Litein Town and parts of Sondu Town.

4.2.10 Mean land holding size (ha)

The average land holding size in the county is 0.9 ha. for the smallholders and 14 ha. for large scale holders. The large-scale holders are mostly the multinationals which utilize the land for tea and flower farming. Small scale farms are under food crop and livestock production.

4.2.11 Percentage of land with title deeds

Land holders with title deeds in the county stands at 76 per cent (source CIDP1). Kipkelion West sub- county, which is a former white settlement scheme, has the largest percentage of holders without title deeds.

4.2.12 Incidence of landlessness

Landlessness within the county remains an issue that requires immediate attention. The vast Chelimo land to the South of Kericho town has been invaded by landless people who have inhabited the area since 1999. According to the last enumeration taken in the area, there were a total of 751 land less people in the area who needed to be resettled.

The Talai community had no land until they were resettled in 2012 in Kericho Town and issued with allotment letters. The Government of Kenya through the World Bank funded programme has undertaken survey of land with a view of issuing ownership documents. The process is still ongoing and the other beneficiaries include the Nubians. This will help reduce the incidences of landlessness in the county. The Nubians have also benefited from World Bank funded programs and their land has been surveyed and ownership documents are set to be issued upon completion of the projects. In Kipkelion west, there are the Kabunech squatters who the department of Land, Housing & Physical planning have prepared a resettlement plan for them. This plan shall be admitted for approval after which the squatters are to be resettled.

4.2.13 Settlement patterns

The County is characterized by various settlement patterns, Soin areas of Soin/Sigowet, Ainamoi and Kipkelion West are sparsely populated while Ainamoi, Bureti and Belgut are densely populated. Urban sprawl along the highways in areas such as Chesinende, Kapsoit, Sondu and Kipsitet is rampant

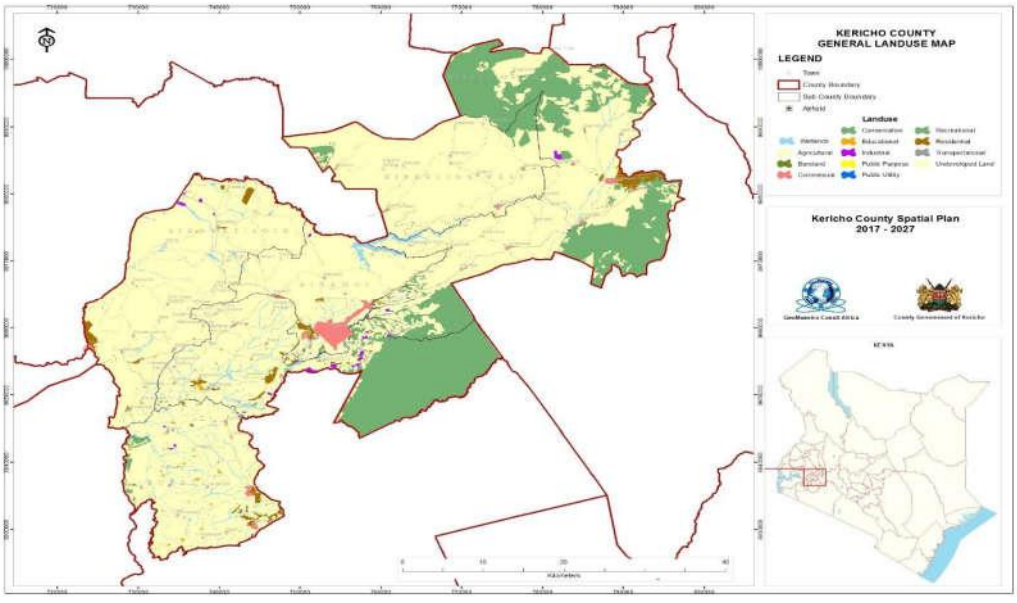


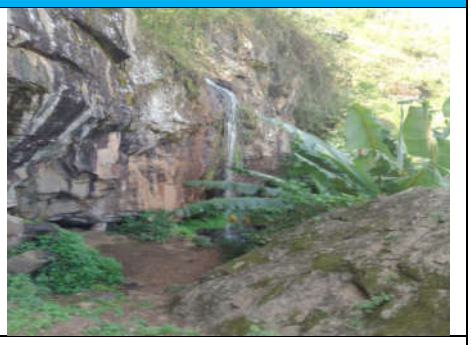
Figure 5: County Spatial Plan

4.2.14 Archaeological, Historical and Cultural Sites

Kericho County has the following notable tourist attraction sites: - Forternan Museum , Chebulu Conservancy , Reresik Caves , Tulwap Kipsigis , Bagao Caves , Chagaik Arboretum , Kapkatet Kipsigis Cultural Museum , Mau Forest , Agro tourism (Tea Plantation Areas) , Tagabi Monkey Sanctuary and other private farms offering camping facilities e.g. Chesumot Farm. These sites are underutilized since they are not developed. They require infrastructural improvement.

4.2.15 Visual Aesthetics

The aesthetic qualities of the landscape can be accessed from both in the non-built and in built-up areas. The visual qualities of the landscape and the character of the landscape are a result of the topography and the geology, the water resources in the area, the climate, human influence and other land use. New roads should not cause serious visual disturbance to the landscape. Where possible, the proposed road should enhance the aesthetic qualities of the landscape and within built up areas. The project areas noted with aesthetic values during the road design stage/ESIA are listed below;

Triggers of Aesthetic Value		Site/Location Details	Site Photo
1	Nature of the unique built up areas close to project	waterfall	
2	Scenic landscape/ Greenfields	Chagaik greenfield at 0+000	
3	Picturesque landscape / topography view	Tea farm	

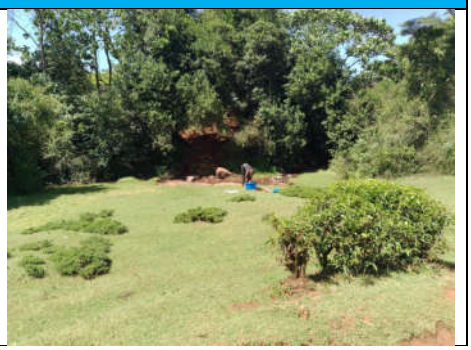
Triggers of Aesthetic Value		Site/Location Details	Site Photo
4	Scenic riverine vegetation, water resources, flora and fauna	Watercourse in Kapkoroch at 2+300	

Table 8: visual aesthetics along the alignment

4.2.16 Noise and Vibrations

The predominantly rural nature of the project area means that significant point sources of noise are absent, except in the towns and trading centres, and along the main highway. Noise sources in the urban areas are from various commercial and industrial activities, and vehicular traffic which blend into a din typically exceeding the WHO and NEMA guideline values of 55dB. Elevated background noise levels along the highway are attributable to roadway noise and increase with higher vehicle speeds

Construction works (mainly earth works) and the use of machinery/equipment will introduce new sources of noise and vibrations at construction sites and the immediate surroundings, resulting in elevated noise levels. The most vulnerable institutions to be affected are public institution bordering the long alignment corridor. These institutions include schools, churches and market centres.

4.2.17 Solid and Liquid Wastes

There is one designated dumping site at Kericho town behind Kericho referral hospital. The dump site is poorly managed. It is accessible by the general public at all times. The dump site poses health risk to the general public. Waste is noted segregated as required by law. Also due to its nature and location it poses security risk and intolerance to the general public.

The study indicated that solid wasted at household level is collected at a designated location and burnt as disposal method. Kitchen refuse and other decomposable are used as farm manure. The area is not connected to sewer system. All household use pit latrines as their sanitation facility.

4.3 SOCIAL-ECONOMIC BASELINE SURVEY

4.3.1 Social characteristics

4.3.2 Demography

The county's population was 875,689 in 2019 as per the 2019 National Population and Housing Census. This comprised of 434287 males and 441,379. The statistics show that men were more than women in the county. There were also 23 intersexual population in the cunty by year 2019.

females translating to male to female ratio of 1.01:1 meaning that there were more males than females (i.e., 1.01 males for every 1 female). Population was projected at 995,566 in 2018 is, males being 514,069 and 481,879 are females. A further projection puts the county's population at 1,046,216 by 2020 with male population being 547,136 while females will be 499,080. This is further projected to increase to 1,137,716 by 2022 and it will consist of 583,924 males and 553,894 females

Kericho County /Sub County	Sex			Total
	Male	Female	Intersex	
Belgu	72,508	72,564		**145,072**
Bureti	98,823	100,642	5	**199,470**
Kericho East	86,671	83,947	7	**170,625**
Kipkelion	61,066	61,460	4	**122,530**
Londiani	68,570	69,000	10	**137,580**
Soin Sigowet	63,103	63,395	2	**126,500**
Total	**450,741**	**451,008**	**28**	**901,777**

Table 9: Population distribution 2019/KPHC

4.3.3 Education

Education is the key to human growth and development through though the core functions of teaching and learning done in the County institutions. The following are outlines the educational institutions and education statistics in the County**:**

- **Pre- School Education-** Under Early Childhood Development Education, pupils enrolment comprised 23,094 boys and 22,526 girls giving a total of 45,620 pupils thus boys representing 50.6% while girls represent 49.4%.There are over 1800 teachers teaching in these centres, 935 of these are employed by the county government on contract.

- **Primary Education-**The County has a total enrolment of 242,034 from both public and private schools. According to 2009 census, there were 169,093 primary school pupils. Since then, there has been tremendous increase in enrolment. The percentage increase is 43% and this requires urgent investment in infrastructural and human development to accommodate the increasing number of pupils

- **Non-formal Education-** This is a form of non-structured education that provides skills to both youth and adults. The sector is not well established in Kericho County and requires more funding in terms of infrastructure and personnel. The table below shows the number of informal institutions per Sub County.

- **Secondary Education-**Kericho County has got 214 public and 15 private secondary schools with a total enrolment of 69,081 students. Bureti sub-county has the highest number of schools and students, while Soin/Sigowet has the least schools and number of students

- **Tertiary Education-** The County has 15 colleges and institutions that provide training on various disciplines.

4.3.4 Housing

The County's household distribution by main roofing materials is as follows: corrugated

iron sheets (83 per cent), grass (14.7 %), asbestos sheets (1.2 %), and concrete (1.2 %) while tiles, tin, and makuti constitute less than one per cent each. On distribution of households by main wall materials, 53.2 % use mud/wood, 15 per cent use brick/block, 12.4 % use wood only, 10.6% use stone and 7.7% use mud/cement. Others use corrugated iron sheet (6%t), grass straw (0.1%), tin (0.1%) and other materials (0.8%). 64.2 % of the households have earth floors while 34.4% have tiled floor.

4.3.5 Land tenure system

There are two major land tenure systems in the project area namely the Leasehold Tenure and the Freehold Tenure. The Freehold Tenure is governed under the Land Registration Act of 2012 and is mainly utilized for farming. On the other hand, Leasehold Land Tenure system is an interest in land for a definite term of years usually 99 years renewable upon request by the proprietor. All urban areas exist under leasehold tenure in the county which includes Kericho Town, Londiani Town, Kipkelion Town, Litein Town and parts of Sondu Town.

4.3.6 Economic setting

4.3.7 Trade and commerce

Tea processing are the main industrial activities in the County. Tea factories are mainly Multi-national Corporation and are situated in Belgut, Bureti, Ainamoi and Kipkelion east sub-counties as illustrated in the table below.

S/No	Sub-County	Holding Company	Name of factory	Location
	Belgut	Unilever Tea Limited	1.Kericho factory	Chaik Ward
			2.Tagabi factory	Chaik Ward
			3.Jamji factory	Chaik Ward
		Finlays Limited	1.Saosa factory	Chaik Ward
			2.Chomogondany	Chaik Ward
		Kenya Tea Development	1.Momul factory	Kabianga
			2.Tegat factory	Kapsuser
		Private Owners	1.Kabianga Tea Factory	Kabianga
2	Bureti	KTDA	1.Kapkatet factory	Kapkatet
			2.Litein factory	Litein
			3.Chelal factory	Kisiara
3	Ainamoi	KTDA	Toror Tea factory	Kipchimchim
4	Kipkelion East	Unilever Tea Limited	1.Chagaik Tea Factory	Chepseon
			2.Kimugu Tea Factory	Chepseon
		Private	1.Kaisugu Tea Factory	Chepseon
			3.Chesumot Tea	Chepseon
		Cooperative Society	2.Mau Tea Factory	Chepseon

Table 10: Tea factories operating across the county

4.3.8 Tourism

The main notable tourist attraction sites in the project area are as follows: - Forternan Museum , Chebulu Conservancy , Reresik Caves , Tulwap Kipsigis , Bagao Caves , Chagaik Arboretum , Kapkatet Kipsigis Cultural Museum , Mau Forest , Agro tourism (Tea Plantation Areas) , Tagabi Monkey Sanctuary and other private farms offering camping facilities e.g. Chesumot Farm. These sites are underutilized since they are not developed. They require infrastructural improvement.

4.3.9 Farming and livestock rearing

The county is endowed with fertile soils and receives adequate rainfall throughout the year hence making it conducive for agricultural activities. The county produces both cash and food crops. The main crops grown include tea, coffee, sugarcane, potatoes, maize, beans, pineapples, horticulture (tomatoes, vegetables among others).

The total land under both food and cash crops is 75,932 ha consisting of 44,284 ha for food crops and 31,648 ha for cash crops. The size of land holding varies across sub-counties. The average farm size for small scale farmers is 0.9 ha while for large scale farmers is 14 ha. The large-scale farms are dwindling due to land fragmentation resulting in more intensive land utilization through greenhouse farming.

Dairy production is the leading livestock enterprise in the county as well as poultry (mainly local chicken), hair sheep, wool sheep, meat goat rearing, beekeeping, pig production and rabbit rearing. There is a total of 288,021 heads of cattle consisting of 27,567 zebus and 260,454 dairy cattle. The dairy cattle consist of both pure breeds and also crossbreeds. The dominant dairy cattle bred are Friesian followed by the Ayrshire. The three main milk buyers in the county are Brookside, New KCC and Kabianga Dairies. A substantial amount of milk is also handled by Hawkers.

4.3.10 Health setting

The number of facilities in the county has been increasing over the years. Total number of CGOK facilities is currently at 136. More are yet to be opened up over the next five years. Surgical services are currently available in four hospitals, namely Kericho district hospital, Kapkatet sub-county hospital, Londiani sub-county hospital and Sigowet sub-county hospital with two more to be opened up soon at Roret and Fort- Tenan hospitals.

There is a six bed HDU/ICU in Kericho County Referral Hospital and a CT scan at Kapkatet County Hospital. Dialysis is currently being offered at the County Referral Hospital. Imaging services are now available in five hospitals.

4.3.11 Distribution and type of health facilities

	Sub-County	Hospitals				Total Hospitals	Primary Care HFs				Total Pri. HF	Total HFs
		Public	FBO	NGO	Private		Public	FBO	NGO	Private		
1	Belgut	0	0	0	0	0	20	0	0	14	34	34
2	Kipkelio	2	0	0	0	2	20	2	0	2	24	26
3	Kipkelion East	1	0	0	0	1	20	3	0	8	31	32
4	Sigowet/	1	0	0	0	1	29	3	0	3	35	36
5	Ainamoi	1	1	0	5	7	20	1	2	4	27	34
6	Bureti	2	1	0	0	3	28	1	0	2	31	34
7	**Total**	**7**	**2**	**0**	**5**	**14**	**136**	**8**	**1**	**36**	**182**	**196**

Table 11: Distribution and type of health facilities

Source integrated county development plan 2018-2022

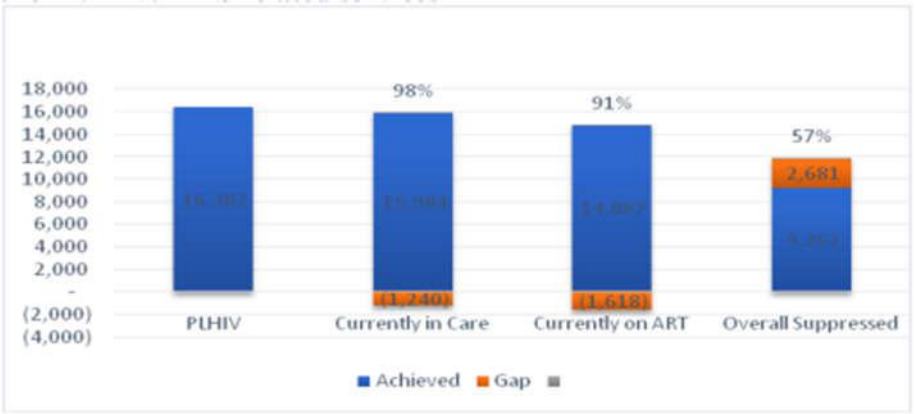
4.3.12 HIV/AIDs prevalence and related services

HIV prevalence in Kericho is lower than the national prevalence at 3.5% (Kenya HIV Estimates 2015). The HIV prevalence among women in the County is higher (4.9%) than that of men (2.9%), indicating that women are more vulnerable to HIV infection than men in the County.

Kericho County contributes to 1.1% of the total number of people living with HIV in Kenya and is ranked the twenty seventh nationally. By the end of 2015, a total of 16,382 people were living with HIV in the County, with 15% being young people aged 15-24 years and 9% being children under the age of 15 years.

Approximately 80 children and 479 adults died of AIDS-related conditions in 2015. There was a decrease of 36% of HIV-related deaths among the children aged below 15 years and a decrease of 47% among adults aged 15 years and above since 2013 in the County. There were about 813 pregnant women living with HIV who were provided with PMTCT services out of a total need of 917 pregnant women yielding 89% PMTCT Coverage. There were 9.0% children who were infected with HIV in 2015, showing a 56% decrease from 2013 which is a marked improvement in reducing mother to child transmission. The Department of Health Services in collaboration with WRP/PEPFAR is carrying out research on a vaccine for HIV and also other research areas on HIV/AIDS. The county needs to appreciate HIV/AIDS requires a multidimensional approach in crafting strategies and mitigation control measures. The county will undertake the following strategies to mitigate and reverse the spread: -

- Expanding HIV testing and treatment programs towards achieving the 90- 90-90 targets, and increasing community involvement in driving demand for increased uptake and adherence among both adults and children
- Focus on reducing the Mother-to-Child Transmission Rate towards elimination of new Child HIV infections
- Invest in HIV prevention and stigma elimination, with special focus on adolescents and young people
- Increasing social welfare services to HIV positive persons and others affected by HIV
- Invest in improving comprehensive knowledge of HIV and AIDS to reduce unsafe sexual practices
- Promote and scale up universal voluntary medical male circumcision among men.



HIV/AIDS related services

4.3.13 Security and public safety

There are number of community policing activities which includes, Nyumba kumi initiative which exists at location, sub- location and village level. Its membership includes the provincial administration, the police, village elders, stakeholders and other members of the public. So far, the above has largely assisted in management and control of crime, however, more needs to be done in supporting its operation.

5.0 ANALYSIS OF PROJECT ALTERNATIVES

5.1 Overview

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

Five alternatives were considered for the proposed Kericho Bypass Road Project. They include:

a) No upgrading of the existing road ('no action' option)
b) Analysis of alternative construction materials
c) Technology Solid waste management alternatives
d) Alternative mode of transportation
e) Route selection Alternative.

5.2 No Project Alternative ('No Action' Option)

In the analysis of ''no action' option" scenario, the following criteria is used; past, current and future effect/ impacts of the road as currently existing, anticipated benefits of proposed Bypass plus any other considerations are analysed. The selection of "no action' option" alternative would mean that no proposed Bypass is carried out and the road is retained in its existing form. As such, this alternative is likely to have the greatest implications on the socioeconomic environment of the area and surrounding communities.

Due to the proposed size of the proposed Bypass development, it is anticipated that it will open up the Kericho County, improve connectivity to these areas, and provide opportunities for employment, benefits associated with the construction industry and potentially significant business opportunities to spring up as a result of the proposed Kericho Bypass Road Project.

The local communities of the project area who face poverty would continue enduring the current living conditions. The low literacy levels would continue to persist since the area community would continue with their current livelihood style without any incentive to promote education and well-being as one way of improving livelihood.

The community would miss the potential to open up the area for economic activities including marketing of their livestock products. The community would miss improved service delivery including access to proper health care. The cost of travel and transportation of goods would remain unaffordable high.

The above-mentioned benefits would be foregone if the proposed project is not undertaken.

5.3 Analysis of Alternative Construction Materials and Technology

The proposed Kericho bypass road project will be constructed using modern, locally and internationally accepted materials to achieve public health, safety, security and environmental aesthetic requirements. Equipment that saves energy and water will be

given priority without compromising on cost or availability factors.
The road surfaces sub-structure and road infrastructure will be made using locally sourced materials that meet the Kenya Bureau of Standards requirements. On the alternative construction materials and technology, rainwater should be harvested and be used in construction activities and 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 equipment and vehicles should have highest levels of combustion efficiency, capability to use cleaner fuels like biofuels and should have enhanced safety features.

5.4 Solid Waste Management Alternatives

A lot of solid waste will be generated from the proposed development. An integrated solid waste management system is recommended. The proponent will give priority to reduction at source of the waste materials. This option will demand a solid waste management awareness programme in the management and the workers. Notices for proper waste management/handling should be posted at strategic places for the sake of visitors to the workers' camps. The contractor will be required to engage a NEMA licensed waste management firm to collect both hazardous and non-hazardous waste.

Recycling, Reuse and compositing of the waste will be the second alternative in priority. This will call for a source separation programme to be put in place especially in the kitchen section. The recyclables will be sold to waste buyers within County.

5.5 Alternative Mode of Transportation

There are no viable alternatives to this Bypass Road that fulfils the functions of providing relatively fast, cheap land transportation. Air, rail, and water transport are unlikely to either complement or to substitute for roads or highways in this region. There is no railway transport system close to the project area connecting the project area and no water body that can be used as a mode of transportation in the project area. The only possible means is air transport but, the cost is prohibitive and therefore cannot be used as an alternative to road transport in this region.

5.6 Route Selection Alternative

5.6.1 Methodology for Bypass Route Identification

The general methodology for carrying out the Bypass optimal alignment selection that include desk study, preliminary identification of potential corridors and comparison and necessary site visits using the multicriteria analysis considering Technical, Economic, Social and Environmental factors.

5.6.2 Route Identification

The methodology employed for carrying out the Kericho Bypass optimal alignment selection that include: Reconnaissance site visits; Desk study; Preliminary identification of potential corridors; Engineering studies and comparison using the multicriteria analysis.

The Consultant's team carried out a primary site visit from 25-27th February 2021 for the purpose of understanding the project area, condition of the existing roads and therefore gain insight to the logistics of undertaking the assignment. From the site visit and Client's prior information availed four potential Bypass alignment options were identified which are listed below:-

- Option 1: Brooke Centre – Kipchimchim – Kaptebeswet (11.7 km)
- Option 2: Brooke Centre - Kipchimchim – Ainamoi- Kapsoit (18.2 km)
- Option 3: Brooke Centre-Ainamoi-Kapsoit (16.4 km)
- Option 4: Before Brooke Centre – Kapsao – Ainamoi – Kapsoit (19.4 km)

After fieldwork, the Consultant team embarked on desk study which comprised of a review of published and unpublished information concerning the physical, economic and environmental characteristics of the study area. Some of the data that was reviewed during the desk studies are from the following sources:

a) Topographical maps covering the project area.
b) Satellite imagery covering the salient features of the project and the general land use.
c) Geological maps covering the project area
d) Kericho County Integrated Development Plan
e) Road Sector Investment Programme and Strategy 2010-2024

Using the 1:50,000 scale topographical maps and satellite imagery including as well as knowledge of the data requirements, and the reconnaissance site visits, the Consultant identified 3 more additional potential Bypass Options to the 4 number options identified during reconnaissance site visits. This totalled to seven number potential route options which are listed below:

- Option 1: Brooke Centre – Kipchimchim – Kaptebeswet (11.7 km)
- Option 2: Brooke Centre - Kipchimchim – Kapsoit (18.2 km)
- Option 3: Brooke Centre-Ainamoi-Kapsoit (16.4 km)
- Option 4: Before Brooke Centre – Kapsao – Ainamoi – Kapsoit (19.4 km)
- Option 5: Brooke Centre-Ainamoi-Kapsoit; Greenfield Tunnel Route (16.35 km)
- Option 6: Greenfield option along the Southern Part of the Kericho Municipality (15.43km)
- Option 7: Greenfield option along the Southern Part of the Kericho Municipality (21.77 km)

The Consultant Team then developed the geometric design parameters for the Bypass design from the relevant Kenyan Road Design Manuals with supplement information from best practice manuals around the world where the Kenyan Road Design Manuals did not cover the subject matter. The design speed adopted for the Bypass was 100km/hr.

The Consultant carried out engineering studies on all the alignment options and then prepared a multicriteria considering Technical, Economic, Social and Environmental considerations which was used to assess and rank all the possible alignment options identified in order to select the optimum alignment for preliminary and detailed engineering studies and design. The multicriteria prepared with weights assigned to each criteria is tabulated below

S/No.	Criteria	Weight (%)
A	Transportation and Traffic	40

S/No.	Criteria	Weight (%)
B	Engineering	30
C	Social and Cultural Environment	30
D	Recommendation Score	100
E	Overall Selection Score	=SUM (A:D)
F	Overall Ranking	

From the multicriteria assessment and resulting rankings of all the potential Bypass alignment options, the Consultant ranked all the options considered in the order of preference from the best preferred alignment route for preliminary and detailed engineering design to the least preferred as shown below.

Potential Route Option	Overall Score (%)	Rank
Option 4: Before Brooke Centre – Kapsao – Ainamoi – Kapsoit (19.4 km)	77.4	1
Option 6: Greenfield option along the Southern Part of the Kericho Municipality (15.43km)	61.4	2
Option 3: Brooke Centre-Ainamoi-Kapsoit (16.4 km)	60.9	3
Option 5: Brooke Centre-Ainamoi-Kapsoit; Greenfield Tunnel Route (16.35 km)	60.1	4
Option 7: Greenfield option along the Southern Part of the Kericho Municipality (21.77 km)	57.8	5
Option 2: Brooke Centre - Kipchimchim – Kapsoit (18.2 km)	54.4	6
Option 1: Brooke Centre – Kipchimchim – Kaptebeswet (11.7 km)	48.6	7

Most Preferred

Least Preferred

A summary of cost estimates for all the potential route options for the Kericho Bypass is shown below:

Option	Cost Estimate, KShs.	Cost Per Km, KShs.
Option 1: Brooke Centre – Kipchimchim – Kaptebeswet (11.7 km)	3,682,421,830.17	314,736,908.56
Option 2: Brooke Centre - Kipchimchim – Kapsoit (18.2 km)	6,223,357,061.63	341,942,695.69
Option 3: Brooke Centre-Ainamoi-Kapsoit (16.4 km)	6,707,209,969.90	408,976,217.68
Option 4: Before Brooke Centre – Kapsao – Ainamoi – Kapsoit (19.4 km)	7,506,072,556.50	386,910,956.52

Option	Cost Estimate, KShs.	Cost Per Km, KShs.
Option 5: Brooke Centre-Ainamoi-Kapsoit; Greenfield Tunnel Route (16.35 km)	7,879,763,445.36	481,942,718.37
Option 6: Greenfield option along the Southern Part of the Kericho Municipality (15.43km)	6,248,903,176.06	404,984,003.63
Option 7: Greenfield option along the Southern Part of the Kericho Municipality (21.77 km)	9,655,435,844.58	443,520,250.10

5.6.3 Conclusion and Recommendation

From the multicriteria assessment and resulting rankings of all the potential Bypass alignment options, the Consultant recommends Alignment Option 4: Before Brooke Centre – Kapsao – Ainamoi – Kapsoit (19.4 km) with the highest overall score of 77.4% and ranked 1st as the best alignment route for preliminary and detailed engineering study and with less environmental and social impacts.

An Overall Multi-criteria Route Selection Assessment is presented in **Appendix 11.7** of this report.

6.0 ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

6.1 Impacts Identification, Prediction and Evaluation/Analysis

The ESIA study has identified several significant environmental, social and-economic impacts that need to be addressed to make the proposed road project viable and minimize adverse effects that are transient, long-term or residual. The impacts emanate from proposed road project activities during the construction, operation, maintenance and decommissioning phases.

These are based on the baseline studies conducted and the projected impacts that will arise and affect the physical and biological environment, the social and economic matrices as they currently exist in the road project area. The purpose of this ESIA report is to ensure that the right decisions are made, and that the road construction leads to a sustainable investment that delivers on its implementation objectives. The ESIA identifies and prescribes interventions aimed at improving the road project environmentally and socially by preventing, minimizing, mitigating or compensating for adverse impacts that may arise in all the phases of the project. The interventions are aimed at ensuring the long-term viability of the road, protection of downstream infrastructure and landscapes and prevention of adverse road impacts from activities in the hinterland.

The Kericho Bypass Road project implementation will inevitably have impacts that may be positive or negative with varying levels of magnitude and likelihood of occurrence. The impacts have different longevity periods and varying geographical extents. The purpose of the ESIA is to predict and identify the impacts that may arise, develop mitigation measures and develop environmental and social management plans with clearly set indicators, apportion responsibilities and provide estimates of implementation costs. The environmental and social impacts will be outcomes of the project implementation process.

- Construction phase
- Operation and maintenance phase
- Decommissioning phase

6.2 Impact Classification

The impact Classification for Design, construction, operation, maintenance, and decommissioning phases are as described below. The listed project activities and their potential impacts were rated based on the following criteria:

a) **Magnitude of Impact:** This is defined by the severity of each potential impact and indicates whether the impact is reversible or irreversible with the estimated potential rate of recovery. The magnitude of an impact is not considered high if an adverse impact can be mitigated.
b) **Extent of Impact:** The spatial extent or the zone of influence of the impact is always extrapolated. An impact can be site-specific or limited to the project area; a locally occurring impact within the locality of the proposed project; a regional impact that may extend beyond the local area and a national impact affecting resources on a national scale and sometimes trans-boundary impacts, which might be international.
c) **Duration of impact**: Environmental impacts have temporal dimensions and need to be considered in an ESIA. Impacts arising in different phases of the project cycle need to be contemplated.

d) **Significance of the impact:** This refers to the value or amount of the impact. Once an impact has been predicted, its significance has to be evaluated using an appropriate criterion. The most important forms of criteria are:

- ✓ Specific legal requirements e.g., national laws, standards, international agreements and conventions, relevant policies, etc.
- ✓ Public views and complaintsThreat to sensitive ecosystems and resources, e.g., can lead to extinction of species and depletion of resources, which can result into conflicts.
- ✓ Geographical extent of the impact, e.g., has landscape wide or trans-boundary implications.
- ✓ Cost of mitigation
- ✓ Duration (time period over which they will occur)
- ✓ Likelihood or probability of occurrence (very likely, unlikely, etc.)
- ✓ Reversibility of impact (natural recovery or aided by human intervention)
- ✓ Number (and characteristics) of people likely to be affected and their locations
- ✓ Cumulative impacts, e.g., compounding or adding more impacts to existing ones

Type of impact

- ✓ Predictable: Those that are bound to arise and are unavoidable
- ✓ Temporary: Transient in nature and will disappear naturally or through human intervention
- ✓ Permanent
- ✓ Direct impact
- ✓ Indirect
- ✓ Cumulative

Cumulative Impact-The addition of many small impacts to create one larger, more significant impact
'**Do-Nothing Impact' -**: The environment as it would be in the future should no development of any kind be carried out
Indeterminable Impact: - When the full consequences of a change in the environment cannot be described
Irreversible Impact: When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost
Residual Impact: The degree of environmental change that will occur after the proposed mitigation measures have taken effect
Synergistic Impact: Where the resultant impact is of greater significance than the sum of its constituents
'**Worst Case' Impact:** The impacts arising from a development in the case where mitigation measures substantially fail

Quality Of Impacts

Positive Impact: A change which improves the quality of the environment (for example by increasing species diversity; or improving the reproductive capacity of an ecosystem; or removing nuisances; or improving amenities).

Neutral Impact: A change which does not affect the quality of the environment. Negative Impact: A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem, or Damaging health or property or by causing nuisance).

Negative Impact: A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem, or Damaging health or property or by causing nuisance).

6.3 Project Environmental and Social Potential Impacts

This Section identifies the potential risks and impacts, and defines a set of environmental and social mitigation and management measures that can be taken during the implementation of the project to avoid, minimize, or compensate/offset for risks and adverse environmental and social impacts

6.3.1 Positive impacts (Environmental, social and economic)

Environmental and Social-Economic

The implantation of the proposed Bypass Road project is anticipated to bring a number of the positive impact to all project stakeholders. The main positive and intended positive includes.

- Alleviating traffic snarl up within the town by rerouting through traffic away from Kericho town CBD.
- Reducing travel time by giving motorist an alternative to the 50kph limited imposed on the high in the town sections
- Enhancement of road safety and safeguarding urban road against heavy truck loading.
- Reducing noise and pollution caused by emission by vehicles in urban centres

Other positive impact associated with the project development will include but not limited to:

- Improved and efficient transportation
- Increased opportunities for business and livelihood diversification
- Improved service delivery by the National and County Governments
- Increased employment opportunities
- Enhanced land value
- Enhanced gender parity
- Improved social well being
- Increase of local incomes during construction phase, - the contractor and road construction team, - will contribute to elevate the economy of local people and community.
- Creating employment opportunities: society along the road section will benefit from temporary jobs including food vendors and so forth.
- Less damage to vehicles, especially PSV plying along the project sites
- Lower vehicles operating costs, private and commercial.
- Easy access to administration centres, markets and schools.
- Travelling and waiting time for public transport to be shortened

6.4 Impacts Assessment and Mitigations

The identified impacts and their possible mitigation measures have been identified in the following tables. The identified residual impacts refer to those environmental effects predicted to remain after the application of mitigation measures. The predicted residual

effects have been considered mainly during construction, operation and decommissioning stages of the project road. Further, the significance criteria for environmental effects have been classified into their magnitude (low/high), geographical extent, significant/not significant, duration and reversibility. Recommendations have been made in the EMMP

6.4.1 Physiography and Geology

Impacts i. Destabilization of terrain stability during earthwork, excavations ii. Alteration of baseline landforms during excavations, earthworks iii. Accelerated erosion after earthworks iv. Development of pits at material sites (quarries and borrow pits)
Mitigation Measures i. Slope gradient maintenance and not to be vertical ii. Erosion control measures iii. Site reclamation or rehabilitation during decommissioning phase of the project.
Residual Impacts*: (Magnitude, Geographic Extent, Duration, Significance, Reversibility)* i. During the construction phase the noted impacts will have a medium magnitude, with a localized geographical extent. Their duration will be short-term during earth works and not reversible. The impacts will have localized major significance. ii. During decommissioning stage, noted impacts, earthwork related impacts will be reversed through rehabilitation process, which will include slopes protection, rehabilitation of material sites and borrow pits.
Recommendations Refer to the mitigation measures above

6.4.2 Soils

Impacts i. Soil pollution from inappropriate disposal of waste, e.g. used oils from the Contractor's camp, workshops or from spills. Pollutants will end up being soaked into the soil and will lead to soil contamination. ii. Soil erosion during earthwork
Mitigation Measures i. Earthworks operations shall be carried out such that surfaces shall be designed with adequate falls, profiling and drainage to promote safe run-off and prevent ponding and flooding, with the associated soil erosion. ii. Run-off will be controlled to minimise the water effects in outfall areas. iii. Good housekeeping (site clean-ups, use of disposal bins, etc.) on the site project iv. Waste oil to be collected by a NEMA licensed waste dealer. v. Provide professionals in running machinery, workshop. vi. Provide waste container for collecting waste vii. Excavations to avoid accelerating situations of soil erosion
Residual Impact *(Magnitude, Geographic Extent, Duration, Significance, Reversibility)* i. During Construction phase the impacts' magnitude will be low and localized within the construction sites only. Impacts duration will be intermittent and short term over weeks/months within the construction sites only. Their significance will be minor and not reversible in case they occur.
Recommendations

The Contractor to comply with the EMMP during construction

6.4.3 Climate

Impacts

i. Damage of drainage structures due to erratic and heavy downpour as a result of climate change.
ii. Possible emissions of CO_2, CO, SO_2, NO_x and PM10 will result from the construction activities and operation of the proposed road.

Mitigation Measures

i. Designed and constructed of drainage structures to withstand periodic heavy floods and runoff water.

Residual Impacts

i. CO_2 and N_2O emissions during construction will have a negligible impact on climate, along the 19km road sites.

Recommendations

Contractor to adhere to the EMMP

6.4.4 Air Quality

Impacts

i. Dust plumes from construction vehicles
ii. Emissions of gaseous pollutants from diesel powered construction equipment
iii. Fugitive dust emissions from excavating and moving earth, construction equipment and the concrete batch plant.
iv. Project contribution to GHG emissions (CO2)

Mitigation Measures

i. Use of enclosures, hoods, shrouds, and sprays (wet batching) for possible concrete batch plant.
ii. Monitor PM10 if concerns occur.
iii. Employment of high-volume samplers if concerns occur regarding dust.
iv. Active earthworks areas along the project road to be watered, mainly trading areas. Water misting or sprays will be used through water bowsers as required if particularly dusty activities are necessary during dry periods.
v. Vehicles delivering material with dust potential (soil, aggregates) will be enclosed or covered with tarpaulin at all times to restrict the escape of dust and observe minimal speed especially within built up areas.
vi. Diesel exhaust emissions from excavators, loaders, hauling trucks to be regularly checked.
vii. Faulty machinery on site, producing smoke plumes to be withdrawn and repaired
viii. Reduce emissions of (CO_2/GHG) by implementing measures to improve efficiency and through
ix. Selection of latest emissions control technologies.

Residual Impacts *(Nature of Impact, Geographic Scale, Significance)*

i. During construction phase: Negligible; Temporary, Local, Minor. Only to be experienced within the construction sites, quarries and during material haulage.
ii. During operational phase: Negligible nature of impacts which will be temporary, localized and of minor significance.

Recommendations

Contractor to adhere to the EMMP

6.4.5 Surface and Groundwater Resources

Impacts

i. Pollution of groundwater sources during construction phase (bridges construction work).
ii. Interference and depletion of existing community water sources during construction phase.
iii. Infiltration of contaminants from on-site activities into soils, pollution and degradation of water quality of underlying aquifer during earthwork, excavations, oil wastes from the camp/garage.
iv. Impact to human health - Human exposure through direct contact, drinking contaminated water / ingestion of contaminants.

Mitigation Measures

i. Drainage structures that will be constructed –cross culverts, at the river courses be at appropriate positions.
ii. Stone pitching and side drains to cover meaningful lengths along the prone protection areas.
iii. Timing of the construction of proposed bridges at Makirer,Koiboyet, Bagoa, Kapcheptentenyet, Cheplnget,Senetwet and Kashagi coincide with dry periods to avoid possible water pollution.
iv. Contractor to avoid dumping of waste materials within the riparian zones/ within the watercourses.
v. Bitumen trucks should be washed at designated areas only.

Residual Impacts *(Nature of Impact, Geographic Scale, Significance)*

i. During construction phase the noted impacts have low significance since they are site based and localized to construction sites only. They have minimal significance due to their limited site specific geographical scale.
ii. During operational phase, the listed impacts will have low magnitude of impacts along the 19.3km road project (extent).

Recommendations

Contractor to adhere to the EMMP

6.4.6 Terrestrial/ Aquatic Environment: Flora and Fauna

Impacts

i. Direct impacts on landscape during earthworks, -fill and cut sections, removal of trees, borrow pits etc.
ii. Impact on trees with cultural significance.

Mitigation Measures

i. Designs of the proposed bridges at major river crossings along the road to be extended so that they can avoid blocking watercourses.

Residual Impacts: (*Value/Sensitivity, Magnitude of Impact, Significance)*

i. During Construction Phase: Impacts of High Sensitivity value:
ii. Their magnitude is minor
iii. Their significance is adverse

Recommendations

Comply with recommendations in the EMMP.

6.4.7 Land Resources

Impacts

i. Temporary use of land for construction purposes, e.g. contractors camp, batching plant's site
ii. Permanent acquisition of land for bypass and after road realignment from the existing corridor.
iii. Road will attract new ribbon (linear) settlements within the trading centres neighbouring the Community.
iv. Possible animal kills due to fast moving vehicles during the roads operation phase.

Mitigation Measures

i. Maximum utilization of land acquired to set up camps and batching plant to avoid unnecessary land disturbance
ii. Ensure resettlement action plan is undertaken and PAPs compensated fairy.
iii. Road signage should be installed in strategic location to avoid animal/human kills

Residual Impacts: (*Value/Sensitivity, Magnitude of Impact, Significance)*

i. During construction phase the noted impacts have high significance in relation to community's attachment to land and its value. They are however site based and localized to construction sites/and acquired land parcels only (Kericho Bypass road realignments). They have minimal significance due to their limited site specific geographical scale.
ii. During operational phase, the listed impacts will have low magnitude of impacts along the 19.3km road project (extent).

Recommendations

The Contractor to comply with EMMP requirements

6.4.8 Archaeological, Historical and Cultural Sites

Impacts

i. Possible destruction of cultural sites during construction phase, bush clearing, earthwork, sacred trees
ii. Possible interference with existing grave sites during excavations and earth works on proposed bypass.

Mitigation Measures

i. Cultural sites, sites of historical importance, graves etc to be identified during design stage, and especially during the RAP process.
ii. Existing grave sites, community commemoration sites (trees) to be identified during design stage and during the RAP process.

Residual Impacts (*Value/Sensitivity, Magnitude of Impact, Significance)*

i. Impacts of High Sensitivity value:
ii. Their magnitude is Minor
iii. Their significance is Adverse

Recommendations

Refer to mitigation measures above

6.4.9 Visual Aesthetics

Impacts

i. Direct encroachments on the scenic landscapes along the project road during cut and fill, cut sections and borrow pits.

ii. Earthwork and excavation on natural greenfield along the project road, exposing an unsightly landscapes
Mitigation Measures i. Road alignment to avoid visual intrusion on scenic sites. ii. Adjustments to slopes and borrow pits, to be away from picturesque sites iii. Timely decommissioning of the borrow pits and quarries to be done to eliminate traces of visual intrusion on the landscape
Residual Impacts i. Impacts of moderate value: ii. Their magnitude is minor iii. Their significance is minor
Recommendations The Contractor to comply with EMMP requirements

6.4.10 Noise and Vibrations

Impacts i. Noise related disturbances, discomfort to the road's immediate neighbours during construction phase. ii. Destruction of activities due to noise, e.g. near learning institutions
Mitigation Measures i. Engineering Controls: Maintain the construction equipment, avoid unnecessary running/idling of work machinery, use noise screens, fix silencers on mobile and noisy equipment ii. Administrative Controls: restrict access to noisy working areas, run noisy equipment only when need be, Contractor rotate workers performing noisy tasks iii. Personal Protective Equipment (PPE): Contractor to provide workers with appropriate earplugs/earmuffs to reduce their exposure to noise only
Residual Impacts *(Nature of Impact, Geographic Scale, Significance)* i. During construction phase, the nature of impact is negligible. The impacts geographical scale will mainly be localized to construction sites only and impacts significance will be negligible. ii. During operation phase, the impacts will be localized and negligible.
Recommendations Contractor to comply with the EMMP

6.4.11 Solid and Liquid Wastes

Impacts i. Waste generation from stripped top soil and excavations ii. Construction activities will generate solid wastes which includes trash, scrap items, oily rags and empty product drums. iii. Spills and leaks may also occur from vehicles and heavy equipment used during the construction operations, which may result in soil contamination. iv. Waste oil from the servicing of vehicles and miscellaneous solid wastes
Mitigation Measures i. Consider waste minimization practices, Reduce, reuse, recycle (e.g. waste tyres from trucks, scrap metal). ii. Segregate waste at the point of generation, especially at Contractor's camp iii. All waste to be handled and managed in accordance with EMCA (Waste Management) Regulations, 2006
Residual Impacts During construction phase, the residual impacts are as follows:

i. The impact of excavation waste is expected to be slight, negative and for short-term.
ii. The impact of construction waste is expected to be imperceptible.
iii. The impact of operational waste is expected to be imperceptible.

Recommendations
Contractor to comply with the EMMP

6.4.12 Social Characteristics

Impacts
i. *Demographic*: anticipated changes to population numbers and distribution within the existing (and yet to develop) trading centres in close proximity to the project road, from Brooke, kapsaos, Manyoro, Ainamoi,Kapsoit among others.
ii. *Cultural*: Change of traditional customs and values – especially the Kalegins and Nandi communities due to internal migration of people with different cultural customs and values and from different ethnic background.
iii. *Socio-psychological*: Possible change to quality of life and well-being after improved infrastructure and associated developments amenities.

Mitigation Measures
i. Local authorities to control unauthorized construction of shanty structures within the trading areas, which attracts the uncontrolled residential slums developments
ii. Introduction of cultural events and sites along the trading centres and sites.

Residual Impacts *(Nature of Impact, Geographic Scale, Significance)*
i. During construction phase, the nature of impacts (demographic, cultural and socio-psychological) will be negligible along the 19km road. The impacts geographical scale will mainly be localized to construction sites only and impacts significance will be negligible.
ii. During operation phase, and with time, the impacts will be of major significance (demographics of the trading centres), localized within the towns and of medium significance.

Recommendations
Contractor to comply with the EMMP

6.4.13 Economic Settings

Impacts
i. Disruption of economic activities during construction period mainly within the trading areas/centres (negative)
ii. Improve economic activities during operation phase of the road

Mitigation Measures
i. Planning for efficient access to markets (e.g., minimize or avoid works during market days

Residual Impact
i. Potential economic growth of the community
ii. Grievances related to employment, traffic and occupational disruptions

Recommendations
Contractor to comply with the EMMP

6.4.14 Health Settings

Impacts

i. Potential impacts from generated dust during construction phase.
ii. Increased potential effects from air emissions, caused by construction equipment.
iii. Potential effects of waste management and control measures during the construction phase.
iv. During operation phase, possible increased potential effects from air emissions, caused by vehicular traffic.

Mitigation Measures

i. Conduct basic Occupational Health Training programs to construction workers during construction phase.
ii. Ensure workers are oriented to the specific hazards of individual work assignment.
iii. Conduct toolbox talks focusing on relevant health and safety issues.
iv. HIV/AIDS, STDs awareness, training and prevention services to be offered throughout the project period.
v. A Code of Conduct should be distributed to all workers, and health personnel should reinforce their efforts to combat diseases during the construction period.
vi. Workers to be sensitized on the consequences of social ills and promiscuous behaviours (over consumption of alcohol, STDs, HIV /AIDS etc).
vii. Contractor to establish mobile clinic within the construction sites

Residual Impacts *(Nature of Impact, Geographic Scale, Significance)*

i. During construction phase, health related impacts will be low but not negligible along the 19km road. The impacts geographical scale will mainly be localized within construction sites only and impacts significance will be minimal.
ii. During operation phase, the impacts will be of major low, localized along the project road.

Recommendations

The Contractor to employ a safety and health advisor to be handling all safety and health related issues.
Review of health setting to be done and reviewed on monthly basis.

6.4.15 Security and Public Safety

Impacts

i. Disruption of work progress as a result of insecurity within the workplace or at camps
ii. Delay of work progress
iii. Damage of property

Mitigation Measures

i. Provide security guards at camps and selected working areas on 24/7 basis.
ii. Adhered to high standards of safety
iii. Construction vehicles should drive carefully,
iv. Gravel should be watered at construction sites/built up areas to avoid dust.
v. Provide condoms to construction workers.
vi. Use secure storage facilities for toxic materials.
vii. Employees to be provided PPE.
viii. Contractor to provide regular toolbox talks to the workers, to cover security and safety, among other issues.

Residual Impacts *(Nature of Impact, Geographic Scale, Significance)*

i. During construction phase, the nature of impact is negligible. The impacts geographical scale will mainly be localized to construction sites only and impacts significance will be of major significance. ii. During operation phase, the impacts will be localized and significant.
Recommendations Contractor to adhere to the EMMP

6.4.16 Corporate Social Responsibility (CSR)

During the construction phase of the project, the Contractor, in consultations with the project Client (KeNHA) and the supervising Engineers consults, will identify the appropriate CSR which will be appropriate for the community or institutions found in close There will be the need for engaging local opinion leaders in CSR Selection and prioritization within the communities. For the institutions, e.g., churches, schools among others, decisions and selection of the apt CSR projects should be made by the management teams, in consultations with the members in close proximity to the project road. Through this, possibilities of erecting unnecessary CSR structures with no relevance to the community.

6.4.17 Roadside Amenities

Roadside amenities (RSA) can be established at specific areas along the project road after consultations with the project's highway engineers, community opinion leaders and selected stakeholders.

RSA will primarily be erected to meet the needs of travellers. The project road will cover approx. 19.4 km. For the long-distance travellers, e.g., from Kisumu to Nairobi, there will be need for reducing fatigue and related crashes. They will also provide facilities for travellers to stop clear of traffic and therefore avoiding collisions with stopped vehicles on the road. The Contractor, through the Consultation with the community and the Client KeNHA, will select specific types of roadside amenities (RSA). The main types of roadside amenities are:

a) Commercial service centres,
b) Rest areas, stopping places where stops will be short such as at points of interest, e.g., along scenic escarpments, landforms or areas where communities uphold traditional lifestyles
c) Roadside vending sites.

The selection of the RSA will involve holding consultation with community leaders and prioritizing and ranking a list of RSA which will be suggested by the community. The RSA which will be suggested by the most participants will be selected.

6.4.18 Resettlement Action Plan

Approach and Methodology

The RAP was prepared in four stages. The first stage included literature review of design report, topographical survey data, collection of cadastral maps from Survey of Kenya (SoK) and refining data collection tools (asset register and socio-economic questionnaire).
The second stage involved Consultative Meetings and forums with the Local Administration in Aina Moi, Kapsaos, Kericho East and the County Commissioner (CC),

Kericho County. The Meetings served as a platform of introducing the project to local administration. Further localized meeting with Local Administration who included Assistant County Commissioners (ACC), Local Chiefs and Village Elders provided entry channels into their respective areas. This was also a planning meeting on how the PAPs Census Surveys was to be undertaken without disruption.

The third stage comprised field surveys that included census survey, affected assets and socio-economic profiling of PAPs. These activities were undertaken from 1st March 2022 to 26th July 2022.

Fourth stage comprised RAP preparation including valuation of affected assets, social economic data analysis and generating maps of affected Assets. The Cadastral Mapping was generated from intensive ground surveying technique and Geographical Information System (GIS), system enabled management of both the physical and attributes information of affected assets.

Resettlement Impacts

Impacts on PAPs with land

Detailed category of impacts in numbers and percentages is presented in **Table**

Table: Summary of Resettlement Impacts on Land by wards

Ward	Number of Affected Properties	Total Area	Affected Area (Area in Proposed Road Reserve)	%
Ainamoi Ward	81	547.98	125.24	34.55 %
Kapsaos Ward	86	573.28	121.18	28.03 %
Kapsoit Ward	135	649.13	169.98	34.60 %
Chepseon Ward	0	0.00	0.00	0.00 %
Totals	**302**	**1,770.39**	**416.40**	

Mitigation Measures

Cash compensation for loss of land (calculated at full replacement cost based on the prevailing market value)

Impacts on PAPs with Structures
The Project will impact **639 PAPs** whose structures will be affected.

Affected Structure	Number
Main house	591
Kitchen	305
Children house	2
Poultry house	22

Affected Structure	Number
Latrine	277
Animal shed	246
Store	180
Bathroom	80
Borehole	1
Water tower	2
Car shed	8
Gate house	1
Bodaboda shed	1
Business shed	138
Tank	16
Office	1
Rental houses	3
Nursery	5
Church	1
Total	**1,880**

Mitigation Measures

- Cash compensation for loss of structures (calculated at replacement cost)
- Or In-kind compensation through replacement of the structure
- Right to salvage

Impacts on PAPs with Trees and Crops

The Project will impact **548 PAPs** with trees and **543 PAPs** with crops especially along the proposed road alignment. The Project will therefore ensure that there is appropriate consultation and advance planning to minimise impacts associated with the loss of trees and crops. The crops and trees include both seasonal vegetable, peri annual fruits trees, exotic and indigenous trees.

Crop	Area	Percentage
Maize	128.37	40.33
Tea	104.92	32.97
Coffee	17.971	5.65
Beans	23.48	7.38
Others	43.51	13.67

Types of Trees Affected	Number of Trees
Avocado, Gravelia, Eucalyptus, Cyprus, Mango, Orange, Guava, Pine, Indigenous trees, Pawpaw, Sugarcane, Bananas, Kuryot, Palm Trees, Bottle Trees, Umbrella Trees,	**305,827**

Mitigation Measures

- Provision of opportunity to harvest crops and trees.

- Cash compensation for crops at full replacement cost which is calculated using Ministry of Agriculture rates for different types of crops plus 15%
- Cash compensation for the damaged trees affected as per KFS schedule for trees damaged
- Livelihood restoration support measures (as per entitlement matrix)

Impacts on Institutional PAPs

The Project will impact 1 institution which is Unilever Ltd.

Type of Loss	Aina Moi	Chepsoin	Kapsaos	Kapsoit	Total
Institutions Impacted					
Unilever					1
Sub-Total of Institutions Impacted					**1**

Mitigation Measures

- In-kind compensation for land surrendered (Can be a land scaping and land improvements)
- Or Cash compensation for loss of land, trees and crops or structures (calculated at replacement cost)
- Right to salvage

Valuation of Graves

During our field inspections, it was noted that the land affected by the project have **85 graves sites**. Compensation value for graves that will be lost was based upon agreements with the PAHs with cost to cover for ceremonies associated with relocation of the graves including rituals etc to be covered directly by the project.

Stakeholder Consultations

Stakeholder Consultations were organized with affected persons and institutions within on the road corridor. Schedule of Meetings is as summarized in **Table 1.1** below.

Schedule of Consultative Meetings

S/No	Meeting Type	Date
1	CC	18th Jan 2022
2	ACCs (Benson Mokami – ACC Aina Moi, Janet Jawa,- ACC Kapsaos, Wilkister Alao – ACC Kericho East	19th Jan 2022
3	8 Chiefs at the County Commissioner Offices.	20th Jan 2022
4	Meeting with locals at Kapsaos Tea buying Centre	23th Feb 2022
5	Meetings with the locals at Ketepyese Primary School	23th Feb 2022
6	Meetings with the locals at Kaboswa Primary School	23th Feb 2022

Eligibility and Cut-off Dates

The Kericho By-pass Road Project will lead to physical and economic displacement by affecting PAPs land, structures and crops which are their main sources of livelihood. All affected persons are eligible for compensation and resettlement assistance. Majority of the PAPs have recognizable legal right or claim over the land affected and therefore the compensation will be conducted by National Land Commission.

The cut-off date for the Project was declared to be **1st August 2022** meaning assets present in the Project area at the date of the commencement of census and confirmation survey of PAPs will be eligible for compensation. No person is eligible to entitlements if moving into the designated resettlement site after the Cut-Off-Date. Updates of Project information will be made regularly based on information provided by the village authority.

PAPs enumerated within the cut-off date provisions are entitled to compensation for their affected assets and eligible for rehabilitation measures sufficient to assist them to improve or at least maintain their Pre-Project living standards, income-earning capacity and production levels.

Livelihood Restoration

The main types of livelihoods encountered in the Project affected area of influence are cash crop farming mainly tea. Therefore, selection of livelihood option for this RAP was limited to farming-oriented livelihood restoration measures such as provision of seeds, seedlings and microfinance including financial literacy.

Financial Management

All PAPs who will receive cash compensation for loss of land, structures, crops and trees will be eligible for financial management training as per the entitlement matrix. This is in recognition that the absence of financial training could lead to misuse of the compensation funds leading to increased vulnerability of the PAPs. Financial training will commence as soon as possible but before households get paid their cash compensation. The aim of the training is to ensure adequate money management skills and use of cash to enable livelihood restoration. The financial management training will be based on assessment of existing income-generating patterns.

Linking to Micro-Credit Facilities

PAPs will also be linked to micro-credit facilities in the area. This is to encourage savings and enable households to invest and restore their livelihoods.

Transitional Support

Transitional assistance measures are taken by the project to facilitate the transition of PAPs from their old situations to their new situations. Such transition assistance provides PAPs with smooth transition and hence minimizing adverse impacts of resettlement. If income recovery cannot be expected at the time of displacement, PAPs will be provided with transitional support. Transitional support will target all PAHs and will mainly include Project supported related to transport or costs of removal and re-establishment for relocation.

Employment During Construction

PAPs will be offered priority in employment as part of transitional allowance especially with respect to unskilled and semi-skilled employment. Contractor will prepare a Labour Recruitment Plan (LRP) to oversee employment opportunities for PAPs and locals.

HIV/AIDS Awareness Training

Training will be conducted by KeNHA on HIV/AIDS as part of the livelihood restoration

measures specifically in view of the high incidences of HIV/AIDS occurrences due to in-migration workers.

RAP Budget

Valuation of land

Where applicable, as described in the eligibility criteria, losses recommended for replacement were valued at current market value. This is in line with the IFC Handbook for Preparing a Resettlement Action Plan on land acquisition and compensation. The full replacement cost approach is where the property value is assessed based on the cost of buying the site and setting up the lost asset. It is based on the reproduction/replacement value.

Valuation of Structures

To establish the replacement cost, the coordinates, type of structure, construction details, built up areas, accommodation details and occupancy, status of the different structures were recorded during the data collection phase. This was aimed at establishing the replacement cost of the different structures for compensation purposes. Due to limited reliable market information within and near the Project Area, a Sales Comparison approach could not be applied in the valuation of the affected structures. As a result, the structures have been valued based on the 'reproduction cost' i.e. the cost of reconstructing an identical structure by using the same materials and design at the time of appraisal without depreciation.

Valuation of Crops and Trees

Local rates from the State Department of Agriculture were adopted in determining the compensation values for crops. The value for trees based on the valuation adopted the local KFS (Kenya Forestry Services) rates, considering the age factor for trees.

Table- Provides a summary of the costs of implementing the Resettlement Action Plan and a high-level implementation schedule. Critically, it also lists the assumptions that underpin both the Cost Estimate and the schedule.

RAP Budget

Description	**Amount (Ksh)**
Land	1,018,558,048
Structures	1,037,109,030
Crops and Trees	2,838,286,207
Graves	135,000,000
Sub Total 1	**5,028,953,285**
Livelihood Restoration Programs (Lump sum)	502,895,329

Description	Amount (Ksh)
Facilitation of Grievance Redress and Resettlement Committees (5%)	251,447,664
Monitoring and Evaluation 5%	251,447,664
Contingency Costs (15%) to deal with unforeseen costs.	754,342,993
Sub Total 2	**1,760,133,650**
Grand Total	**6,789,086,935**

Grievances Redress Mechanism

The objective of RAP Grievance Redress Management (GRM) is to provide a set of clear and traceable procedures by which any grievance arising from the Implementation of this RAP can be reported. Grievance can be reported by an affected person/household, community member, it is then heard and resolved. An effective GRM is mainly done through an informal alternate dispute resolution process that is consistent with best practices before pursuing legal formal justice (judicial process) which still remains the right of every affected person in the project area. A five-level grievance management is provided for in this RAP to ensure amicable review and settlement of grievances. The grievance levels include: -

(i) Elders / Community Leaders Disputes Resolution Committee
(ii) Sub-Location Resettlement and Grievance Redress Committee
(iii) Sub-County Resettlement and Grievance Redress Committee
(iv) County Arbitration Committee
(v) Resort to Judicial recourse - Environment and Land Court. The Environment and Land Court established under the Environment and Land Act 2012 addresses land related matters and PAHs will be free to ignore the project's GRM and use the formal legal system at any time or point.

7.0 CLIMATE CHANGE SCREENING AND ADAPTATION

7.1 Introduction

Kenya as a nation is susceptible to the effects of global climate change. In the recent past, as a county has been in the forefront advocating for sound approaches in tackling the predicted impact of climate change. Kenya has adopted a comprehensive approach for addressing the vulnerability and risks that are associated with climate change.

In the year 2010, Kenya launched the National Climate Change Response 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. Adaptation and resilience remain Kenya's, and indeed Africa's priority response to climate change.

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.

7.2 Climate Change and Variability in the Global and Local Context

It is generally understood that the climate is changing, and average global temperature has been shown to have increased by 0.85 °C (0.65 to 1.06) over the period between 1880–2012. Surface temperatures across Africa have increased by 0.5- 2°C over the past 100 years, and since 1950, climate change has altered the magnitude and frequency of extreme weather events (GoK, 2018). The frequency of cold days, cold nights and frost has decreased, while the frequency of hot days, hot nights and heat waves has increased.

Temperature increase has been observed across all seasons, but particularly from March to May. Rainfall patterns have also changed, with the long rainy season becoming shorter and drier, while the short rainy season has become longer and wetter. However, the overall annual rainfall remains low. The long rains have been declining continuously in recent decades, and droughts have become longer and more intense and tend to continue across rainy seasons.

The frequency of rainfall events causing floods has increased in East Africa from an average of less than three events per year in the 1980s to over seven events per year in the 1990s and 10 events per year from 2000 to 2006, with a particular increase in floods. Droughts and heavy rainfall have become more frequent in the last 30 years.

The current trend of rising annual temperatures is expected to continue in Kenya in all seasons, with models suggesting that warming of about 1°C will occur by the 2020s, and 4°C by 2100. Precipitation projections are more uncertain and suggest that by the end of the 21st century East Africa will have a wetter climate with more intense wet seasons and less severe droughts. The proportion of rainfall that occurs in heavy events is also

expected to increase. Some models also project a general decrease in mean annual precipitation, but with wetter conditions during the short rains of October to December.

7.3 Climate Change and Disaster Risk Screening of the Project

7.3.1 Methodology used in Screening

This project was screened by using the **World Bank Group's Climate and Disaster Risk Screening Project Level Tool**. 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.

The following section summarizes the results of the screening process for Kericho Bypass Road Project in Kenya, which was applied using Road Sector analysis.

7.3.2 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 28 (high) Celsius to 20 (low) Celsius. The project area receives a maximum rainfall ranging from 1100 to 1800 mm and experiences an average of 25 days with heavy and extreme rain. To date, there has been no recorded incidents of heavy flooding in the project area. Since the project is in the hinterland, it is not exposed to natural hazards such as sea level rise or strong storm surge.

Summary of Exposure to Climate and Geophysical Hazards at Project Location

Hazard	Time frame	Description of hazards for the project location
Extreme Temperature	Current	It is generally understood that the climate is changing, and average global temperature has been shown to have increased by 0.85 °C (0.65 to 1.06) over the period between 1880–2012. Surface temperatures across Africa have increased by 0.5 - 2°C over the past 100 years, and since 1950, climate change has altered the magnitude and frequency of extreme weather events (GoK, 2018). The frequency of cold days, cold nights and frost has decreased, while the frequency of hot days, hot nights and heat waves has increased. Temperature increase has been observed across all seasons, but particularly from March to May. Rainfall patterns have also changed, with the long rainy season becoming shorter and drier, while the short rainy season has become longer and wetter. However, the overall annual rainfall remains low. The long

Hazard	Time frame	Description of hazards for the project location
		rains have been declining continuously in recent decades, and droughts have become longer and more intense and tend to continue across rainy seasons
	Future	The region where the project is located is not known to have extreme temperatures; However, climate change impacts in the future can have impacts on the road 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	Rainfall patterns have also changed, with the long rainy season becoming shorter and drier, while the short rainy season has become longer and wetter. However, the overall annual rainfall remains low. The long rains have been declining continuously in recent decades, and droughts have become longer and more intense and tend to continue across rainy seasons.
	Future	Precipitation projections indicate that exposure minimal of the project location to heavy downpours and sustained periods of rainfall is unlikely to increase. However, heavy downpours can cause damage to the infrastructure even if not sustained for a long time in low lying areas, as experienced in April 2020 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 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. There is therefore some exposure to heavy downpours and

Hazard	Time frame	Description of hazards for the project location
		sustained periods of rainfall likely to increase at the project region.

Key

Insufficient Understanding	Not Exposure	Slightly Exposed	Moderately Exposed	Highly Exposed

7.4 Potential Impacts on Project's Physical Components

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.

This segment presents the comprehensive 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.

Current Scenario

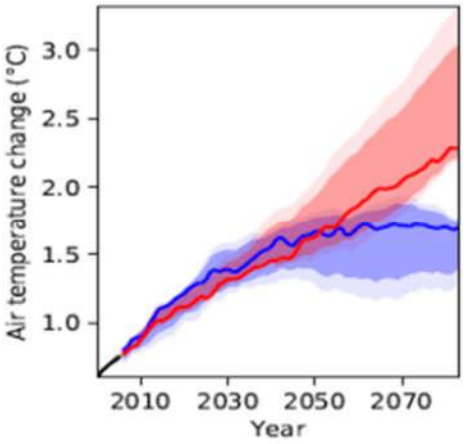
Temperature: There has not been any records of prolonged periods of high temperatures in the project location which have caused minor pavement cracking in the past (Nairobi-Mau Summit Road at Kericho Section). The evaluation of the existing pavement does not show any signs of cracking due to extreme 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: Recent trends do not indicate a notable increase in heavy downpours, but flash floods cannot be ruled out once in a while in the project area. Pavement materials have been selected to accommodate historical events. 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 years, 25year and 50-year flood level for pipe culverts, box culverts and bridges respectively

Conclusion: Overall, damage to road assets from extreme precipitation and flooding is likely to be low 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 Low Potential Impact.**

Future Scenario

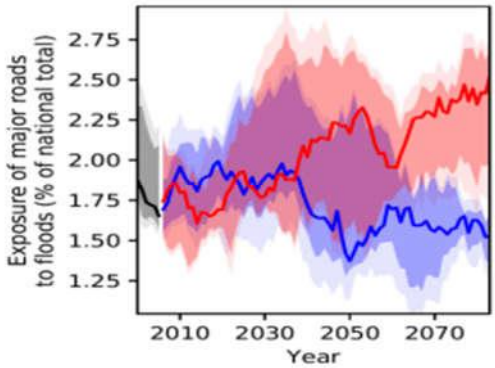
Temperature- In line with rising mean annual temperatures, the annual number of very hot days (days with daily maximum temperature above 35 °C) is projected to rise substantially and with high certainty. Under the medium / high emissions scenario RCP6.0, the multi-model median, averaged over the whole 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.



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

Precipitation- 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 RCP6.012. 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.



Projections of major roads exposed to river floods at least once a year for Kenya for

different GHG emissions scenarios

Conclusion- Projected increases in extreme precipitation, namely heavy downpours, may expand damage from flooding in low areas or damaging the road shoulders and edges through soil erosion. 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. Overall, the potential physical damage from extreme temperature and flooding is not expected to change the current rating of Low-risk Potential. Therefore, the **Future rating remains Low Potential Impact**.

7.5 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;

a) Selection of appropriate type of pavement.
b) Proper design of drainage facilities;
c) Proper level of road embankment.
d) Use of water pans and boreholes where appropriate

7.6 Adaptation/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
Sensitization of communities and youth on climate change related topics such as bush clearing, bush fires, conservation agriculture, etc	County
Planting of trees made of various indigenous species;	KFS/ KeNHA

Item	Responsible party
Proper reinstatement of borrow pits;	KeNHA
Minimizing of bush clearing during the construction works,	KeNHA
mprove waste management systems more so on solid waste through cleaning and campaigns in all phases	GoK / County governments
National climate change adaptation and mitigation measures should be devolved to counter climate change effects at County level.	GoK / 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
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
Accordingly, implement the existing climate change (CC) response strategy/policy focusing on infrastructure.	GoK / County governments
Sensitize the contractor on issues relating to climate change.	KeNHA

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.

7.7 Proposed Engineering Climate adaptation mechanism

Engineering methods were adopted to estimate the peak floods for a 10, 25, 50 and 100-year design floods. Structures have been designed for all the catchments with significant discharge and direction of flow. However, some sections of the alignment were assessed and observed to be water detention areas. Despite the flow velocities being marginally low due to the flat terrain, there is need for allowing cross drainage on/to either side of the carriageway to avoid pavement deterioration due soaking

For small catchments with low run-offs, pipe culverts have been proposed. For larger catchments, box culverts and Bridges have been proposed. Waterway opening (s) for a highway stream-crossing can be provided for by either culvert (s) or a bridge. Analysis of risks associated with each will indicate which structure on the basis of economics.
The following hydrological standards are generally used and where exceptions occur, these are explicitly noted. The recommended flood occurrence return periods for the various types of structures are shown below.

Type of Structure	Size	Hydrological Standards
Pipe Culvert	Minimum 0.9m Dia.	1 in 10-year flood, for overtopping against 1 in 25-year flood
Box Culvert	Minimum 2.5m (width) x 1.2m (Height)	1 in 25-year flood, for overtopping against 1 in 50-year flood. Invert to be 1.5D below the road Surface.
Bridges	Dependent on catchment, river/stream channel geometry	1 in 50-year flood and checked against 1 in 100-year flood

7.8 Climate Change susceptible Structure and Engineering upgrade.

S/No.	Chainage (Km)	River/Stream Crossing	No., Size and Type	Remarks	Site Photograph
1.0	Km 3+160	Makirer	Single Cell Box Concrete Structure	To be Removed and upgraded	
2.0	Km 6+190	Koibeyot	Twin 900mm Dia. PCC	To be Removed and upgraded	
3.0	Km 9+400	Bagao	Twin Cell 900mm Dia. PCC	To be Removed and upgraded	
4.0	Km 10+800	Kapchepten-tenyet	TwinCell 900mm Dia. PCC	To be Removed and upgraded	
5.0	Km 11+680	Senetwet	Single 900mm Dia PCC	To be Removed and upgraded	
6.0	Km 14+750	Kapshagi/ Kipkwes	4 Cell 900mm Dia. PCC	To be Removed and upgraded	

8.0 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

8.1 Overview

The measures presented here summarize in a matrix format, the key impacts identified, the remedial measures and the monitoring activities to be undertaken. An indication of the timing for implementation and the cost involved is also provided. The actions proposed in the Environmental and Social Management Plan (ESMP) are designed to ensure compliance with local legislation and adoption of best practices that apply to environmental and social management.

The outline management plans have been developed and will be further expanded (for construction and operations purposes) with documented procedures and guidelines for work practices to be responsive to the situations that the construction Contractor(s) and Operator will encounter. The effectiveness of the ESMP will be monitored and assessed regularly through inspections and reporting throughout construction and during operations.

The ESMP has been developed to be used as tool to manage the environmental and social impacts that the activities of the road construction may generate. It is expected that before construction of the road commences, the contractor will use the ESMP to generate specific implementation plans for each construction activity. There are certain areas of the construction activities that will generate hazardous wastes, safety risks and adverse impacts to the environment that will require the specific plans to guide the teams that are implementing the project.

8.2 Objectives of the ESMP

The objectives of the ESMP include:

- To monitor the implementation of mitigation measures against potential adverse impacts of construction and operation phases of the project to ensure that they conform and comply with relevant environmental and social policies, guidelines and legislation
- To assess for emerging non-anticipated adverse environmental and social impacts and implement relevant mitigation measures to maintain them within acceptable levels
- To maintain best practice in environmental, social health and safety during project construction and operation
- To address capacity building needs within KeNHA, Supervision Consultant, Contractor and the Ministry of Transport and Infrastructure, where necessary.

8.3 Auditing and Monitoring

Pursuant to EMCA, second schedule of the Environmental Management and Coordination Act (1999), environmental audits will be carried out after the first year of operation. Areas to be audited will include material sites (quarries), contractor's asphalt plant and the workmen's camp.

8.4 The Environmental and Social Management Plan (ESMP)

Table 12: Environmental and Social Management Plan (EMMP) matrix

Environmental and Social Management Plan Matrix.

Parameter	Indicator	Monitoring frequency	Sampling area	Measurement Units	Methods	Target/Standards	Responsibility	Cost	Applicable (yes/No)
Pre-construction on phase									
Physiography	Landforms	Once before commencement	Road passage (Kapsaos ,Ainamoi and kapsoit	Descriptive and qualitative	Visual/ Photography	Approximate restoration of pre-existing landscape after construction	ES	100,000	Yes
Geology	volcanic rocks as well as igneous and	Once before commencement	Green field (uniliver) chagaik area,Aina	Size, location depth and direction	built-in clinometer	Identified locations in geological report	KeNHA/ Contractor/ Consultant geologist	10,000,000	Yes
Soils	Soil horizon profile	Once before construction	Water flow systems crossing points along road	Soil strata width	Coring	Retention of existing strata profiles and detection of subsurface erosion	KeNHA/ Project Consultant geologist/ ES	1,000,000	Yes
Land Resources	Land use	Once before construction	Along road passage and catchment	Km2	Satellite imagery		KeNHA and Identified catchment stakeholders.	500,000	Yes

Parameter	Indicator	Monitoring frequency	Sampling area	Measurement Units	Methods	Target/Standards	Responsibility	Cost	Applicable (yes/No)
Surface water	Water levels	Once before construction	River, Water pans and seasonal	cm	Staff meter gauges or	Livestock watering and domestic use standards	Contractor/ ES	50,000	Yes
Groundwater Resources	Water levels		N/A	m asl	Piezometer	N/A. No identified resource			No Area has no known undergrou nd water
Dust	Dust deposition	Once before commencement	Near settlements and along road (Kapsaos,	µg/m3	Glass slides	Zero	Contractor		Yes
Air Quality	Particulate matter	Once before construction	Near settlements and along Road. (Kapsaos,Manyoror,Ainamoi and Kapsoit)	µg/m^3	Portable meter	0.01	Contractor/ES	30,000	Yes

Parameter	Indicator	Monitoring frequency	Sampling area	Measurement Units	Methods	Target/Standards	Responsibility	Cost	Applicable (yes/No)
National parks	Habitat composition n/ Wildlife numbers	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No Project does not traverse national
Water Quality	Turbidity, Conductivity, BOD, COD, pH, TSS TDS Venous metals and other dissolved chemical compounds	Wet season	Near culverts/bridges, livestock watering ponds(All rivers and stream-permanent and seasonal)	NTU µS/cm, mg/ml mg/ml Log H^+, mg/l mg/l Various units (mg/l, µg/l)	Multi-parameter portable meter Laboratory analysis	10 NTU, <400 µS/cm, 4 mg O_2 l^{-1}, <20 mg l^{-1} O_2 6-8 100 mg/l 3,000 Kenyan and WHO standards	Contract/ ES	400,000	Yes

Parameter	Indicator	Monitoring frequency	Sampling area	Measurement Units	Methods	Target/Standards	Responsibility	Cost	Applicable (yes/No)
Noise	Noise level/ mapping	Once before the construction starts	Near settlements / Institutions (all school and shopping centre as indicated is biophysical	dBA	Calibrated precision integrating sound level	45 residential 55 Commercial area 70 Industrial areas	Constrictor/ ES	100,000	Yes
Vibrations	Vibrations sensing	Once before the construction starts	Near settlements / Institutions	mm/s	Instantel Micromate with Geophone and GPS	5 mm/s	Constrictor/ ES	100,000	Yes
Solid Waste	Visual, Presence of solid waste	Once before construction	Settlements / Urban centres/ Institutions/ Road	Tones	Visual	Nil	Contractor/ ES/ County Government of Kericho	50,000	Yes
Liquid waste	Visual,	Once before	Settlements/Institution	Litres	Visual	Nil	Contractor/ ES/	50,000	Yes
Flora	Tree density, land cover, Species composition	Once before construction commencement	Entire project area	% Cover, No/Ha, Checklist	Quadrats, Belt transects, Transect walks	Near preconstruction conditions were pristine, improved where	Contractor/ ES/ NEMA/ KFS	500,000	Yes

Parameter	Indicator	Monitoring frequency	Sampling area	Measurement Units	Methods	Target/Standards	Responsibility	Cost	Applicable (yes/No)
Fauna	Animal densities, species composition, abundanc	Once before construction commencement	Wildlife rich areas	Animal numbers, Checklist Roadkill reports/	Road transects, Incident reports, Roadkill count	Stable or increased populations	Contractor/ ES/ KWS	400,000	Yes
Soil erosion	Visual, Gullies depth and activity	Once before construction	Areas with gullies and deposition points	Width and Depth of gullies, number/Km^2	Identified sites	Healing gullies, no new deposits	Contractor/ ES/ NEMA/	400,000	Yes
Archaeological	Numbers and state	Once before construction	Identified sites		Visual	Preserved as is	ES/ NMK/ Contractor		No No
Social Characteristics	Demographic attributes, and socio-cultural aspects	Once before construction	Urban and rural areas	Population densities, economic activities and	Census and household questionnaires	Enhanced income, sustainable livelihoods	Project sociologist	800,000	Yes
Economic Characteristic s	Types of economic activities	Once before construction	Rural and urban centres	KES	Questionnaires and tax returns	Increased income across areas economic sectors	Project economist	800,000	Yes
Occupational Health and	Reported incidents	Once before construction	Health centres	Numbers and nature	Treatment registers inspection	Zero	Project sociologist/ ES/	50,000	Yes

Parameter	Indicator	Monitoring frequency	Sampling area	Measurement Units	Methods	Target/Standards	Responsibility	Cost	Applicable (yes/No)
Security and Public Safety	Reported crime incidents	Once before construction	Police satiations and County	Number and nature of incidents	Occurrence books inspection	Zero	Project sociologist	50,000	Yes
Total cost preconstruction phase								**15.380,000**	
Parameter	Indicator	Monitoring frequency	Sampling area	Measurement	Methods	Target/Standards	Responsibility	Cost	**Applicable**
Construction									
Physiography	Landforms	Every 3 months	Road passage and borrow pit areas	Descriptive and qualitative	Visual/ Photography	Approximate restoration of pre-existing landscape after	ES	90,000	Yes
Geology	volcanic rocks as well as igneous and metamorphic	4 times Before and after both short and long rainy seasons	Faultiness, fissures and pyroducts	Size, location depth and direction	built-in clinometer	Identified locations in geological report	KeNHA/ Contractor/ consultant geologist	10,000,000	Yes

Parameter	Indicator	Monitoring frequency	Sampling area	Measurement Units	Methods	Target/Standards	Responsibility	Cost	Applicable (yes/No)
Soils	Soil horizon profile	2 times After rainy seasons	Water flow systems crossing points along road	Soil strata width	Coring	Retention of existing strata profiles and detection of subsurface	KeNHA/ Project Consultant geologist/ ES	4,000,000	Yes
Land Resources	Land use	Every 3 months	Along road passage and catchment	Km^2	Satellite imagery		KeNHA and Identified catchment stakeholders,	1,500,000	Yes
Surface water	Water levels	6 time Beginning During After Short and long rains	Water pans and seasonal streams	cm	Staff meter gauges or bathymetry	N/A. Most are seasonal	Contractor/ES	60,000	Yes
Groundwater Resources	Water levels		N/A	m asl	Piezometer	N/A. No identified resource			No Area has no known undergro und water resources

Parameter	Indicator	Monitoring frequency	Sampling area	Measurement Units	Methods	Target/Standards	Responsibility	Cost	Applicable (yes/No)
Air Quality	Dust Smoke, Internal combustion engine emissions	Monthly along road Weekly at construction sites with dust and	Near settlements and along road	PM µg/m^3 Volatiles concentration		0.01	Contractor/ES	500,000	Yes
National parks	Habitat composition n/ Wildlife numbers								No Project does not traverse
Water Quality	Turbidity, Conductivity , BOD, COD, pH, TSS TDS Venous metals and	6 time Beginning During After Short and Long rains	Near culverts/bridges, livestock watering ponds	NTU µS/cm, mg/ml mg/ml Log H^+ , mg/l mg/l Various units (mg/l, µg/l)	Multi-parameter portable meter (Hanna or WTG), Laboratory analysis	10 NTU, <400 µS/cm, 4 mg O_2 l^{-1}, <20 mg l^{-1} O_2 6-8 100 mg/l 3,000 Kenyan	Contract/ ES	1,000,000	Yes
Noise	Noise level/ mapping	Monthly along road Weekly at construction sites with dust and	Near settlements/ Institutions	dBA	Calibrated precision integrating sound level	Residential 45 Commercial area 20 Industrial areas	Constrictor/ ES	600,000	Yes

Parameter	Indicator	Monitoring frequency	Sampling area	Measurement Units	Methods	Target/Standards	Responsibility	Cost	Applicable (yes/No)
Vibrations	Vibrations sensing	Monthly along road Weekly at construction sites with dust and	Near settlements / Institutions	mm/s	Instantel Micromate with Geophone and GPS	5 mm/s	Constrictor/ ES	300,000	Yes
Solid Waste	Presence of solid waste	Weekly at construction sites, material depots Monthly along road	Settlements / Urban centres/ Institutions/ Road passage	Tones	Visual	Nil	Contractor/ ES/ County Government	150,000	Yes
Liquid waste	Pools and spills	Weekly at construction sites, material depots	Settlements/ Institutions/ Road passage	Liters	Visual	Nil	Contractor/ ES/ County Government	150,000	Yes
Flora	Tree density, land cover, Species compositi	Every 4 months	Entire project area	% Cover, No/Ha, Checklist	Quadrats, Belt transects, Transect walks	Near preconstruction n conditions where pristine,	Contractor/ ES/ NEMA/ KFS	300,000	Yes

Parameter	Indicator	Monitoring frequency	Sampling area	Measurement Units	Methods	Target/Standards	Responsibility	Cost	Applicable (yes/No)
Fauna	Animal densities, species composition, abundance, Road	Every 4 months	Wildlife rich areas	Animal numbers Checklist Roadkill reports/	Road transects, Incident reports, Roadkill count	Stable or increased populations	Contractor/ ES/ KWS	240,000	Yes
Soil erosion	Visual, Gullies depth and activity status, Silt	6 time Beginning During After Short and Long rains	Areas with gullies and deposition points	Width and Depth of gullies, number/Km^2, status,	Identified sites	Healing gullies, no new deposits	Contractor/ ES/ NEMA/ KWS/ KenGen	180,000	Yes
Archeological / Cultural/ Historical sites	Numbers and state of site	Continuously where excavation is taking place for archeological	Identified sites		Visual	Preserved as is	ES/ NMK/ Contractor	600,000	No No such sites identified
Social Characteristics	Demographic / attributes, and socio-cultural aspect	Once a year	Urban and rural areas	Population densities, economic activities and	Census and household questionnaires	Enhanced income, sustainable livelihoods	Project sociologist	600,000	Yes

Parameter	Indicator	Monitoring frequency	Sampling area	Measurement Units	Methods	Target/Standards	Responsibility	Cost	Applicable (yes/No)
Economic Characteristics	Types of economic activities and	Once a year	Rural and urban centers	KES	Questionnaires and tax returns	Increased income across areas economic sectors	Project economist	600,000	Yes
Occupational Health and	Reported incidents	Continuously	Health centers	Numbers and nature	Treatment registers inspection	Zero	Project sociologist/ Es/	750,000	Yes
Security and Public Safety	Reported crime incidents	Continuously	Police satiations and County Commissione	Number and nature of incidents	Occurrence books inspection	Zero	Project sociologist	750,000	Yes
Total cost during construction phase								22,370,000	
Parameter	Indicator	Monitoring frequency	Sampling area	measurement Units	Methods	Target/Standards ds	Responsibility	Cost	**Applicable (yes/No)**

Parameter	Indicator	Monitoring frequency	Sampling area	Measurement Units	Methods	Target/Standards	Responsibility	Cost	Applicable (yes/No)
Operation Phase									
Physiography	Landforms	Every two years	Road passage and borrow pit areas	Descriptive and qualitative	Visual/ Photography	Approximate restoration of pre-existing landscape after	ES	100,000	Yes
Geology	Fault lines, fissures and pyroducts	One a year at identified critical points	Faultiness, fissures and pyroducts	Size, location depth and	Seismic and ERT	Identified locations in geological	KeNHA/ Contractor/Consultant geologist	10,000,000	Yes
Soils	Soil horizon profile	2 times After rainy seasons	Water flow systems crossing points along road	Soil strata width	Coring	Retention of existing strata profiles and detection of	KeNHA/ Project Consultant geologist/ ES	1,000,000	Yes
Land Resources	Land use	Twice a year	Along road passage and catchment	Km^2	Satellite imagery		KeNHA and Identified catchment stakeholders, ES	500,000	Yes
Surface Water	Water levels	Once a year During long rains	Water pans and seasonal streams	cm	Staff meter gauges or bathymetry	N/A most are seasonal	Contractor/ ES	50,000	Yes

Parameter	Indicator	Monitoring frequency	Sampling area	Measurement Units	Methods	Target/Standards	Responsibility	Cost	Applicable (yes/No)
Groundwater Resources	Water levels		N/A	M asl	Piezometer	N/A. No identified resource			No Area has no known undergro und water resources
Air Quality	Dust Smoke, Internal combustion engine emissions	Twice a year	Near settlements and along road	PM µg/m^3 Volatile levels		0.01	Contractor/ES	30,000	Yes
National parks	Habitat composition/ Wildlife								No Project does not
Water Quality	Turbidity, Conductivity y, BOD, COD, pH, TSS TDS Venous metals and	Once a year during long rains	Near culverts/bridges, livestock watering ponds	NTU µS/cm, mg/ml mg/ml Log H^+, mg/l mg/l Various units (mg/l, µg/l)	Multi-parameter portable meter (Hanna or WTG), Laboratory analysis	10 NTU, <400 µS/cm, 4 mg O_2 l^{-1}, <20 mg l^{-1} O_2 6-8 100 mg/l 3,000 Kenyan and WHO	Contract/ ES	400,000	Yes

Parameter	Indicator	Monitoring frequency	Sampling area	Measurement Units	Methods	Target/Standards	Responsibility	Cost	Applicable (yes/No)
Noise	Noise level/ mapping	Twice annually	Near settlements / Institutions	dBA	calibrated precision integrating sound level	45 residential 55 Commercial area 70 Industrial	Constrictor/ ES	100,000	Yes
Vibrations	Vibrations sensing	Twice annually	Near settlements / Institutions	mm/s	Instantel Micromate with Geophone and GPS	5 mm/s	Constrictor/ ES	100,000	Yes
Solid Waste	Presence of solid waste	Monthly along road and shopping centres	Settlements / Urban centres/ Institutions/ Road	Tones	Visual	Nil	Contractor/ ES/ County Government	50,000	Yes
Liquid waste	Pools and spills	Monthly along road and shopping	Settlements/ Institutions/ Road passage	Litres	Visual	Nil	Contractor/ ES/ County Government	50,000	Yes
Flora	Tree density, land cover, Species compositi	Once a year	Entire project area	% Cover, No/Ha, Checklist	Quadrats, Belt transects, Transect walks	Near preconstructi on conditions were pristine, improved	Contractor/ ES/ NEMA/ KFS	500,000	Yes

Parameter	Indicator	Monitoring frequency	Sampling area	Measurement Units	Methods	Target/Standards	Responsibility	Cost	Applicable (yes/No)
Fauna	Animal densities, species compositi	Once a year	Wildlife rich areas	Animal numbers, Checklist Roadkill	Road transects, Incident reports, Roadkill	Stable or increased populations	Contractor/ ES/ KWS	400,000	Yes
Soil erosion	Visual, Gullies depth and activity status,	During and After Short and Long rains	Areas with gullies and deposition points	Width and Depth of gullies, number/Km^2 status	Identified sites	Healing gullies, no new deposits	Contractor/ ES/ NEMA/ KWS/ KenGen	400,000	Yes
Archaeological / Cultural/ Historical sites	Numbers and state of site	N/A	Identified sites		Visual	Preserved as is	ES/ NMK/ Contractor		No Any finds would have been documented during construction identified
Social Characteristics	Demographic attributes, and	Every two years (Selected households	Urban centres and rural areas	Population densities, economi	Census and household questionnaire	Enhanced income, sustainable	Project sociologist	800,000	Yes
	aspects	centres		levels, population compositio					

Parameter	Indicator	Monitoring frequency	Sampling area	Measurement Units	Methods	Target/Standards	Responsibility	Cost	Applicable (yes/No)
Economic Characteristics	Types of economic activities and financial returns	Every two years (selected households and businesses)	Rural homesteads and urban centres	KES	Questionnaires and tax returns	Increased income across areas economic sectors	Project economist	800,000	Yes
Occupational Health and	Reported incidents	Monthly	Health facilities/Police stations	Numbers and nature	Treatment registers inspection	Zero	Project sociologist/ ES/	50,000	Yes
Security and Public Safety	Reported crime incidents	Monthly	Police satiations and County commissioner	Number and nature of incidents	Occurrence books inspection	Zero	Project sociologist	50,000	Yes
Annual Total cost during operating phase								15,380,000	

8.5 General EHS Plans Requirements in Construction Project

8.5.1 Occupational Health and Safety Plans

The plan should be having details on the following listed topics.

S/N	Contents Of The Health And Safety Plan	Clarifications
1	Contractors Health & Safety Policy / Statement	The policy should be placed at selected places within the camp(s) and offices. It should be clear, visible and legible in English and Kiswahili.
2	Management & Supervision Organizational Chart.	This will be in form of a flow chart, to be displayed clearly in specific offices at the camps. It will assist in identifying the respective management staff and supervisors.
3	Construction Risk Assessment	The assessment should consist: (i) Risk assessment leader, (ii) Risk assessment team members (iii) Date of risk assessment. This will involve Identifying the risks, their description, probability of getting involved in the risk and impacts from the risk. A description of control measures/procedures/methods to manage the risk will be provided.
4	Fall Protection Plan	This will involve listing risk types, their description, probability of getting involved in the risk and impacts from the risk. Control measures/procedures/methods to manage the risk and the responsible person.
5	Hazardous Work/Activities-Method Statements	Hazardous work/Activity (HWA) method statement will be provided by listing the HWA, their description, Method To be followed / Used to safely carry Out the hazardous activity and the responsible person.
6	Personal Protective Equipment Requirements	A billboard with clear drawing of PPEs and their description will be provided.
7	Measures to Control the Condition and Use of Tools and Equipment	Description of various tools will be provided. Measures & procedures to ensure safe condition & use of tool/equipment and responsible person named.
8	Fire Prevention and Control Measures	Details of control and safety measures to be taken during storage and use of the inflammable substance
9	Environmental Protection Measures	A schedule of waste materials and effluents types of wastes will be identified. Description of waste/effluent generated on the site will be provided. Disposal/ effluent disposal methods and procedures to be named. Further, name and contact details of the company responsible for disposal of waste will be provided.
10	First Aid Arrangements -	First Aid Arrangements will include: Name(s) of first aiders on the work site. Number of and location of first aid boxes Details of other first aid/emergency medical arrangements made
11	Construction Site Signage	There will be a graphic illustration of the signage and the description on where to use/wear.

Table 13: Occupational Health and Safety Plans

8.5.2 Borrow Pits/Quarry Rehabilitation Plans

<table>
<tr><th colspan="5">MATERIAL SITE HISTORY, DESCRIPTION OF CURRENT STATUS AND DETAILS ON DECOMMISSIONING</th></tr>
<tr><th>Name of Material Site</th><th>Sites Operational Functional History</th><th>Records of Assessment Activity by Authority (NEMA, OSHA etc)</th><th>Records on Contractors Interaction with Owner and Local Community</th><th>Impacts on the Site and Community due to Interactions</th></tr>
<tr><td rowspan="8">Names of material site to be indicated after selection by the contractor</td><td>● When it was last utilized?
● Was there any agreement on rehabilitation?
● Was it rehabilitated after use?</td><td>● Are records available or not available?</td><td>● Were there any records (official correspondence) between stakeholders?</td><td>● Were there any impacts?
● How were they addressed?</td></tr>
<tr><td colspan="4">DETAILS ON PROPOSED DECOMMISSIONING</td></tr>
<tr><td>ıative Considered</td><td>Type of Decommissionin g Approach</td><td>ls of Work</td><td>Technical Baseline and Assumptions for the Project</td></tr>
<tr><td>● List of alternatives (water pan, do nothing alternative, fill up, dump site etc).</td><td>● Involve the quarry owners in planning the decommissionin g type</td><td>● Clarification on work schedule with details of decommission ing activities.</td><td>● List and review the assumptions and possible impacts</td></tr>
<tr><td colspan="4">MANAGEMENT OF THE MATERIAL SITE</td></tr>
<tr><td>Contract Out, Use of Construction Manager</td><td>Training</td><td>Schedule</td><td></td></tr>
<tr><td>● Details of contract type</td><td>● Details of contract type</td><td></td><td></td></tr>
<tr><td colspan="4">WORK AND ENVIRONMENTAL PROTECTION DURING DECOMMISSIONING</td></tr>
<tr><td rowspan="3">Names of material site to be indicated after selection by the contractor</td><td>Occupational Safety</td><td>cupational Exposure</td><td>Environmental Compliance Program (Audits etc.)</td><td>Safety Analysis and Review of Decommissio ning Activities</td></tr>
<tr><td>● OSHA guidelines to be adhered to</td><td>● Occupational exposures and mitigation.</td><td>● Were Audits carried out, EMP adhered to? etc</td><td>● Details on the safety analysis while decommissio ning.</td></tr>
<tr><td colspan="4">WASTE MANAGEMENT</td></tr>
</table>

MATERIAL SITE HISTORY, DESCRIPTION OF CURRENT STATUS AND DETAILS ON DECOMMISSIONING				
Name of Material Site	**Sites Operational Functional History**	**Records of Assessment Activity by Authority (NEMA, OSHA etc)**	**Records on Contractors Interaction with Owner and Local Community**	**Impacts on the Site and Community due to Interactions**
	Waste Minimization Techniques Used	*Waste Handling*	*Waste Management*	
	FINAL SITE SURVEY			
	Independent Verification Inspection by NEMA County Environmental Officer		*Independent Verification by Community Leaders*	

Table 14: Borrow Pit/Quarry Rehabilitation Plan

Borrow Pits and Quarries Reinstatement during and After Project Completion

The Contractor, in consultation with the RE and the supervising environmental consultant to coordinate in implementing the ESMP on borrow pits and quarries. Status of the material sites should be reported on monthly basis and when need be during the monthly progress meeting between the Contractor, Client and the supervising engineers.

Suggested Contents of Borrow-pit/Quarry Lease Agreement

Owners of the possible material sites will likely be analphabetic – and gullible while making legally binding agreement with the Contractor – in case the contractor intends to acquire material from such land parcels and hence the related agreements.
To avoid the Contractor coming up with a one-sided unconscionable agreement while leasing a material site, it will be necessary that an ESIA should be done before the starting the extraction of construction materials. The ESIA should have a copy of the Lease Agreement made between the lessor and the lessee. Parallel to NEMA's ESIA approval process, the following issues should be complied with.

Agreement between the Contractor, the area chief and the land owners (community) should be avoided.

Before the Start of Quarrying Activities

i. Copies of the Agreement should be presented to the following people for approval:
   a) Area NEMA County Director, to be included in the ESIA report for the site.
   b) KeNHA's Director for Environment and Social Safeguards
   c) Area Chief or sub-chief
   d) Community opinion leaders, - a man and a woman.
ii. Once the above listed stakeholders have reviewed and commented on the proposed agreement, the project's Resident Engineer will give the final decision on the proposed material borrow site, either reject it or accept it, based on the comments from a) – d) above.
iii. KeNHA – the project proponent – in consultation with NEMA will thereafter make the final decision.

iv. To facilitate fast review of the agreement, a template with a compliance checklist will be given to the stakeholders a) to d) above to ascertain Contractor's level of compliance.

After Completion of Quarrying Activates

i. A certificate of material site reinstatement should be filled in by a) to d) and later handed over to the RE, KeNHA for approval
ii. Outstanding issues should be handled by the Contractor in reference to the agreement

8.5.3 Vehicle/Traffic Management Plan

During construction phase of the proposed Keicho Bypass road, the Contractor should manage the Motorized and Non-motorized traffic in the following ways:

- To ensure that disruptions to traffic and road transport are minimized.
- To ensure that the roads remain open to traffic during construction activities;
- Prior to construction activities, the Contractor will install all signs, barriers and control devices needed to ensure the safe use of the road by traffic and pedestrians.
- Information, warning and direction signs will be incorporated provided at specific places along the project road. Vandalized signs should be replaced.
- County authorities and residents in a working area will be consulted before any detours for construction or diverted public traffic are established;
- Disposal sites and haul routes will be identified and coordinated with local officials;
- Construction vehicles will use temporary roads constructed for that purpose to minimize damage to agricultural land and local access roads.
- Where local roads are used, e.g. haulage of raw material from identified sites; they will be maintained and reinstated to their original condition after the completion of work.

8.5.4 Waste Management Plan

Specific sources of liquid and solid waste will be:

- ✓ Bulk earthworks,
- ✓ Waste from site office/camp,
- ✓ Used spare parts from trucks, plant and equipment

Some of the waste will include waste oil, effluent disposal (septic tanks), drilling slurries and drilling fluids, wastewater from site and dredging. Details on managing the waste during construction period are as follows.

Process	Waste Management during Construction Phase		
Actions	**Requirements**	**Responsibility**	**Timing**
	Spoils from bulk earthworks will be stockpiled and reused where possible	Construction Manager	Throughout the Construction period
	Waste from site office/camp and repairs and maintenance will be segregated at source and disposed as per the procedure for solid waste management	Site Office Project Manger	Throughout construction works
	No waste will be deliberately or unintentionally released	Site Manager / Construction Manager	Throughout construction works

Process	Waste Management during Construction Phase		
	Waste quantities measured and recorded on a daily basis	Site Office Project Manager	Throughout construction works
	Reporting to Site Office Project Manager and HSE Advisor	All staff	Throughout construction works
	Any reporting to Resident Engineer and NEMA	Site Office Project Manager	Throughout construction works
	Awareness and training of waste handling.	Site Office Project Manager	Throughout construction works

Table 15: Waste Management Plan during Construction Phase

8.5.5 Camp Design / Installation Plan

The Contractor's camp(s) for labour, accommodation, offices and construction plant sites shall be identified based on the following guidelines.

- The camp should be constructed in accordance with contract documents, adhering to the specified and required standards.
- The construction site shall be located minimum distance from the road project site and away from any settlement (Min 1km). This will keep off unauthorized persons into the camp and the associated and unnecessary interference.
- The camp should be enclosed with boundary wall, with only one guarded entrance.
- Movement of the workers, in and out of the camp - should be registered during the night-time. This will prevent possible illegal activities, e.g. pilfering of camp's items, ill behaviours from workers at night etc.
- Camp activities should not create any disturbance to the local community.
- Operation of the plant and machinery should be restricted to daytime only
- Care should be taken while starting and moving the heavy vehicles, there is a possibility that children of near settlement may be playing with machinery parked outside the camps.

8.5.6 Ancillary Plans

Ancillary plans for the Construction sites should include:

Facilities at the Workmen's Camp

- Potable water supply in quantity and quality,
- Safe access road is required at camps
- Waste (all kind of solid and liquid wastes) generated should be disposed off in accordance with NEMA's Waste Management Regulations) 2006, Part II, Solid Waste, which has provisions on disposal methods

Sanitation Facilities

- Construction camp shall be provided with sanitary latrines and urinals.
- Closed drainage systems and the proper treatment systems according to the local conditions should be constructed for the proper flow and effective treatment. The

sewage system built for the camp will be operated properly to avoid health hazard, ground water and soil pollution.
- Compost pits will be constructed for the disposal of the garbage and other biodegradable wastes generated from the camps. Proper collection, transportation and disposal of the wastes will be ensured.

Health care Facilities:

- Health problems of the workers should be taken care of by providing basic health care facilities through a health centre set up at the construction camps.
- The health centre will have at least a qualified medical staff (part time), duty staff, medicines and minimum medical facilities to tackle first-aid requirements for minor accidental cases.
- Arrangements and contacts should be made with the nearest hospital to refer patients of major illnesses or critical cases.

8.5.7 Spills Prevention and Response Plan

The spill prevention and response plan will provide the Contractor general guidance and procedures to manage project site operations which have potential to cause environmental damage and procedures to follow in case spill occurs. The following discharges - potential pollutants - are likely to occur during construction phase.

i) Wastewater from washout of concrete;
ii) Wastewater from washout and cleanout of paint, form release oils, concrete grinding slurry, curing compounds and other construction materials;
iii) Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
iv) Soaps, solvents, or detergents used in vehicle and equipment washing; and
v) Toxic or hazardous substances from a spill or other release.

Some outlines of the contents of the spills prevention and response plan.

S/N	Contractors Areas of Concern in the Plan	Examples of Issues of Concern in the Plan
1	Contractor Responsibilities	● Contractor to follow proper procedures storage and handling of hazardous materials. ● Train employees to control the identified waste and recyclable products in the containers provided. ● Maintain Material Safety Data Sheets (MSDS) on file for hazardous chemicals used on the project and ensure employees follow all of the incorporated requirements. ● Use correct PPEs.
	Fuelling and Maintenance of Equipment or Vehicles	● Use drip pans and absorbents under or around leaky vehicles; ● Dispose of or recycle oil and oily wastes in accordance with NEMA. ● Clean up spills or contaminated surfaces immediately, using dry clean up measures and eliminate the source of the spill to prevent discharge or a furtherance of an ongoing discharge

S/N	Contractors Areas of Concern in the Plan	Examples of Issues of Concern in the Plan
	Washing of Equipment and Vehicles.	● Provide an effective means of minimizing the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other types of washing. ● Avoid washing activities in the existing water courses.
	Disposal of Waste Products	● Separate hazardous waste from construction and domestic waste. ● Store waste in sealed containers, which are constructed of suitable materials to prevent leakage and corrosion, and which are labeled. ● Provide waste containers (e.g., dumpster or trash receptacle) of sufficient size and number to contain construction and domestic wastes.

Table 16: Issues of Concern in the Spills Response Plan

In complying with the corrective actions in spillage management, the Contractor is responsible to comply with Hazardous Spill Prevention and Response Plan. Contractor's non-compliance to spill containment control measures will be communicated to the Resident engineer and supervising OHS advisor,

8.5.8 Emergency Response Plan (ERP)

Emergency/Disaster Preparedness Plans for the Proposed Road Project

The contractor shall develop and implement the guidelines for emergency/disaster preparedness and response as provided below:

- Objective:
  - To define emergency situations that may arise during the construction phase of the project.
  - To prepare emergency response plans in line with the identified emergency situations.
  - To put systems in place to equip facility with emergency equipment.
  - To put mechanisms in place to test the emergency procedures and propose improvements.
  - Keep contacts, both internal and external, of persons in charge for management of emergencies and disasters.

- Emergency situations have been defined as follows:
  - Occupational health and safety
  - Fire outbreak
  - Flooding
  - Fatality on site
  - Serious accident leading to multiple personal injuries
  - Illness due to food poisoning
  - Mass illnesses arising from inhalation and contact with hazardous chemicals

- Environmental incidents/Disasters
  - Incidents / accidents that may lead to stoppage of works for more than 1 working day;
  - Incidents that may significantly impart negatively on the project and lead to negative publicity within the project neighbourhood and to the media

- Incidents that may cause damage and harm to the environment, especially pollution to soil, water sources and air pollution.

- The process for Identification of Significant Occupational Safety and Health Risks; Identification of Significant Environment all Aspects has come up with the following as emergency situations that are likely to occur:

  - Occupational Health and Safety incidents:

- Fire outbreak at residential and offices camps, heavy equipment, plants and motor vehicles.
- Fatality at site.
- Multiple serious injuries.
- Food poisoning from workers canteen.
- Camp invasions scare

  - Environmental and social incidents
    - Fire outbreak at the Camp, equipment, and plants.
    - Oil spillage leading to surface and ground water contamination and soil degradation.
    - Chemicals spillage, fire.
    - Camp invasion by local residents due to perceived injustices ranging from employment opportunities, degradation of environment and moral related issues due to labour influx.
  - Preventative measures:
    - All Emergency measures shall have preventative measures documented and implemented. These shall be outlined in the risk assessments conducted in section above
    - Whenever new or modifications of processes are put in place, the risk assessment shall be reviewed to incorporate the modification or introduction of new processes.
  - Repair and Maintenance of emergency equipment
    - An initial fire survey shall be done jointly with a DOSHS approved fire inspector.
    - Emergency equipment shall be procured as per the recommendation if the fire inspector.
    - Once the equipment has been procured and installed, there shall be monthly inspections by the Health and Safety Officer who shall record observations in a prescribed format. For equipment that shall require top up, services for repair and maintenance shall be sought.
    - Periodic repairs and shall be conducted on quarterly basis or as per the advice of emergency equipment and service provider.
  - Emergency response team
    - An emergency response team shall be constituted. This team shall have the membership and responsibilities as shown in

Composition and Tasks of Emergency/Disaster Preparedness Response Team

	Emergency Role	Responsibilities During Emergencies
1.	Emergency Controller	- The overall coordinator of reported emergencies - Monitor the situation as it unfolds - Contact with GoK Officers and the Consultants Engineers - Give media brief where need be - Delegate the duties to any other manager where necessary

	Emergency Role	Responsibilities During Emergencies
2.	Assistant Emergency Controller	- Deputize the emergency controller - Liaise with affected stakeholder stakeholders - Update the emergency controller on feedback from stakeholders
3.	Emergency Coordinator	- Liaise with the emergency services on site - Liaise with affected stakeholders - Give feedback to the Emergency controller - Spearhead the roll call at the assembly points - Announce all clear once the emergency situation eases up - Write the report and learning arising from the emergency response. Distribute the report to the emergency team
4.	Assistant Emergency Coordinator	- Deputize the Emergency controller
5.	Emergency Marshalls	- Ensure emergency alarm is raised - Mobilize workers in their areas of jurisdiction - Where safe to so, ensure that the emergency situation is averted - Ensure all workers, visitors and sub-contractors have evacuated to the assembly point

Table 17: Disaster Preparedness Response Team

- Emergency drills/practices
  - An emergency response centre shall be established on site. Likewise, an alternative emergency centre shall be designated in event that the aforementioned response centre is rendered out of use;
  - A response plan shall be developed for each of the identified emergency situations;
  - Each of the identified drills shall undergo tests at least once a year
- Lessons learnt during the drills shall be documented and improvements for future drills and emergencies proposed and implemented in the next drill / emergency.

- Emergency contacts
  - Emergency contacts shall be documented and distributed in all offices and notice boards including security gatehouses;
  - The contacts shall include: police, fire emergency services, ambulance services
  - The contacts list shall be revised at least once a year to ascertain validity telephone numbers and individuals names.

Occupational and Safety Concerns during Construction Phase

Based on the identified hazards, the contractor shall evaluate the risk by considering the likelihood of occurrence and severity. The likelihood of occurrence shall be based on Very Low, Low, Medium, High or Very High. A numerical system can also be used ranging from 1 to 5. The extent of the rating shall be based on the controls that the contractor has put in place. It shows an evaluation of the risk, severity and causal factors.
The risk assessment shall be used to priories the remedial measures. Risks with high evaluation scores shall be given priority for remedying the situations.

Occupational and Safety Concerns during Operation Phase

There are some periods towards the end of the construction phase that the road may be opened intermittently for public use. During these periods the workers may still be undertaking construction works on the project road. This implies that the workers shall be exposed to vehicles and pedestrians form the public with risks of accidents that can lead to serious accidents and fatalities.
Towards this, the remedy shall be:

- to enhance safety signage to forewarn the road users that the road is still under construction some sections
- Use traffic marshals to direct other road users
- Demarcate work areas with physical barriers. These barriers should have on them retro reflective materials for enhanced vision in the night
- Where appropriate, slow down traffic by use of bumps, rumble strips or zigzag bollards where appropriate.

8.5.9 Environmental Awareness Plan

The plan will focus on training, awareness and competence for the site staff with the objective of making them able to work and address tasks that have the potential to cause a significant environmental impact. Environmental awareness and training shall be achieved by:

- Site induction, including relevant environmental issues.
- Environmental posters and site notices.
- Method statement and risk assessment briefings.
- Toolbox talks, including instruction on incident response procedures.
- Key project specific environmental issues briefings.

8.5.10 Decommissioning Plan for the Camps and other Instillations

The plan outlined here shall be applicable at the project post construction phase. Following the certified completion of the road project construction phase, all construction facilities and labour camps shall be decommissioned. The sites occupied by these facilities shall be restored to conditions that are not inferior to those existing prior to the commencement of works. The decommissioning and rehabilitation activities shall include:

a) Oil and fuel contaminated soils removal and disposal in designated and licensed waste disposal areas
b) Soak pits and septic tanks exhaustion, disposal of wastes, coverage and effective sealing
c) Disposal of debris, surplus material and other wastes in accordance with ESMP waste disposal guidelines
d) Levelling of all ramps erected for the works
e) Covering of underground water tank in barren/non-agricultural land and retention of those in agricultural lands in functional conditions
f) Spreading of top soil on agricultural or grazing land to accelerate the natural restoration processes

To avoid future litigation or complaints, documentation of site rehabilitation processes shall be undertaken. These shall comprise of:

a) Photographs of the area prior to camp establishment
b) Photographs of the campsites before and after rehabilitation taken at geo-referenced points

c) Site inspection report by NEMA
d) Undertaking by contractor to amend any documented deficits
e) Land owner consent letter on satisfactory rehabilitation and suitability of site
f) Certification from KeNHA Engineer in charge of the Project

8.5.11 Stakeholders' engagement program

Basis of identification

The first step in the process of stakeholder engagement is stakeholder identification to determine the project stakeholders, their key groupings and subgroups. Stakeholders are persons or groups who are directly or indirectly affected by a project, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

Mapping of stakeholder groups was enabled by definition of the impact zone of the project The following questions provided guidance in mapping and identifying the stakeholders:

- Who is critical to engage with first and why?
- What is the optimal sequence of engagement?
- Who will be adversely affected by the potential environmental and social impacts in the road construction project's area of coverage and influence?
- Who are the most vulnerable among the potentially impacted, and is special engagement necessary?
- At which stage of the project will the stakeholders be mostly affected (i.e. construction, operation or decommissioning phase of the project)?
- Which stakeholders might help enhance the project design?
- Who strongly supports or opposes the changes that the project will bring?

Planned engagement in the subsequent phases of the Project

Engagement prior to construction phase
This will entail consultations related to land acquisition, valuation of project affected properties and Resettlement Action Plan (RAP) activities. This will entail holding sensitization meetings with the affected landowners and farmers to inform them on the RAP process including census, valuation of affected assets, the cut-off date, grievance mechanisms etc.

Engagement during the construction phase
Stakeholder engagement during the construction phase will relate to all activities including civil works, and establishment, operation and decommissioning of the construction camp and other facilities. The stakeholders will be engaged in monitoring of the impacts identified during the ESIA. The following activities will be undertaken.

Activity	Information to be relayed	Engagement strategy
Notifying local stakeholders of construction activities and any changes to already laid schedule	• Project start date and duration • Potential impacts • Who to contact incases of concern	• Print media • Local vernacular radio • Informal meetings
Involving the stakeholders in monitoring of anticipated	• Emerging issues during monitoring of the ESMP	• One on one meetings

Activity	Information to be relayed	Engagement strategy
impacts Reporting to the stakeholders on the progress of implementation of the ESMP	• Success of mitigation plans	• Public barazas • Formal meetings
Resolution of grievances	• Measures taken to resolve grievances	• One on one meetings • Public barazas
Management of risks to stakeholder relations from contractor(s)	• Contractor's obligations to the community during construction	• Public barazas
Industrial labor relations	Unrealized expectations if any	Informal meetings (Baraza)

Engagement during the decommissioning of construction camp and facilities

Completion of construction works will be characterized by downscaling of the construction activities. The anticipated impacts include; loss of local employment, general decline in the local economic activities. It is imperative to engage with stakeholders well before these events take place. This will ensure effective rehabilitation of the material sites and borrow pits and develop worker retrenchment programs.

Activity	Information to be relayed	Consultation method
Notification on construction completion and downscaling of activities	• Scaling down of management presence • Termination of casual employment contracts and other lease agreements • Closure of outstanding issues • Site restoration/rehabilitation plans	• Formal meetings between contract parties • Public barazas

Engagement during operation phase

During the operation phase the numerous impacts associated with civil works decrease but the transition brings with it many changes which require to be managed to ensure continuity in stakeholder relationships. There will be a reduction in overall employee and contractor workforce, and the number of grievances and frequency of engagement with stakeholders will decrease. The following activities will be undertaken:

Activity	Information to be relayed	Consultation method
Managing transition from construction to operation including the changes in staff	• Introductions of in-coming teams to local communities • The changes that are to be expected and what impacts this might have, on local residents	• Public barazas • Informal meetings
Establishment/evaluation of	Departmental plans,	• One on one meetings

Activity	Information to be relayed	Consultation method
internal systems and functions	procedures, functions and management systems	• Round-table discussions
Disclosure, consultations and reporting to stakeholders	• Status of implementation of the project's commitments to stakeholders • Emergency preparedness and response plans • Resolution of grievances	• Public barazas • Informal meetings • One on one meetings
Environmental and social audit of the project's performance	Overall environmental and social performance	• One on one meetings • Public barazas

Engagement strategy for special stakeholders

Any special groups identified in the project locality will require special consideration and prioritization in engagement. These groups may include: the youth; women; widows; people living with disabilities; and the elderly. The following principles will be applied to accord them a fair and equal opportunity for participation in the stakeholder engagement process:

- Information, consultation, and participation for all on issues affecting special stakeholder groups.
- Employment equity – deliberate effort will be put in place in form of quotas or special preference for members of these categories.
- Committee representation – deliberate effort will be made to include the members of vulnerable groups in committees.
- Inclusivity in a culturally appropriate manner; and
- Respect of the culture, knowledge, and preferences of the vulnerable members.

8.6 Cost of the Project.

The cost of the project will be **Ksh. 13,708, 844,356.98** (**Thirteen Billion, Seven Hundred and Eight Million, Eight Hundred and Forty four Thousand, and Three Hundred and fifty Six.**

9.0 PUBLIC PARTICIPATION AND CONSULTATION

Public consultations were carried out with the objective of gaining views, concern and value in regard to possible negative and positive impacts due as a result of the project road during its project cycle. Through this, it was anticipated that transparency and accountability throughout the project cycle will be achieved. Possible conflicts between the project client (KeNHA/Gok), Contractor, proponents, stakeholders and community members living in close proximity to the proposed project sites would be addressed and solved at an earlier stage.

Interviews and consultative public meetings (barazas) were the main techniques which were used to consult the public and interested parties. A total of four meetings were held along the road corridor within the project road, which was adequately attended by over 200 stakeholders.

Questionnaire forms were administered to the public and all their views and concerns updated in this study. Kobo-collect software was used to administer all the questionnaires. Summary all these questionnaires are attached herein the document as an appendix.

The meetings were held at:

S/No	Meeting Type	Date
1	CC	18th Jan 2022
2	ACCs (Benson Mokami – ACC AinMoi, Janet Jawa,- ACC Kapsaos, Wilkister Alao – ACC Kericho East	19th Jan 2022
3	8 Chiefs at the County Commissioner Offices.	20thth Jan 2022
4	Meeting with locals at Kapsaos Tea buying Centre	23th Feb 2022, 11Am
5	Meetings with the locals at Ketepyese Primary School	23th Feb 2022
6	Meetings with the locals at Kaboswa Primary School	23th Feb 2022

Table 18: Public participation meetings schedules

9.1.1 Stakeholder Consultation Outcome

The ESIA Team conducted public participation within the Project Area with an aim of giving the Community a platform of expressing their social concerns in relation to the Project. Tables below present summaries of concerns raised by stakeholders and how the concerns were addressed during the ESIA exercise.

Stakeholders Concerns and Response during Consultative Meeting with Deputy County Commissioner (DCC) Kericho.

Issues	Responses
• DCC, Mr Kamau Karungo advised further Consultations should be organized with the Local Administration who include the ACCs, Chiefs, Assistant Chiefs, and Village Elders within the Project Area. • CC was concerned on how the team will avoid problems since the project was touching people's lands.	• The ESIA Team confirmed that further Consultations organized and also Sensitization Meetings to the local communities will be conducted. • ESIA team agreed on taking the advice seriously by conducting through sensitization.

Stakeholder Concerns and Response during Consultative Meeting with Assistant County Commissioner

Issues	Responses
• The Leaders sought clarification on whether public participation forums will be organized to sensitize the community. • The ACCs requested for a detailed explanation on the proposed Kericho By-bass. • They sought clarification whether the affected PAPs will be compensated. • They wanted to know the Project Commencement date • Assist County Commissioner urged the Consultant to consider hiring local youths for the manual jobs for the period they shall be in the area for the project. • ACC Mokami was concerned on how the Consulting team will conduct their public participation programs. • He also encouraged the team to use the local leaders for any exercise that shall be conduct in the area. • Local were concerned on how adverse environmental impacts will be address by engaging the local communities • Will be there be jobs for out youths?	• ESIA/RAP Team confirmed that public participation will be organized which will include the PAPs identified during the field work conducted. • Consultant explained that the Project's objective is to reduce traffic from Kericho town by having trailer trucks and big Lorries that are not destined to Kericho town pass without congestion in the town. • ESIA/RAP Team clarified that full compensation will be done after an evaluation of properties of the people who are affected by the project. The compensation will include allowances like Disturbance allowances and others. • The consulting explained that the commencing date wasn't communicated yet since the project is still at its baby phases and it's still a proposal waiting for an approval. • ESIA team to ensure the ACCs that they will work with the local youths during the period they will be in Kericho • The team requested for help from the ACC and his administrative team to help in getting the venues for holding the meetings, mobilizing the locals as they ensure their safety is granted. He will also be accompanying the team for the meetings with the locals. • ESIA team to ensure the ACCs that they will work with the local youths during the period they will be in Kericho. • They clarified that they have been using the local leaders and will continue working together with the local administrators in including youths for manual jobs • ESIA Team also clarified that the project

Issues	Responses
	would ensure all advised environmental impact will be addressed and mitigated as much as possible • Involvement of local community was guaranteed to the local by the ESIA Team.

Stakeholder Concerns and Response during Consultative Meeting with Chiefs in Kericho

Issues	Responses
• They sought clarifications where the proposed by-pass pass through.	• Consultant to give details on the Project. It will start from Brooke, an area called Chagaik, touch Kapsaos centre, pass through Aina Moi locations then it ends at Kapsoit Locations where inter-change will be constructed. The objective of the By-pass is to Minimize the traffic congestion at Kericho town also has high volume vehicles evade the town. The road to be 90m, 45m from the middle to the left and 45m from the middle to the right with road reserve included. WMCL has been contracted by KeNHA.
• They sought clarification whether the affected PAPs will be compensated.	• Consultant Team clarify that full compensation will be done after an evaluation of properties of the people affected by the project. The compensation will include allowances like Disturbance allowances and many others. .
• The Locals sought clarification on whether public participation forums will be organized to sensitize the community. •	• Consultant Team to confirm that public participation will be organized and will include the PAPs identified during the field work conducted.

Stakeholder Concerns and Response during Consultative Meeting with Locals at Chepkitach Tea Buying Centre.

Issues	Responses
• Mr Peter, one of resident, sought clarification on the areas that will be affected by the project.	• The Consultant to give details on the Project. It will start from Brooke, an area called Chagai, touch Kapsaos centre, pass through Aina Moi locations then it ends at Kapsoit Locations where inter-change will be constructed. The road to be 90m,with road reserve included.
• Mzee Kiprono Rono sought clarification whether the affected PAPs will be compensated. • Ng'eto raised concerns	• Consultant team explained to the residents that after evaluation of the properties damaged by the project is done, owners will be compensated and be given allowances that will ensure they adjust to the changes without their lives being affected.

Issues	Responses
about the ownership title deeds since most of them are in dead relatives. • Reuben clarification on commencing of the project. • Philemon questioned the construction of new road while the there is an existing road. • Mr Sang requested the Consultant to consider hiring local youths for the manual jobs for the period they shall be in the area for the project.	• Consultant was aware of the delayed title deed succession in Kericho areas, therefor, advised the residents to start the process as soon as possible. ACC Mokami assured the residents to give a hand to anyone who seeks his help as succession matter is concerned. • Consultant team clarified the project is at it's early stage, therefor, no official date has been given. Although, advised locals to continue living their normal because the project may take some years. • Isaiah, the Surveyor explained objective of the By-pass is to Minimize the traffic congestion at Kericho town also have the big vehicles evade the town. The road to be 90m, 45m from the middle to the left and 45m from the middle to the right with road reserve included. • Consultant team to ensure the locals that they will work with the local youths during the period they will be in Kericho

Stakeholder Concerns and Response during Consultative Meeting with Locals at Ketepyese Primary School.

Issues	Responses
• Mr Peter, one of resident, sought clarification on the areas that will be affected by the project. • Edward Rotich sought clarification whether the affected PAPs will be compensated. • Ng'eto Michael raised concerns about the ownership title deeds since most of them are in dead relatives. • Amir clarification on commencing of the project. • Peter Ng'etich questioned the construction of new road while the there is an existing road. • Mr Martim Daniel requested the Consultant to consider hiring local youths for the manual jobs for the period they shall be in the area for the project.	• The Consultant to give details on the Project. It will start from Brooke, an area called Chagai, touch Kapsaos centre, pass through Aina Moi locations then it ends at Kapsoit Locations where inter-change will be constructed. The road to be 90m,with road reserve included. • RAP team explained to the residents that after evaluation of the properties damaged by the project is done, owners will be compensated and be given allowances that will ensure they adjust to the changes without their lives being affected. • Consultant was aware of the delayed title deed succession in Kericho areas, therefor, advised the residents to start the process as soon as possible. ACC Mokami assured the residents to give a hand to anyone who seeks his help as succession matter is concerned. • The consulting explained that the commencing date wasn't communicated yet since the project is still at it's baby phases and its still a proposal waiting for an approval. • Isaiah, the Surveyor explained objective of the By-pass is to Minimize the traffic congestion at Kericho town also have the big vehicles evade the town. The road to be 90m, 45m from the middle to the left and 45m from the middle to the right with road reserve included. • Consultant team to ensure the locals that they will work with the local youths during the period they will

	be in Kericho

Stakeholder Concerns and Response during Consultative Meeting with Locals at Kaboswa Primary School

Issues	Responses
• Local Elder, one of resident, sought clarification on the areas that will be affected by the project. • Terget sought clarification whether the affected PAPs will be compensated. • David arap Siele raised concerns about the ownership title deeds since most of them are in dead relatives. • Richard Ng'etich clarification on commencing of the project. • Juma Sang questioned the construction of new road while the there is an existing road. • Madam Chepng'eno Daniel requested the Consultant to consider hiring local youths for the manual jobs for the period they shall be in the area for the project	• The Consultant to give details on the Project. It will start from Brooke, an area called Chagai, touch Kapsaos centre, pass through Aina Moi locations then it ends at Kapsoit Locations where inter-change will be constructed. The road to be 90m,with road reserve included. • RAP team explained to the residents that after evaluation of the properties damaged by the project is done, owners will be compensated and be given allowances that will ensure they adjust to the changes without their lives being affected. • Consultant was aware of the delayed title deed succession in Kericho areas, therefor, advised the residents to start the process as soon as possible. ACC Mokami assured the residents to give a hand to anyone who seeks his help as succession matter is concerned. • The consulting explained that the commencing date wasn't communicated yet since the project is still at its baby phases and it's still a proposal waiting for an approval. • Isaiah, the Surveyor explained objective of the By-pass is to Minimize the traffic congestion at Kericho town also have the big vehicles evade the town. The road to be 90m, 45m from the middle to the left and 45m from the middle to the right with road reserve included. • RAP team to ensure the locals that they will work with the local youths during the period they will be in Kericho

9.1.2 Recurrent Issues of Concern and Views from the Community

Issues of Concern Discussed	Participants Views and Suggestions
Pre-Construction / Design Phase	
Land acquisition during design and surveying process	● A group number of participants wanted to know if their property will be affected through the alignment and road design.
Sources of raw materials for road construction, whereby an EIA will be required	● The road Contractor to consult the management of d local community before starting any extraction of materials
Identification of Environmental & Social sensitive location	● Community will assist the RAP team to identify all the Environmental & Social sensitive locations
Areas of social and cultural significance, - sacred trees or sites, grave sites.	● Contractor's failure to recognize and respect the areas of social significance can create conflicts with the community members. ● The areas to be identified before the start of construction work.
Construction Phase	
Employment, - youth (men and women) during construction phase Location of workmen's camps and related impacts.	● Locals should be given job the opportunity, especially low-skilled tasks as opposed to the Contractor bringing in workers from elsewhere. ● Women should be given job opportunities, mainly less strenuous tasks.
Haulage of raw materials from quarries and borrow pits	● Locals should be given the opportunity to supply raw materials to the contractor.
Operation Phase	
Insecurity for road users or tos driving along the project road	● Police posts to be constructed at the possible volatile areas.
Highway robbery during road operation.	● Additional police posts to be built along the project road. ● Constant police control

Table 19: Recurrent Issues of Concern and Views from the Community

9.1.3 Consultative meeting and puplic participation meetings

S/N	Description	Photo
1	Stakeholders Consultative Meeting with Locals at Chepkitach Tea Buying Centre.	
2	Stakeholders Consultative Meeting with Locals at Ketepyese Primary School.	
3	Stakeholder Meeting with Locals at Kaboswa Primary School	

S/N	Description	Photo
4	Stakeholders Consultative Meeting with Chiefs in Kericho	
	Stakeholders Meeting with Deputy County Commissioner (DCC) Kericho.	

Table 20: Consultative meeting and public participation meetings

10.0 CONCLUSION AND RECOMMENDATION

10.1 Conclusion

This proposed Bypass Road is an important economic contributor to attainment of the vision 2030 and a critical link to Kericho and adjoining counties to the rest of the Country. The Proposed Bypass Road will ensure communication and travel between different region through Kericho County is enhance with minimal or no disruptions to Kericho central Business district (CBD).

The road project is economically viable

- Adverse environmental and socio-economic impacts can be successfully and adequately mitigated
- A joint management structure will ensure sustainability of the road and eliminate landscape wide adverse processes that threaten the road and other important economic undertakings and infrastructure
- The Proposed project to be implemented in compliance with the relevant legislation and planning requirements. The proponent thus must ensure that the impacts are kept to a minimum level.
- A clear environmental and social management plans have been developed. The proponent should ensure the implement the mitigation guideline provided in the ESMP in collaboration with the Contractor.

In view of socioeconomics, the proposed project will have residual significant positive impact on business, by improving the accessibility of the existing trading centres. Population increase within these areas will be expected. Ribbon developments and growth of the existing trading centres will be expected during the road's operation stage.

10.2 Recommendation

The study recommends timely implementation of the project with strict adherence to the proposed Environmental and Social Management Plans. The mitigation measures proposed for every impact will adequately ensure that the environment and health of the workers are safeguarded, so long as these measures are implemented. It is therefore recommended that the proposed project be approved for implementation.

The road be constructed, and the proponent and contractor implement all the ESMP recommendations. All legal and policy requirements are adhered to during construction, operations and decommissioning phases of the project.

All resettlement related issues should to address before project commencement. PAPs grievance committee to be developed to address any emerging community issues.

The study recommends involvement of local community and especially youths, women and people living with disability to be prioritized in jobs opportunities as a result of this project.

11.0 REFERENCES

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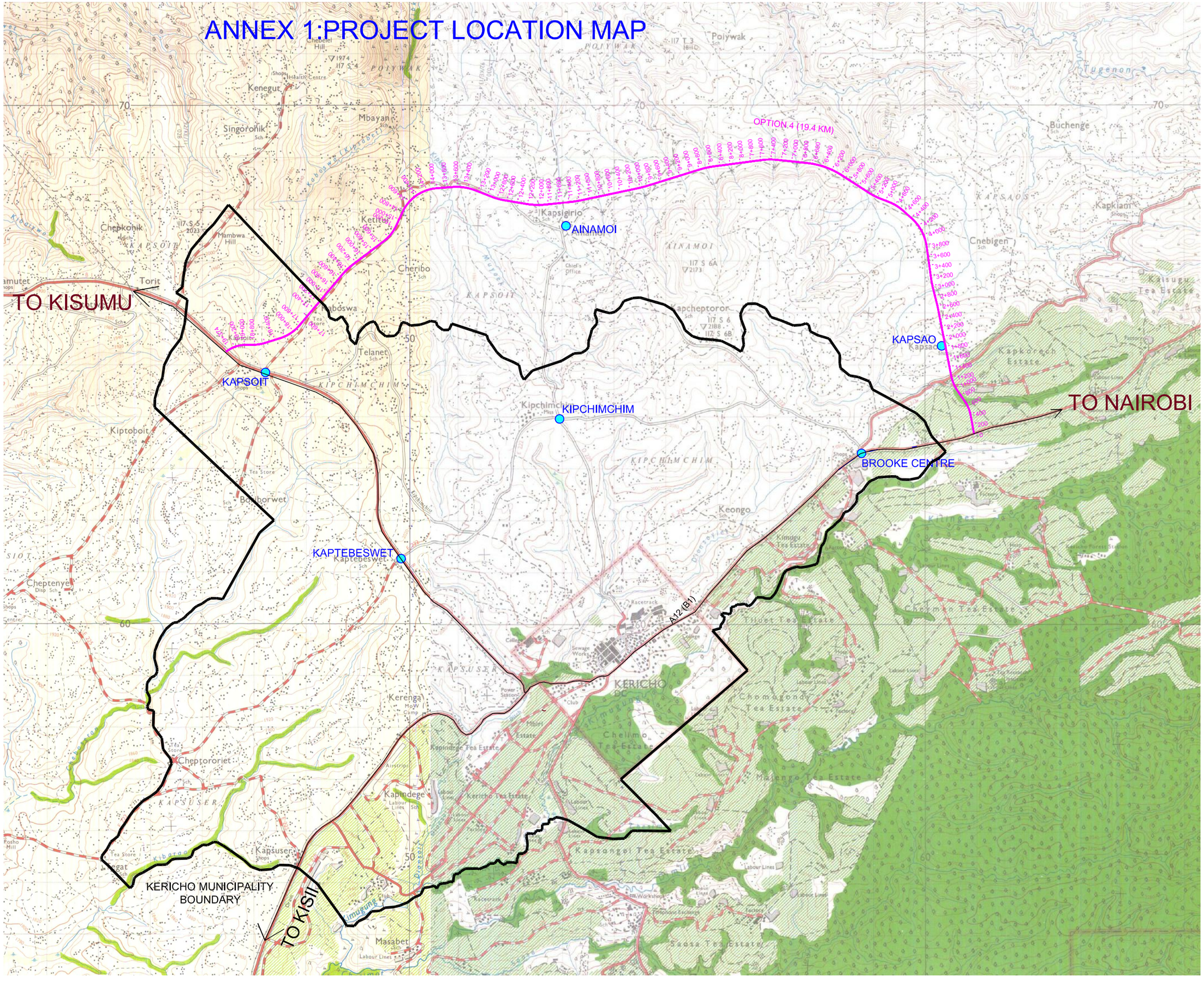
12.0 APPENDICES

12.1 Project Location Map
12.2 Minutes of Public Participation Meetings/Barazaas
12.3 Meetings Attendance List
12.4 Biophysical Feature along the Proposed Kericho Bypass
12.5 Analysis of Key Stakeholder's
12.6 Experts' Registration/ Practicing Licenses
12.7 Overall Multi-criteria Route Selection Assessment Matrix
12.8 Stakeholder Engagement Plan

ANNEX 1:PROJECT LOCATION MAP



MINUTE OF THE MEETING HELD AT THE COUNTY COMMISSIONER OFFICE KERICHO FOR THE PROPOSED KERICHO BYPASS ROAD PROJECT ON THE 18TH AND 19TH MARCH 2022 FROM 10:30 AM-1:00PM.

MEMBERS PRESENT.

1. James Nyawamu – A.C.C Kericho
2. Janet M. Jawa – A.C.C Kericho
3. Wilkister Alao – A.C.C Kericho
4. Doronew Wenani Wanjala – A.C.C Kericho
5. Duncan K. Bu – Snr. Chief
6. Nancy Ruto – Snr. Chief Kapsoit
7. Wesley Langat – Chief Chepsoen
8. Joseph K. Sitienei – Snr. Chief Poiywek
9. John Too – Snr. Chief Telanet
10. Korir K. Stephen – Chief Cheboswa
11. Samuel K. Chebochok – Kapsaos
12. Richard Bett – Aina Moi
13. Cynthia Syombua – Wanjohi Mutonyi
14. Shelmith Nyawira - Sociologist Wanjohi Mutonyi
15. Elijah Kimani – WMCL
16. Robert Ngunjiri – WMCL
17. Isaiah Marindany – WMCL

AGENDA.

a) Introductions of the members
b) Introduction of the project
c) Review of the maps
d) Comments
e) Suggestions
f) A.o.B

INTRODUCTION

The introduction was led by the Assistant County Commissioner Madam Janet Jawa. The two teams, (Wanjohi Mutonyi Consulting Ltd Team and Kericho Administrative Team did self-introduction and thereafter the host ACC took time to officially welcome us.

Chiefs from the affected areas were present accept one (Sitotwet Chief) who was absent with apology

PROJECT BRIEFING.

The consultant explained to the members present that the project dubbed as Kericho Bypass Road Project, is intended to reduce traffic snarl up at Kericho Central Business District (CBD). He informed the members that many vehicle that have are not destined to the town contribute to traffic snarl up at Kericho that has been being experienced for the past few years.

He continued to explain some initiative has been put to place for example dualing of the road B12 at the town section Kericho town and Kapsoit respectively to reduce the trafiic snarp previously. Since it was observed by Kenya National highway authority that the snarl up challages was not fully solved thus proposing a bypass.

KeNHA consulted us (Wanjohi Mutonyi Consult Limited) to undertake Feasibility Study, Environmental and Social Impact Study, Preliminary and Detailed Engineering Design of Kericho Bypass. The consultant noted that, the Bypass will start at Chagaik located along B12 road Nairobi- Kisumu Highway to the north westerly direction via Ainamoi and terminate at kapsoit with is along B12 road.

The By-pass starts from brook area touching it's 5 neighboring locations then crosses the other side of the Kericho town, again brushing 3 – 4 locations on that area.

Elijah informed the chiefs that the project will be touching people's properties and that's why we need chiefs to be on the forefront of this project in order to talk to the residents with the language they understand. Also the project with have some environmental and socio-economic impact to the region and there I need to assess the parameters that might trigger and cause adverse impact to as to have mitigation measure to reduce the impact to acceptable level and where possible to avoid completely.

Then, he added after identifying the affected, they shall put a value than compensate through a professional study called resettlement action plan RAP. The Environmental Impact anticipated will to be addressed through environment and social impact assessment study (ESIA) respectively.

Isaiah Maridany, Consultant surveyor who was present in the meeting, told the members that they needed support from the chiefs while undertaking setting out of the road alignment corridor and few youths to help installation of beacons. Soil investigation will be done after mapping exercise is done. Material investigation will follow; RAP and Environmental team will follow.

The consultant also informed the locals chiefs that surveyors are already on ground marking the center line for the proposed areas of the By-pass.

CADASTRAL MAPS REVIEW.

Wanjohi Mutonyi Consulting team took the chiefs and D.P.P and A.C.Cs present through the maps to enable member present internalize the areas affected. This exercise was important to help chief mobilize the affected person PAPs to consultative and sensitization meetings/Baraazas.

Chiefs identified their locations on the maps and they were able to point out some members of the community that were affected.

Challenges!

1. The chiefs noted that most of the land ownership document (tittle deed) is under names of deceased persons who could be parents or grandparent of the family living on the land parcels which could be affected.
2. It was also noted that the interchange at Chagaik lies on uniliver parcel of land and the need to me approached from the client level to ensure understanding during land acquisition and compensation
3.

CONCERNS/OPINION.

The area chief of Kapsaos Chief Samuel Chebochok suggested that all persons should take individual responsibility to ensure the project is undertaken smoothly and they should avoid politicizing the project noting we are in a political year with high political temperatures. He was seconded by all members who were present in the meeting.

A.o.B.

Having no other business the meeting ended at 1:00pm.

Signed: Wanjohi Mutonyi Consult

MINUTE OF THE PUBLIC PARTICIPATION MEETING HELD AT CHEPKITACH TEA BUYING CENTRE FOR THE PROPOSED KERICHO BYPASS ROAD PROJECT HELD ON 23TH FEB 2022,FROM 10:30 AM-1:00PM.

MEMBERS PRESENT.

1. Consultant Team- Wanjohi Mutonyi Consult Limited (WMCL)
2. Administrative Team-Kericho County – (Chiefs, ACC, DCC).
3. Local Community Members

AGENDA.

a) Introductions of the members
b) Introduction of the project
c) Issues/Responses
d) A.o.B

INTRODUCTION

The meeting was opened by a prayer by one community member present then introduction followed. The introduction was led by the Assistant County Commissioner Madam Janet Jawa. The two teams, (Wanjohi Mutonyi Consulting Ltd Team and Kericho Administrative Team did self-introduction and thereafter the host ACC took time to officially welcome us including the community members present to the meeting.

PROJECT BRIEFING.

The consultant explained to the members present that the project dubbed as Kericho Bypass Road Project, is intended to reduce traffic snarl up at Kericho Central Business District (CBD). He informed the members that many vehicle that have are not destined to the town contribute to traffic snarl up at Kericho that has been being experienced for the past few years.
He continued to explain some initiative has been put to place for example dualing of the road B12 at the town section Kericho town and Kapsoit respectively to reduce the traffic snarl up previously. Since it was observed by Kenya National highway authority that the snarl up challenges was not fully solved thus proposing a bypass.

KeNHA consulted us (Wanjohi Mutonyi Consult Limited) to undertake Feasibility Study, Environmental and Social Impact Study, Preliminary and Detailed Engineering Design of Kericho Bypass. The consultant noted that, the Bypass will start at Chagaik located along B12 road Nairobi- Kisumu Highway to the north westerly direction via Ainamoi and terminate at kapsoit with is along B12 road.

Elijah informed the chiefs that the project will be touching people's properties and that's why we need chiefs to be on the forefront of this project in order to talk to the residents with the language they understand. Also the project with have some environmental and socio-economic impact to the region and there I need to assess the parameters that might trigger and cause adverse impact to as to have mitigation measure to reduce the impact to acceptable level and where possible to avoid completely.

Then, he added after identifying the affected, they shall put a value than compensate through a professional study called resettlement action plan RAP. The Environmental Impact anticipated will to be addressed through environment and social impact assessment study (ESIA) respectively.

Consultant surveyor, who was present in the meeting, told the members that they needed support from the chiefs while undertaking setting out of the road alignment corridor and few youths to help installation of beacons. Soil investigation will be done after mapping exercise is done. Material investigation will follow; RAP and Environmental team will follow.

The consultant also informed the local's chiefs that surveyors are already on ground marking the centre line for the proposed areas of the By-pass.

ISSUES/RESPONSES

Issues	Responses
• Mr Peter, one of resident, sought clarification on the areas that will be affected by the project.	• The Consultant to give details on the Project. It will start from Brooke, an area called Chagai, touch Kapsaos centre, pass through Aina Moi locations then it ends at Kapsoit Locations where inter-change will be constructed. The road to be 90m, with road reserve included.
• Mzee Kiprono Rono sought clarification whether the affected PAPs will be compensated.	• Consultant team explained to the residents that after evaluation of the properties damaged by the project is done, owners will be compensated and be given allowances that will ensure they adjust to the changes without their lives being affected.
• Ng'eto raised concerns about the ownership title deeds since most of them are in dead relatives.	• Consultant was aware of the delayed title deed succession in Kericho areas, therefor, advised the residents to start the process as soon as possible. ACC Mokami assured the residents to give a hand to anyone

Issues	Responses
• Reuben clarification on commencing of the project. • Philemon questioned the construction of new road while the there is an existing road. • Mr Sang requested the Consultant to consider hiring local youths for the manual jobs for the period they shall be in the area for the project.	who seeks his help as succession matter is concerned. • Consultant team clarified the project is at it's early stage, therefor, no official date has been given. Although, advised locals to continue living their normal because the project may take some years. • Isaiah, the Surveyor explained objective of the By-pass is to Minimize the traffic congestion at Kericho town also has the big vehicles evade the town. The road to be 90m, 45m from the middle to the left and 45m from the middle to the right with road reserve included. • Consultant team to ensure the locals that they will work with the local youths during the period they will be in Kericho

A.o.B.

Having no other business the meeting ended at 1:00pm.

Signed: Wanjohi Mutonyi Consult

MINUTE OF THE MEETING HELD AT KETEPYESE PRIMARY SCHOOL FOR THE PROPOSED KERICHO BYPASS ROAD PROJECT ON 23th FEB 2022 FROM 1:30 AM-3:00PM.

MEMBERS PRESENT.

1. Consultant Team- Wanjohi Mutonyi Consult Limited (WMCL)
2. Administrative Team-Kericho County – (Chiefs, ACC, DCC).
3. Local Community Members

AGENDA.

a) Introductions of the members
b) Introduction of the project/Project Briefing
c) Issues/Responses
d) A.o.B

INTRODUCTION

The meeting was opened by a prayer by one community member present then introduction followed. The introduction was led by the Assistant County Commissioner Madam Janet Jawa. The two teams, (Wanjohi Mutonyi Consulting Ltd Team and Kericho Administrative Team did self-introduction and thereafter the host ACC took time to officially welcome us including the community members present to the meeting.

PROJECT BRIEFING.

The consultant explained to the members present that the project dubbed as Kericho Bypass Road Project, is intended to reduce traffic snarl up at Kericho Central Business District (CBD). He informed the members that many vehicle that have are not destined to the town contribute to traffic snarl up at Kericho that has been being experienced for the past few years.
He continued to explain some initiative has been put to place for example dualing of the road B12 at the town section Kericho town and Kapsoit respectively to reduce the traffic snarl up previously. Since it was observed by Kenya National highway authority that the snarl up challenges was not fully solved thus proposing a bypass.

KeNHA consulted us (Wanjohi Mutonyi Consult Limited) to undertake Feasibility Study,

Environmental and Social Impact Study, Preliminary and Detailed Engineering Design of Kericho Bypass. The consultant noted that, the Bypass will start at Chagaik located along B12 road Nairobi- Kisumu Highway to the north westerly direction via Ainamoi and terminate at kapsoit with is along B12 road

Elijah informed the chiefs that the project will be touching people's properties and that's why we need chiefs to be on the forefront of this project in order to talk to the residents with the language they understand. Also the project with have some environmental and socio-economic impact to the region and there I need to assess the parameters that might trigger and cause adverse impact to as to have mitigation measure to reduce the impact to acceptable level and where possible to avoid completely.

Then, he added after identifying the affected, they shall put a value than compensate through a professional study called resettlement action plan RAP. The Environmental Impact anticipated will to be addressed through environment and social impact assessment study (ESIA) respectively.

Consultant surveyor, who was present in the meeting, told the members that they needed support from the chiefs while undertaking setting out of the road alignment corridor and few youths to help installation of beacons. Soil investigation will be done after mapping exercise is done. Material investigation will follow; RAP and Environmental team will follow.

The consultant also informed the local's chiefs that surveyors are already on ground marking the centre line for the proposed areas of the By-pass.

ISSUES/RESPONSES

Issues	Responses
• Mr Peter, one of resident, sought clarification on the areas that will be affected by the project. • Edward Rotich sought clarification whether	• The Consultant to give details on the Project. It will start from Brooke, an area called Chagai, touch Kapsaos centre, pass through Aina Moi locations then it ends at Kapsoit Locations where inter-change will be constructed. The road to be 90m,with road reserve included. • RAP team explained to the residents that after evaluation of the properties damaged by the project is done, owners will be compensated and be given

the affected PAPs will be compensated.	allowances that will ensure they adjust to the changes without their lives being affected.
• Ng'eto Michael raised concerns about the ownership title deeds since most of them are in dead relatives.	• Consultant was aware of the delayed title deed succession in Kericho areas, therefor, advised the residents to start the process as soon as possible. ACC Mokami assured the residents to give a hand to anyone who seeks his help as succession matter is concerned.
• Amir clarification on commencing of the project.	• The consulting explained that the commencing date wasn't communicated yet since the project is still at it's baby phases and its still a proposal waiting for an approval.
• Peter Ng'etich questioned the construction of new road while the there is an existing road. • Mr Martim Daniel requested the Consultant to consider hiring local youths for the manual jobs for the period they shall be in the area for the project.	• Isaiah, the Surveyor explained objective of the By-pass is to Minimize the traffic congestion at Kericho town also have the big vehicles evade the town. The road to be 90m, 45m from the middle to the left and 45m from the middle to the right with road reserve included. • Consultant team to ensure the locals that they will work with the local youths during the period they will be in Kericho

A.o.B.

Having no other business the meeting ended at 3:00pm.

Signed: Wanjohi Mutonyi Consult

MINUTE OF THE PUBLIC PARTICIPATION MEETING HELD AT KABOSWA PRIMARY SCHOOL FOR THE PROPOSED KERICHO BYPASS ROAD PROJECT HELD ON 23TH FEB 2022,FROM 3:30 PM-5:00PM.

MEMBERS PRESENT.

1. Consultant Team- Wanjohi Mutonyi Consult Limited (WMCL)
2. Administrative Team-Kericho County – (Chiefs, ACC, DCC).
3. Local Community Members

AGENDA.

a) Introductions of the members
b) Introduction of the project/Project Briefing
c) Issues/Responses
d) A.o.B

INTRODUCTION

The meeting was opened by a prayer by one community member present then introduction followed. The introduction was led by the Deputy Commissioner Mr Mokami The two teams, (Wanjohi Mutonyi Consulting Ltd Team and Kericho Administrative Team did self-introduction and thereafter the host ACC took time to officially welcome us including the community members present to the meeting.

PROJECT BRIEFING.

The consultant explained to the members present that the project dubbed as Kericho Bypass Road Project, is intended to reduce traffic snarl up at Kericho Central Business District (CBD). He informed the members that many vehicle that have are not destined to the town contribute to traffic snarl up at Kericho that has been being experienced for the past few years.

He continued to explain some initiative has been put to place for example dualing of the road B12 at the town section Kericho town and Kapsoit respectively to reduce the traffic snarl up previously. Since it was observed by Kenya National highway authority that the snarl up challenges was not fully solved thus proposing a bypass.

KeNHA consulted us (Wanjohi Mutonyi Consult Limited) to undertake Feasibility Study, Environmental and Social Impact Study, Preliminary and Detailed Engineering Design of Kericho Bypass. The consultant noted that, the Bypass will start at Chagaik located

along B12 road Nairobi- Kisumu Highway to the north westerly direction via Ainamoi and terminate at kapsoit with is along B12 road.

Elijah informed the chiefs that the project will be touching people's properties and that's why we need chiefs to be on the forefront of this project in order to talk to the residents with the language they understand. Also the project with have some environmental and socio-economic impact to the region and there I need to assess the parameters that might trigger and cause adverse impact to as to have mitigation measure to reduce the impact to acceptable level and where possible to avoid completely.

Then, he added after identifying the affected, they shall put a value than compensate through a professional study called resettlement action plan RAP. The Environmental Impact anticipated will to be addressed through environment and social impact assessment study (ESIA) respectively.

Consultant surveyor, who was present in the meeting, told the members that they needed support from the chiefs while undertaking setting out of the road alignment corridor and few youths to help installation of beacons. Soil investigation will be done after mapping exercise is done. Material investigation will follow; RAP and Environmental team will follow.

The consultant also informed the local's chiefs that surveyors are already on ground marking the centre line for the proposed areas of the By-pass.

ISSUES/RESPONSES

Issues	Responses
• Local Elder, one of resident, sought clarification on the areas that will be affected by the project. • Terget sought clarification whether the affected PAPs will be compensated. • David arap Siele raised concerns about the ownership title deeds	• The Consultant to give details on the Project. It will start from Brooke, an area called Chagai, touch Kapsaos centre, pass through Ainamoi locations then it ends at Kapsoit Locations where inter-change will be constructed. The road to be 90m, with road reserve included. • RAP team explained to the residents that after evaluation of the properties damaged by the project are done, owners will be compensated and be given allowances that will ensure they adjust to

Issues	Responses
since most of them are in dead relatives.	the changes without their lives being affected.
• Richard Ng'etich clarification on commencing of the project.	• Consultant was aware of the delayed title deed succession in Kericho areas, therefor, advised the residents to start the process as soon as possible. ACC Mokami assured the residents to give a hand to anyone who seeks his help as succession matter is concerned.
• Juma Sang questioned the construction of new road while the there is an existing road.	• The consulting explained that the commencing date wasn't communicated yet since the project is still at its baby phases and it's still a proposal waiting for an approval.
• Madam Chepng'eno Daniel requested the Consultant to consider hiring local youths for the manual jobs for the period they shall be in the area for the project	• Isaiah, the Surveyor explained objective of the By-pass is to Minimize the traffic congestion at Kericho town also have the big vehicles evade the town. The road to be 90m, 45m from the middle to the left and 45m from the middle to the right with road reserve included. • RAP team to ensure the locals that they will work with the local youths during the period they will be in Kericho

A.o.B.

Having no other business the meeting ended at 5:00pm.

Signed: Wanjohi Mutonyi Consult

ATTENDANCE LIST: KERICHO BYPASS ROAD PROJECT

No.	Name	Designation	Area	Telephone	Signature
1	PAUL KIPCHIRCHIR KETER	VILLAGE ELDER FARMER	LELECHWET	0727803613	
2	MARY CHEPKEMOI CHUMO	"	KETIPYESE	0719993711	
3	JOSEPH KIBIEGON LANGAT	"	CHEPLANGE	07	
4	CHERUIYOT SAMUEL KOGO	"	BAGAO	07[illegible]814792	
5	KIPLANGAT KURGAT	"	"	0729112669	
6	CHEPKIRUI JANE MAINA	"	KETIPYESE	0724243293	
7	KORIR COSMAS	"	CHEMORIR	0720792701	
8	GRACE JABELE MITEI	"	BOITWEK	0724217657	
9					
10					
11					
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KABOSWA PRIMARY SCHOOL 23/02/2022

ATTENDANCE LIST: KERICHO BYPASS ROAD PROJECT

No.	Name	Designation	Area	Telephone	Signature
1					
2					
3					
4 Chiefs	JOHN TDO	SUB-CHIEF	TELEGNECT	0712688325	
5	MATHEW KIRUI	SUB CHIEF	KAPSOIT	0706057221	
6	Brown Ruston	Assistant	Kapkitony	0729718487	
7	THOMAS KORIR	SNR ASST. CHIEF	CHEPHURBET	0720205308	
8	LEONARD ROTICH	SNR ASS. CHIEF	SITOTWET	0721158608	
9	Geoffrey Kiprotich	Kapkitony Resident	KAPKITONY	0724780401	
10	RICHARD LANGAT	Resident KABOSWA	KABOSWA	0713675329 3822618	
11	KIPROTICH LETING'	Resident KITOTU		0806422 0247202 90	
12	JONATHAN TERER	KAPSOIT Resident	KAPSOIT	0723409130	

13	JOEL TERIKECH	bisghaton KABOSWA	0712894833 0587247		
14	Joseph langat	Kaboswa	7480253	OF	
15	Kiprono Rono	Kaboswa	.		
16	SAMSON KIPMUTAI KENO	KAPSOIT	-		
17	ROBERT MUTEI	KAPSOIT	0726044163		
18	DAVID KOSIGEI	KAPKITONY	0705355645		
19	AMOS KOECH	KAPKITONY	0715096974		
20	WILLIAM KIPKEMOI SANG	SITOTWET	0719466593		
21	WILLIAM KOSIGEI	KABOSWA	0725730531		
22	DAVID K. CHEPKWONY	SITOTWET	0722910388		
23	CHARLES KERING	SITOTWET	0712770520		
24	ROBERT KOECH	KAPSOIT	0718884251		
25	BENARD KIPNGETICH	KABOSWA	0726474975		

KABOSKIA

ATTENDANCE LIST: KERICHO BYPASS ROAD PROJECT

No.	Name	Designation	Area	Telephone	Signature
1	KIPLOGGH PETER	SITOTWET	TORIT	0729012101	
2	AGNET CHEPLOGGH	KABOSWA	KABOSWA	0729040941	
3	FRANCIS KOROS JUMA	KABOSWA	KABOSWA	—	
4	PATRICK KOSICEI	KABOSWA	KIPKOIBON	0717962278	
5	DAVID KOSICEI	KABOSWA	KIPKOIBON	0717962278	
6	DANIEL KOSICEI	KABOSWA	KABOSWA	0725825407	
7	JOHN KOSKEI	KABOSWA	KABOSWA	0722312943	
8	VINCENT KOROS	SITOTWET	TORIT	0717165-231	
9	BENARD KIPYEGON	SITOTWET	TORIT	0723707566	
10	PAUL CHEPKWONY	SITOTWET	TORIT	0728664449	
11					
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KABOSWA.

ATTENDANCE LIST: KERICHO BYPASS ROAD PROJECT

No.	Name	Designation	Area	Telephone	Signature
1	Samuel K. Ngeno	TELPET	Keticki	0724045688	
2	Daniel K. Langat	Telnet Ltd	Kiprokpik	0722237544	
3	Kevin Kenneth	Telnet	Kiptegan	0725915383	
4	Daisy Kiler	KAPBOSWA	KAPBOSWA	0710321879	
5	Erastus Cheptkwony	KAPSOIT	KAPKITONY	0729376017	
6	Fancy Sang	KAPSOIT	KAPBOSWA	0705459966	
7	Nelly Bii	KAPSOIT	KAPBOSWA	0718696761	
8	Samuel Langat	KAPBOSWA	KAPBOSWA	0707631086	
9	David Tonui	TELNET	KETITU	0720022064	
10					
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KABOSWA.

ATTENDANCE LIST: KERICHO BYPASS ROAD PROJECT

No.	Name	Designation	Area	Telephone	Signature
1	Samuel K. Yatich	TELPVET	Kericho	0724045682	
2	Daniel K. Langat	Telnet Ltd	Kipsokwik	0722237544	
3	Kevin Kenneth	Manager	Kiptegan	0725915383	
4	Daisy Kiler	KAPBOSWA	KAPBOSWA	0710321879	
5	Erastus Cheptkwony	KAPSOIT	KAPKITONY	072f376017	
6	Fancy Sang	KAPSOIT	KAPBOSWA	0705459966	
7	Nelly Bii	KAPSOIT	KAPBOSWA	0718696761	
8	Samuel Langat	KAPBOSWA	KAPBOSWA	0707631086	
9	David Tonui	TELNET	KERICHO	0720022064	
10					
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ATTENDANCE LIST: KERICHO BYPASS ROAD PROJECT

No.	Name	Designation	Area	Telephone	Signature
1	MICHAEL KOSKEI	FARMER	TUITOBEI	0728547614	
2	WILSON MUIAN	FARMER	KETIPYESE	0720-287310	
3	MARTIM DANIEL	FARMER	KETIPIESE	0719221479	
4	David Kouke	Farmer	Chemoiy	0722611725	
5	KIBET LEONARD	FARMER	POIYWEK	0759392774	
6	Edwin K Bii	Farmer	Kapsigiriò	0769126140	
7	STANLEY KOECH	FARMER	POIYWEK	0710662583	
8	ANDREW MALAKWEN ARAP LANGAT	FARMER	CHEPLANGET	0722788087	
9	Paul Kipkirkei	FARMER	Poiywek	0719211580	
10	JOSEPH KIPKOSKEI BETT	FARMER	CHEPLANGEI	0794206796	
11	PAUL KIPKUECH CHERUIYOT	FARMER	POIYWEK	0725129694	
12	Stevina Chepngeno RUTO	Farmer	Chemoiy	0701235593	

13	DAISY RUTTOH	FARMER	CHEPLANGET	0706699395	
14	CAROLINE YEGON	FARMER	CHEPLANGET	0713369581	
15	KENNETH KORIR	FARMER	KAPKIEDIENGNIEI	0720521238	
16	ERIC KIPKORIR KOGO	FARMER	CHEBIN	0729361993	
17	DANCUN BYEGON	FARMER	KAPKIEDIENDENIET	0707409781	
18	SARAH RUTO	FARMER	TUIYOREI	0708573147	
19	EDNA CHERUIYOT	FARMER	TUIYOREI	0797073946	
20	FANCY MARITIM	FARMER	KETIPYESE	07	
21	PETER CHEPKUONY	FARMER	CHEMORIR	0703643449	
22	SARAH LANGAT	FARMER	KETIPYESE	0728783177	
23	PRISCILLA TONUI	FARMER	POIYWEK	0718621260	
24	EDNA CHEBII	FARMER	KETIPYESE	0742444122	
25	GRACE BARCHOK	FARMER	KETIPYESE	07	

ATTENDANCE LIST: KERICHO BYPASS ROAD PROJECT

No.	Name	Designation	Area	Telephone	Signature
1	JANET CHERONO	FARMER	CHEMURIR	0796615098	
2	ASHA. BII	FARMER	CHEMURIR	0724541124	
3	CELESTINE TOO	FARMER	KETIPYESE	0796479054	
4	ESTHER TOO	FARMER	KETIPYESE	0716355823	
5	ZABLON KITOCH	FARMER	MURERET	0729545474	
6	RICHARD KIRUI	FARMER	MURERET	07	
7	JOSEPH KIRUI	FARMER	MURERET		
8	LAWRENCE SEREN	FARMER	KETIPYESE	0726374089	
9	RICHARD MAIWA	FARMER KAPSIGIRIO	KAPSIGIRIO	0721510377	
10	DAVID KOROS	FARMER	MURERET	0746648448	
11	JOSEPH CHESIROR	FARMER	KETIPYESE	0711192342	
12	JOSEPH SAWE	FARMER	KAPSIGIRIO	0705688975	

13	DANCUN ROTICH	FARMER	KAPCHEPTENDENIET	0723055377	
14	SAMUEL TUEI	FARMER	KAPSIGIRIO	0712509034	
15	ALFRED SIGEI	FARMER	CHEBTUIYET	0727089143	
16	SAMUEL KILEL	FARMER	KAPSIGIRIO	0729067207	
17	DAVID KITOCH	FARMER	CHEBTUIYET	0726698165	
18	BERNARD KOGO	FARMER	CHEBIN	07	
19	DAVID KOROS	FARMER	CHEMORIR	0701925781	
20	RICHARD KITUR	FARMER	CHEPIEMBE	0711577002	
21	VICTOR KIPRONO TOO	FARMER	CHEMORIR	0791546723	
22	HENRY TERGECH	FARMER	CHEMORIR	0726956089	
23	MICHAEL NGETUK	FARMER	CHEMORIR	07	
24	DANIEL LANGAT	FARMER	KOITAMAT	0719675459	
25	ANTHONY CHERUIYOT SEREM	FARMER	KETITESE	0725230042	
	SARAH CHEPKOECH	FARMER	KETITESE	0791182847	
	DAVID - K. KOSKEI	FARMER	KE 11	0729917007	

KABOSWA

ATTENDANCE LIST: KERICHO BYPASS ROAD PROJECT

No.	Name	Designation	Area	Telephone	Signature
1	Mary Langat	Telanet	Ogirgir	0727840728	Mlangat
2	Esther Bii	Kaboswa	Kapkitony	07	
3	Lily Rotich	Telanet	Keiyu	0723407422	
4	Mary Sambu	Kapsoit	Kapkitony	0714977643	
5	Betty Cheptugeno	Kapsoit	Kaboswa	0741807499	
6	Rachael C Chirchir	Kapsoit	Kaboswa	07	
7	R. Sarah Chepkoech Bii	Telanet	Keiyu	0700743126	
8	Edinah Ngeno	Telanet	Kipteganu	0702005214	
9	Joyce Ngeno	Telanet	Kipteganu	0701078056	
10	Recho Muia	Sitotwet	Torit	07	
11	Amnah Musk	Kapsoit	Kapkitony	0727344302	
12	Richard Metet	Kaboswa	Kapkitony		Metet

13	DAVID KIPKIRUI BII	TELANET	KETITUI	0717747156	
14	KENNEDY KOECH	TELANET	KETITUI	0716780580	
15	RICHARD TUM	KAPBOSWA	KAPBOSWA	0726008298	
16	Wilson IC Sang	TELANET	KETITUI	0717329507	
17	Wesly mutai	TELANET	KIPTEGANY	0725484720	
18	PATRICK KANGATI	KAPBOSWA	KAPBOSWA	0719543436	
19	JOSEPH KIPUR TERGECH	KAPBOSWA	KAPBOSWA		
20	SAMUEL .K MELLY	KABOSWA	KABOSWA	0701201017	
21	RICHARD KIBGI MARIIM	KAPSOIT	KAPSOIT	0720139887	
22	WESLEY KIPRONO AROMO	KAPSOIT	KAPKITONY	0717126181	
23	ANETH.C.SIGEI	KAPSOIT	KAPKITONY	0726484820	
24	WELDON KIPKOECH	SITOTWET	TORIT	0792874234	
25	GEOFFREY SANG	KAPSOIT	KAPOSWA	0701225558	

23/02/2022.

ATTENDANCE LIST: KERICHO BYPASS ROAD PROJECT

No.	Name	Designation	Area	Telephone	Signature
1	BENSON MOKAMI	ACCI	AINAMOI	0722467362	
2	JANET JAWA	ACC	KAPSOS	0712241550	
3	WILKISTER ALAO	ACC	KERICHO EAST	0705134698	
4	SAMUEL K. CHEBOCHOK	SNR CCFCEF	KAPSOS	0721552863	
5	STEPHEN-K. KORIR	CHIEF	CHEBOSWA	0720423152	
6	DANIEL K ROP	SNR ASSISTANT CHIEF	MAO	0729759734	
7	SAMUEL KOECH	SNR ASSISTANT CHIEF	CHEPMENGICH	0723380772	
8	PATRICK LANGAT	ASSISTANT CHIEF	TOWNSHIP	0721263099	
9	DAVID. KIBUI	VILLAGE ELDER	CHAGAIK	0720121509	
10	JOSHUA KAPLEGAT	ELDER	CHEBUBO	0729104439	
11	DAVID CHUMO	ELDER MANAGER	MANAGER	0713253401	
12	JOSHUA K. SOET	ELDER	SOIN/KIM	0704823817	

13	PETER K- NGETICH	MEMBER	CHEMAGALBIT	0722877805	
14	DENNIS KORIR	MEMBER	CHAGAIK	0716807968 0716807968	
15	REUBEN TOEK	MEMBER KARSOS	KARSOS	0725458834	
16	JULIUS TOO	ELDER	CHESEBET	0723554118	
17	JOEL MUGUN	ELDER	KAPKATET	8719421601	
18	NELSON MUTAI	MEMBER	CHEMAGALDIT	0700260358	
19	DAVID KITUR	ELDER	LAMMYAI	0722971854	
20	WILSON MAKAKWEN KOBER	MEMBER	CHESEBET	0722699026	
21	RICHARD K- RUGUT	ELDER	CHEPKITACH	0700098955	
22	DAVID LANGAT	MEMBER	KARSOS	0721621734	
23	DAVID ROECH	ELDER	LELGOI	0722909840	
24	DAVID CHEPKWONY	ELDER	CHEPTENDENIK	0724019677	
25	PAUL NGENO	MEMBER	CHAGAIK	0728664476	

ATTENDANCE LIST: KERICHO BYPASS ROAD PROJECT

No.	Name	Designation	Area	Telephone	Signature
1	SAMWEL LANGAT	MEMBER	KAPSOS	0731064971	
2	AMIR ISMAIL	MEMBER	KAPSOS	0722280123	
3	REUBEN KOBELL	MEMBER	KAPSAOS	0722788495	
4	BENJAMIN LANGAT	MEMBER	MANYORO	0722171327	
5	REVARA RUTO	MEMBER	MANYORO	0701944324	
6	Leonard Langat	Member	Kapsoi	0101933608	
7	FRANCIS SIELE	MEMBER	CHEPILITACH	0716258014	
8	Robinson Koech	Member	Chebeft	0715252557 0715282557	
9	Geoffrey chepkwony	Member	Chemagaldet	0710655911	
10	JOHNSTONE KII	MEMBER	KAPSAOS	0723878414	
11	Joel mitei	Member	Kapsaos	0721474805	
12					

ATTENDANCE LIST: KERICHO BYPASS ROAD PROJECT

No.	Name	Designation	Area	Telephone	Signature
1	MARY CHELANGAT BETT	FARMER	CHEBIN	0705393057	
2	JOYCE CHEPKORIR CHERUIYOT	FARMER	CHEMORIR	0717132925	
3	BETTY KOSKEI	FARMER	KETIPYESE	0724555678	
4	William MASWAI	FARMER	CHEMORIR	0723262576	
5	NANCY CHEPKURUI BURGUR	FARMER	CHEMORIR	0714010177	
6	PAUL TERGECH	FARMER	CHEMORIR	0715856129	
7	BEATRICE CHEPKOECH TERGECH	FARMER	CHEMORIR	0795328033	
8	JACKSON KIMIBE CHEBEI	FARMER	CHEMORIR	0790802947	
9	DAVID CHERUIYOT TOO	FARMER	KETIPYESE	0717971523	
10	Frances K. Martim	Farmer	Chepkaget	0711789053	
11	ALFRED KOECH TERER	FARMER	CHEMORIR	0723683309	
12	FRANCIS KIBII	FARMER	MOSO	0716277430	

ATTENDANCE LIST: KERICHO BYPASS ROAD PROJECT

No.	Name	Designation	Area	Telephone	Signature
1	MARY CHELANGAT BEIT	FARMER	CHEBIN	0705393057	
2	JOYCE CHEPKORIR CHERUIYOT	FARMER	CHEMORIR	0717132925	
3	BETTY KOSKEI	FARMER	KETIPYESE	0724525678	
4	WILLIAM NASWAI	FARMER	CHEMORIR	0723362576	
5	NANCY CHEPKURUI BURBUR	FARMER	CHEMORIR	0714010177	
6	PAUL TERGECH	FARMER	CHEMORIR	0718855129	
7	BEATRICE CHEPKOECH TERGECH	FARMER	CHEMORIR	0795228033	
8	JACKSON KIMIBE CHEBEI	FARMER	CHEMORIR	0790802947	
9	DAVID CHERUIYOT TOO	FARMER	KETIPYESE	0717971523	
10	Frances K. MARTINS	Farmer	chepkengol-pot	0711729059	
11	ALFRED KOECH TERER	FARMER	CHEMORIR	0723683309	
12	FRANCIS KIBUI	FARMER	MASO	0716277430	

13	Samwel K Bor	Farmer	CHEBIN	0723954336	
14	TUEI . A. CHEPKWONY	FARMER	CHEPLANGET	07	
15	WILLIAM SERONEY	FARMER	MURERET	0	
16	KIBET NITEI	FARMER	CHEBIN	0726 664 172	
17	JOSEPH . C. MARIIM	FARMER	CHEMORIR	0721 68 29 1	
18	STANLEY CHERUIYOT	FARMER	KETIPYESE	0728652962	
19	Hillary Langat	Farmer	Maso	0721692674	
20	MOSES LELGO	Farmer	Poiywek	0705691443	
21	GEOFFREY TOO	FARMER	MASO	0728916368	
22	THOMAS SOI	FARMER	MASO	07	
23	PAUL KIKWAI	FARMER	CHEMORIR	0724687647	
24	DAVID MUTAI	FARMER	CHEMORIR	07	
25	JOHANA KOECH	FARMER	Poiywetc	0729412252	

23/02/2022.

ATTENDANCE LIST: KERICHO BYPASS ROAD PROJECT

No.	Name	Designation	Area	Telephone	Signature
1	DANIEL RONO	MEMBER	MANYORA	0717083735	
2	WESLEY RUTO	MEMBER	MANYORA	0712254480 0712254480	
3	WESLEY TOO	MEMBER	MANYORA	0723399190	
4	SAMWEL RONO	MEMBER	CHEPKITACH	0707032673	
5	JACKSON KORIR	MEMBER	CHEPKITACH	0723701391	
6	KENDOY TOO	MEMBER	KAPSOS	0702979254	
7	EDWARD ROTICH	MEMBER	KAPNGETUNY	0710176137	
8	JOSEPHAT CHEPKWONY	MEMBER	CHEPKITACH	0725207749	
9	JULIUS KIRUI	MEMBER	SONGININ	0724989907	
10	ALBERT ROTICH	MEMBER	SONGININ	0716383133	
11	JOEL KOECH	MEMBER	CHESEBET	0703757313	
12	LEONARD RONO	MEMBER	SUGUTEK	0792039792	

13	PAUL K. KOSGEY	MEMBER	CHEPTENDERET	0726698207722473824	
14	PETER CHEPKWONY	MEMBER	CHEPKITACH	0796089111	
15	HEZIRON C. SANG	MEMBER	CHEPLIBO	0727168112	
16	JONATHAN YEGON	MEMBER	SONGINI N	0722300989	
17	PHILIMON TEREK	MEMBER	MANYORER	0723349826	
18	FLORENCE CHUMO	MEMBER	KAPSABOS	0759813917	
19	ESTHER KOSKEI	MEMBER	KAPKETUNY	0701276689	
20	HELLEN CHERUIYOT	MEMBER	KAPKETUNY	0742301452	
21	COLLINS YEGON	MEMBER	KAPSABOS	0711533564	
22	SAMUEL KOE	MEMBER	KAPSABOS	0720625852	
23	DAVID K. LELGO	MEMBER	MANYORER	0726559457	
24	DANIEL ROTICH	MEMBER	KAPSABOS	0727842799	
25	EDWARD CHEBOCHOK	MEMBER	KAPSABOS	0726999801	

23/01/2022

ATTENDANCE LIST: KERICHO BYPASS ROAD PROJECT

No.	Name	Designation	Area	Telephone	Signature
1					
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9	TOO THOMAS	TEACHER	CHEMORIR	0728210187	
10	ANGELINE CHEPNGETICH TOO	FARMER	KAPSIGIRIO	0722384410	
11	JUSTINA SANG		POIYWEK		
12	KIPKORIR-A. CHUMO	VILLAGE ELDER	KAPCHEPTENDENIET	0745350868	

13	SIMON. K. TOO	FARMER	KAPSIGIRIO	0705059809	
14	WILLIAM SIMOTWO	VILLAGE ELDER	KAPSIGIRIO	0705513560	
15	JOASH KETER	VILLAGE ELDER	KAPSIGIRIO	0720871978	
16	JOHN MUTAI	VILLAGE ELDER	TUITOBEI	07263156 19	
17	STEPHEN KOSKEI	VILLAGE ELDER	CHEPLANGET	0706682058	
18	CHARLES SIGEI	VILLAGE ELDER	AINAMOI	0715547292	
19	WILLIAM KIPKOECH SOI	FARMER	MURERET	0769338831	
20	BETT ANDREW	TEACHER	CHEBIN	0714830038	
21	LEONARD KIPKEMOI BETT	FARMER	CHEMORIR	0722675810	
22	WINNY CHEPNGETICH KETER	FARMER	CHEPLANGET	0742541646	
23	NANCY CHEROTICH	FARMER	CHEPLANGET	0727701236	
24	MARY CHELANGAT KIPKIRONO	FARMER	CHEPLANGET	0709982460	
25	SARAH CHEPKURUI JOHN	FARMER	CHEPLANGET		

23/01/2022

ATTENDANCE LIST: KERICHO BYPASS ROAD PROJECT

No.	Name	Designation	Area	Telephone	Signature
1					
2					
3					
4					
5					
6					
7					
8					
9	TOO THOMAS	TEACHER	CHEMORIR	0728210187	
10	ANGELINE CHEPNGETICH TOO	FARMER	KAPSIGIRIO	0722384410	
11	JUSTINA SANG		POIYWEK		
12	KIPKORIR-A. CHUMO	VILLAGE ELDER	KAPCHEPTENDENIET	0745350868	

13	SIMON. K. TOO	FARMER	KAPSIGIRIO	0705059809	
14	WILLIAM SIMOTWO	VILLAGE ELDER	KAPSIGIRIO	0705513560	
15	JOASH KETER	VILLAGE ELDER	KAPSIGIRIO	0720871978	
16	JOHN MUTAI	VILLAGE ELDER	TUITOBEI	07263156 19	
17	STEPHEN KOSKEI	VILLAGE ELDER	CHEPLANGET	0706682058	
18	CHARLES SIGEI	VILLAGE ELDER	AINAMOI	0715547292	
19	WILLIAM KIPKOECH SOI	FARMER	MURERET	0769338831	
20	BETT ANDREW	TEACHER	CHEBIN	0714830038	
21	LEONARD KIPKEMOI BETT	FARMER	CHEMORIR	0722675810	
22	WINNY CHEPNGETICH KETER	FARMER	CHEPLANGET	0742541646	
23	NANCY CHEROTICH	FARMER	CHEPLANGET	0727701236	
24	MARY CHELANGAT KIPKIRONO	FARMER	CHEPLANGET	0709982460	
25	SARAH CHEPKURUI JOHN	FARMER	CHEPLANGET		

KETEPIE SC PRIMARY SCH [illegible] 23/07/2019

ATTENDANCE LIST: KERICHO BYPASS ROAD PROJECT

No.	Name	Designation	Area	Telephone	Signature
	~~BENSON~~ [illegible]				
1	BENSON MOKAYA	ACC-I	AINAMOI	0723467362	
2	JANET JAMIA	ACC	KAPSAOS	0712241550	
3	KILKISTER KHO	ACC	KERICHO EAST	0725134698	
4	Richard Bett	[illegible]	Ainamoi	0721551008	
5	Elijah Kur[illegible]	KIMCL	KIMCL	0720912463	
6	Cynthia Sigowaga	KIMCL	KIMCL	0718477238	
7	Robert Ngugi	KIMC	KIMCL	0716005693	
8	Kevin Siganwa	KIMCL	KIMCL	0728638178	
9	TOO THOMAS	TEACHER	CHEMOORIA	07280[illegible]87	
10	ANGELINE CHEPNGETICH TOO	FARMER	KAPSIGIRIO	0722387410	
11	JUSTINA SANG		POIYWEK		
12	KIPKORIR A. CHANGO	VILLAGE ELDER	KAPCHE RESIDENT	0795 357 866	

KAPSUKIA PRIMARY SCHOOL 24/4/2020

ATTENDANCE LIST: KERICHO BYPASS ROAD PROJECT

No.	Name	Designation	Area	Telephone	Signature
1	BENSON MOHAMI	ACC I	AINAMOI	0702246[illegible]	[signature]
2	JANET JAKIA	ACC.	KAPSAOS	0712211650	[signature]
3	KIMINSTER ALAO	ACC	KERICHO DIST	0705613469[illegible]	[signature]
4	Chief JOHN [illegible]	SNR CHIEF	[illegible]	0712[illegible]	[signature]
5	MATHEW [illegible]	AG CHIEF	KAPSOIT	0706057[illegible]	[signature]
6	[illegible]	[illegible]	[illegible]	[illegible]	[signature]
7	THOMAS KORIR	SNR ASST CHIEF	CHEPKOIBET	0720205308	[signature]
8	LEONARD ROTICH	SNR ASST CHIEF	SITOTWET	07211[illegible]	[signature]
9	[illegible]	Kapsukia Resident	KAPSUKIA	0724980401	[signature]
10	[illegible]	Resident Kapsukia	Kapsukia	0713[illegible]	[signature]
11	KIPRONO [illegible]	Resident Kitoto		[illegible]	[signature]
12	JONATHAN TERER	KAPSOIT Resident	KAPSOIT	072[illegible]9130	[signature]

BIO-PHYSICAL FEATURES ALONG THE ROAD ALIGNMENT			
S/N	**Type Of Feature**	**Description**	**Photo**
B1	River	River Makiger/ Kapsaos Manyoro Bridge	
2	Tea Buying Centre	Manyoror Tea Buying Centre	
3	Kapsaos	Tea Buying Centre	
4	Church	P.A.G Kapsaos Church/ Public Amenity	
5	Shopping Centre	Kapsaos Shopping Centre. Shopping 350 Meters East Of Mark 2+900km	

6	Existing Road	Brooke- Kapsaos Road. Proposed Overpass At Km 2+400	
7	Stream/Brook	Kapgt	
8	Culvert	Cross Culvert. Cross Culvert 200m West Of 2+400	
9	Road	Farm Road	
10	Farm Road 2	Farm Road	
11	Power Line	Kplc Power Line. Public Utility	

12	Power Line	Kplc Power Line 2. Public Utility	
13	Existing Road	Existing Road. Kerra Existing Road(Proposed Bypass Crossing Point)	
14	Power Line 3	Kplc Power Line. Aligned Along Existing Kerra Road	
15	Junction	Junction And Power Line. Junction After Kapsaos Tea Buying Centre	
16	Market Centre & Junction	Samoe Junction Shopping Centre.	

17	Shopping Centre	Manyoror Centre	
18	Church	Acg Manyoror Church	
19	Access Culvert	Manyoror Secondary School Access Culvert	
20	Church	Aic Manyoror. Africa Inland Church	
21	Shopping Centre	Manyoror Starehe Building Market	

22	River	Stream River Mureret	
23	Junction	Minor Junction. Minor Junction Along Existing Kerra Road	
24	Junction	Minor Junction. Exposed Water Supply Pipe	
25	Market	Mureret Shopping Centre	
26	School	Mureret Primary School. Public Institution	

27	River	Koboet Stream	
28	Proposed Overpass	Kapsoit Ainamoi Road. Proposed Overpass At Existing Tamarked Road	
29	River	Kapshagi River	
30	Co-Operative Society	Kerimoi Dairy	
31	Ainamoi	Ainamoi Town	

32	Stream	Senetwet	
33	Shopping Centre	Ketipyse Shopping Centre	
34	School	Ketipyese Primary	
35	Stream	Kapcheptentenyet	
35	Stream	Cheswererit	

37	Stream Water Fall		
38	Stream	Cheptembe	
39	Town	Kapsoit Town	
40	Town	Kapsoit. Town At End Of Bypass (Interchange)	
41	Church	Christian Intercessory Church	

42	Tea Buying Centre	Kaboswa Tea Buying Centre	
43	School	Kaboswa Primary School	
44	School	Kapsigirio Primary School	
45	Shopping Centre	Kapsigirio	
46	Church	Africa Inland Church Kapsigirio	

47	School	Ainamoi Secondary School	
48	Centre	Chemorir Centre	
47	Teabuying Centre	Chemorir Tea Buying Centre	
50	River	Kabsiagi River	
51	School	Kisabei Primary School	
52	Centre	Ketitoi Centre	
53	Tea Buying Centre		

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
WESLEY KORIR	MALE	0701029191		POIYWEK	IMPROVED BUSINESS		
PIUS LANGAT	MALE	0711360144	21699038	POIYWEK		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
EDWIN KEMEI	MALE	0720832866		POIYWEK		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
RENNY KIPLANGAT	MALE	0713205659	36924135	POIYWEK		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
BRIAN KIPTOO	MALE	0726929713	39025077	POIYWEK		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
ALICE BOR	FEMALE	0710551050	12915611	POIYWEK		LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
SHADRACK KEMEI	MALE			POIYWEK		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
ABRAHAM	MALE			KAPSAOS	REDUCED TIME AND COST OF TRAVEL L IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF YOUTH		
CAREN SIMOTWO	FEMALE			KAPSAOS		DUST AND NOISE DURING CONSTRUCTIONTION DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS INCREASED	APPLY WATER TO CONTROL DUST AN PUT UP ROAD SIGNS EDUCATE THE PUBLIC AND THE CON COMPENSATE THE STRUCTURE LAND

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
						ACCIDENTS	
RECHO CHEPINGETICH CHEBOROR	MALE	0702747227	11298163	KAPSAOS		LOSS OF FARMLAND TREES CROPS DEMOLITIONS OF STRUCTURES INTERRUPTION OF SERVICES INCREASED ACCIDENTS	INFORM THE PUBLIC ABOUT THE IN COMPENSATE THE STRUCTURE LAND
RICHARD RONGOE BIRIR	MALE	0726857123	1184086	KAPSAOS		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND PUT UP ROAD SIGNS
LILIAN CHEBET RUTOH	FEMALE	0726242186	26726818	KAPSAOS		DUST AND NOISE DURING CONSTRUCTION DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	APPLY WATER TO CONTROL DUST AN PUT UP ROAD SIGNS EDUCATE THE PUBLIC AND THE CON INFORM THE PUBLIC ABOUT THE IN COMPENSATE THE STRUCTURE LAND
BENARD CHEPKWONY	MALE	0727248812	24381702	KAPSAOS		DUST AND NOISE DURING CONSTRUCTION DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	APPLY WATER TO CONTROL DUST AN PUT UP ROAD SIGNS COMPENSATE THE STRUCTURE LAND EDUCATE THE PUBLIC AND THE CON
GIDION KIPRONO	MALE	0708289249	370910942	KAPSAOS		DUST AND NOISE DURING CONSTRUCTION DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS INTERRUPTION OF SERVICES	PUT UP ROAD SIGNS COMPENSATE THE STRUCTURE LAND EDUCATE THE PUBLIC AND THE CON

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
EDWIN KIPNGETICH KIRUI	MALE	0740332172	39842168	KAPSAOS		DUST AND NOISE DURING CONSTRUCTION DEMOLITIONS OF STRUCTURES INTERRUPTION OF SERVICES LOSS OF FARMLAND TREES CROPS	PUT UP ROAD SIGNS EDUCATE THE PUBLIC AND THE CON COMPENSATE THE STRUCTURE LAND
ROTICH SHADRACK	MALE	0716185841	270669529	KAPSAOS		DUST AND NOISE DURING CONSTRUCTION LOSS OF FARMLAND TREES CROPS DEMOLITIONS OF STRUCTURES	EDUCATE THE PUBLIC AND THE CON INFORM THE PUBLIC ABOUT THE INPUT UP ROAD SIGNS COMPENSATE THE STRUCTURE LAND
KEVIN RONO	MALE	0757583326		KAPSAOS		DUST AND NOISE DURING CONSTRUCTION DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS INTERRUPTION OF SERVICES	APPLY WATER TO CONTROL DUST AN INSTALL STORM WATER DRAINS INFORM THE PUBLIC ABOUT THE IN EDUCATE THE PUBLIC AND THE CON COMPENSATE THE STRUCTURE LAND
COLLINS KIPROTICH MUTAI	MALE	0729666171	35746332	KAPSAOS		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS INTERRUPTION OF SERVICES	PUT UP ROAD SIGNS INSTALL STORM WATER DRAINS INFORM THE PUBLIC ABOUT THE IN COMPENSATE THE STRUCTURE LAND
VICTOR CHEPKWONY	MALE	070692308	29972571	KAPSAOS		DUST AND NOISE DURING CONSTRUCTION DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS INTERRUPTION OF SERVICES	PUT UP ROAD SIGNS INFORM THE PUBLIC ABOUT THE IN EDUCATE THE PUBLIC AND THE CON INSTALL STORM WATER DRAINS COMPENSATE THE STRUCTURE LAND

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
KIPNGENO ERICK	MALE	0740577668	27987095	KAPSOIT		LOSS OF FARMLAND TREES CROPS DEMOLITIONS OF STRUCTURES DUST AND NOISE DURING CONSTRUCTION INTERRUPTION OF SERVICES	APPLY WATER TO CONTROL DUST AN COMPENSATE THE STRUCTURE LAND INFORM THE PUBLIC ABOUT THE IN
CHEPKORIR LINNET	FEMALE	0706362654	32804329	KAPSOIT			
JULIUS KIPNGETICH KOECH	MALE	0726713920	20304819	KAPSOIT		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
JOSEPHINE CHELANGAT KOECH	FEMALE	0717295844	28924475	KAPSOIT		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
ESTHER CHUMO	FEMALE	0719584068	6001107	KAPSOIT			
ROBERT KIBET MUGUN	MALE	0790879924	20472474	KAPSOIT	IMPROVED BUSINESS		
RICHARD TERGECH	MALE	0111630508	34130485	KAPSOIT		LOSS OF FARMLAND TREES CROPS DEMOLITIONS OF STRUCTURES	COMPENSATE THE STRUCTURE LAND
VICTOR MARITIM	MALE	0722944829	23735341	KAPSOIT		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
CHEBET BET	FEMALE	0711471431		KAPSOIT		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
RICHARD KIBET MARITIM	MALE	0720139887	13667323	KAPSOIT		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
KIPKEMOI PETER KOECH	MALE	0722549049	27249664	KAPSOIT		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
ROSEMARY MWEKU	FEMALE	0723383999	6094884	KAPSOIT		DUST AND NOISE DURING CONSTRUCTION LOSS OF FARMLAND TREES CROPS DEMOLITIONS OF STRUCTURES INTERRUPTION OF SERVICES SPREAD OF DISEASES	COMPENSATE THE STRUCTURE LAND AVOID NIGHT TIME CONSTRUCTION INFORM THE PUBLIC ABOUT THE IN APPLY WATER TO CONTROL DUST AN PUT UP ROAD SIGNS
BETTY CHEPNGETICH LIMO	FEMALE	0714704395	12747587	KAPSOIT		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
DAVID KIPKEMOI KOSGEI	MALE	0705355645	6000821	KAPSOIT		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
EDNAH MARITIM	FEMALE	0716019578	27426453	KAPSOIT		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
HELLEN CHEBET	FEMALE	0723842941	20995583	KAPSOIT		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
CAREN KOSGEI	FEMALE	0745691356	30188103	KAPSOIT	IMPROVED BUSINESS EMPLOYMENT OF YOUTH		
IRENE CHEPKOECH	FEMALE	0714121594	27906925	KAPSOIT		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
ANDREW KOSGEI	MALE	0717962278	7699111	KAPSOIT		DUST AND NOISE DURING CONSTRUCTION DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	APPLY WATER TO CONTROL DUST AN COMPENSATE THE STRUCTURE LAND
WILLIAM KOSGEI	MALE	0726130531	20054845	KAPSOIT		DUST AND NOISE DURING CONSTRUCTION LOSS OF FARMLAND TREES CROPS	APPLY WATER TO CONTROL DUST AN COMPENSATE THE STRUCTURE LAND
PETER KOSGEI	MALE	0713687882	23057420	KAPSOIT		DUST AND NOISE DURING CONSTRUCTION LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND APPLY WATER TO CONTROL DUST AN
ROBERT RONO	MALE	0729029601	27274649	KAPSOIT		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS INTERRUPTION OF SERVICES	COMPENSATE THE STRUCTURE LAND INFORM THE PUBLIC ABOUT THE IN
NICOLE CHEPKEMOI	FEMALE	0708043020		KAPSOIT		LOSS OF FARMLAND TREES CROPS DUST AND NOISE DURING CONSTRUCTION	APPLY WATER TO CONTROL DUST AN COMPENSATE THE STRUCTURE LAND
ELIZABETH KOROS	FEMALE	0716365667		KAPSOIT	EMPLOYMENT OF YOUTH IMPROVED BUSINESS		
JANEFFER	FEMALE	0716365667	2908483	KAPSOIT	IMPROVED BUSINESS EMPLOYMENT OF YOUTH		
DENNIS RONO	MALE	0798638141	39371879	AINAMOI		DEMOLITIONS OF STRUCTURES	COMPENSATE THE STRUCTURE LAND
KIPKIRUI BENARD	MALE	0712212160	31036081	AINAMOI	EMPLOYMENT OF YOUTH		
LAWRENCE SEREM	MALE	0726374089	0325965	AINAMOI		DEMOLITIONS OF STRUCTURES	

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
CHERUIYOT ROAN	MALE	0714001115	33966889	AINAMOI		DEMOLITIONS OF STRUCTURES INTERRUPTION OF SERVICES	COMPENSATE THE STRUCTURE LAND
BEATRICE CHEPKOECH TERGECH	FEMALE	0795328033	30681057	AINAMOI		LOSS OF FARMLAND TREES CROPS DEMOLITIONS OF STRUCTURES	COMPENSATE THE STRUCTURE LAND
NANCY CHEPKURUI BURBUR	FEMALE	0714010177	4753431	AINAMOI		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND EDUCATE THE PUBLIC AND THE CON
LILIAN CHEPKORIR	FEMALE	0725399207	25884130	AINAMOI		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
GLADYS BETT	FEMALE	0724802558	24354959	AINAMOI		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
PAULINE MUTAI	FEMALE	0712979618	13009768	AINAMOI	IMPROVED BUSINESS		
FAITH TOO	FEMALE	0790461811	30023387	AINAMOI		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
ANN CHEBET RUTO	FEMALE	0728652900	28040587	AINAMOI		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
CHEPNGETICH JOYCE	FEMALE	0724093997	34184871	AINAMOI		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
COLLINS KIPKOECH YEGON	MALE	0719250333	37863581	AINAMOI		LOSS OF FARMLAND TREES CROPS DEMOLITIONS OF STRUCTURES DUST AND NOISE DURING CONSTRUCTION	COMPENSATE THE STRUCTURE LAND APPLY WATER TO CONTROL DUST AN

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
PAMELA BII	FEMALE	0720444814	33252761	AINAMOI		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
CAROLINE KOSKEI	FEMALE	0714701430	20402678	AINAMOI		INTERRUPTION OF SERVICES DUST AND NOISE DURING CONSTRUCTION	APPLY WATER TO CONTROL DUST AN INFORM THE PUBLIC ABOUT THE IN
IRINE CHEBET	FEMALE	0724738725	26472478	AINAMOI		DEMOLITIONS OF STRUCTURES	COMPENSATE THE STRUCTURE LAND
DENNIS LANGAT	MALE	0797186505	30366562	AINAMOI		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
PRISCILLA CHEPKEMOI KETER	FEMALE	0707788590	4753983	AINAMOI		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
EDNAH CHEPNGETICH	FEMALE	0790219301	25525246	AINAMOI		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
VINCENT BORE	MALE	0755548550	22929391	AINAMOI		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
CHRISTINE CHEPKEMOI SAWE	FEMALE	0726701562	9577662	AINAMOI		LOSS OF FARMLAND TREES CROPS DEMOLITIONS OF STRUCTURES	COMPENSATE THE STRUCTURE LAND
CAREN LANGAT	FEMALE	0701340513	23860760	AINAMOI		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
FANCY CHERONO	FEMALE	0705128198	39733355	AINAMOI		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
JULIUS TANUI	MALE	0720607403	24749707	AINAMOI		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
ANGELIN CHEPNGETICH TOO	FEMALE	0722389410	6010813	AINAMOI		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
RUSI LANGAT	FEMALE	0701059535	6010834	AINAMOI		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
CAREN CHEPKURUI	FEMALE	0719452981	26367681	AINAMOI		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
JANE LANGAT	FEMALE	0707412744	4752534	AINAMOI		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
CHEPNGETICH JACKLINE	FEMALE	0705059089	27891297	AINAMOI	IMPROVED BUSINESS		
ROTICH BENARD	MALE	0717637884	22261665	AINAMOI	REDUCED TIME AND COST OF TRAVEL IMPROVED BUSINESS EMPLOYMENT OF YOUTH		
CHEPNGENO LEONIDAH	FEMALE	0701080118	23502146	KAPSOIT		DUST AND NOISE DURING CONSTRUCTION DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS INCREASED ACCIDENTS	APPLY WATER TO CONTROL DUST AN PUT UP ROAD SIGNS AVOID NIGHT TIME CONSTRUCTIONTION COMPENSATE THE STRUCTURE LAND

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
EMILY SANG	FEMALE	0701225558	28874432	KAPSOIT		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
NELLY BII	FEMALE	0718696761		KAPSOIT		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
ROBERT KITUR	MALE	0713318025	24214214	KAPSOIT		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS INCREASED ACCIDENTS	COMPENSATE THE STRUCTURE LAND
EDNAH CHEPKIRUI KITUR	FEMALE	0719136817	28218681	KAPSOIT		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
MARGARET CHEMUTAITUM	FEMALE	0726008298	9577673	KAPSOIT		LOSS OF FARMLAND TREES CROPS DEMOLITIONS OF STRUCTURES DUST AND NOISE DURING CONSTRUCTION SPREAD OF DISEASES INTERRUPTION OF SERVICES	APPLY WATER TO CONTROL DUST AN PUT UP ROAD SIGNS INFORM THE PUBLIC ABOUT THE IN COMPENSATE THE STRUCTURE LAND
CHARLES KIMETTO	MALE	0718741858		KAPSOIT	IMPROVED BUSINESS EMPLOYMENT OF YOUTH		
DAVID SUGUT	MALE			KAPSOIT	IMPROVED BUSINESS EMPLOYMENT OF YOUTH		

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
KIPNGETICH CHERUIYOT	MALE	0728165450	28123061	KAPSOIT		DUST AND NOISE DURING CONSTRUCTION LOSS OF FARMLAND TREES CROPS INCREASED ACCIDENTS SPREAD OF DISEASES	APPLY WATER TO CONTROL DUST AN PUT UP ROAD SIGNS INFORM THE PUBLIC ABOUT THE IN INSTALL STORM WATER DRAINS AVOID NIGHT TIME CONSTRUCTIONTION COMPENSATE THE STRUCTURE LAND
CHERUIYOT PETER	MALE	0711709494	26436345	KAPSOIT		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS INTERRUPTION OF SERVICES SPREAD OF DISEASES	INFORM THE PUBLIC ABOUT THE IN INSTALL STORM WATER DRAINS COMPENSATE THE STRUCTURE LAND
KENNETH NGETICH	MALE	0729149509	24774068	KAPSOIT		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS DUST AND NOISE DURING CONSTRUCTION INCREASED ACCIDENTS	COMPENSATE THE STRUCTURE LAND APPLY WATER TO CONTROL DUST AN PUT UP ROAD SIGNS AVOID NIGHT TIME CONSTRUCTIONTION
SIGEI WESLEY	MALE	0722222896	24810076	KAPSOIT		DUST AND NOISE DURING CONSTRUCTION DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS SPREAD OF DISEASES	APPLY WATER TO CONTROL DUST AN INFORM THE PUBLIC ABOUT THE IN AVOID NIGHT TIME CONSTRUCTIONTION COMPENSATE THE STRUCTURE LAND
MERCY CHEPKOECH	FEMALE	0710506970	36057641	KAPSOIT		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
BEATRICE NGETICH	FEMALE	0729560699	21050650	KAPSOIT		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
WESLEY KIBET	MALE			KAPSAOS	EMPLOYMENT OF YOUTH IMPROVED BUSINESS		
WINNY CHEMUTAI	FEMALE			KAPSAOS	IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF YOUTH REDUCED TIME AND COST OF TRAVEL L		
BRIAN KIBET	MALE			KAPSAOS	IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF YOUTH REDUCED TIME AND COST OF TRAVEL		
NICHOLAS KEMBOI	MALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH		
LILLIAN BETT	FEMALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH		
MOSES KIRUI	MALE			KAPSAOS	IMPROVED BUSINESS IMPROVED SECURITY REDUCED TIME AND COST OF TRAVEL EMPLOYMENT OF YOUTH		
JACKSON SITIENEI	FEMALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH		

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
BENARD KIPKEMOI SIMOTWO	MALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH REDUCED TIME AND COST OF TRAVEL		
DAVID CHUMO	MALE			KAPSAOS	IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF YOUTH		
JOSEPH KIPTERER	MALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH IMPROVED SECURITY REDUCED TIME AND COST OF TRAVEL		
KENNETH BETT	MALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH IMPROVED SECURITY REDUCED TIME AND COST OF TRAVEL		
JOEL BETT	MALE			KAPSAOS	IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF YOUTH		
CHRISTOPHER BETT	MALE			KAPSAOS	IMPROVED SECURITY IMPROVED BUSINESS EMPLOYMENT OF YOUTH		

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
SUSAN RUTO	FEMALE			KAPSAOS	REDUCED TIME AND COST OF TRAVEL IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF YOUTH		
DAN KIRUI	MALE			KAPSAOS		DUST AND NOISE DURING CONSTRUCTIONTION DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS INCREASED ACCIDENTS INTERRUPTION OF SERVICES OTHER SPECIFY	APPLY WATER TO CONTROL DUST AN PUT UP ROAD SIGNS INFORM THE PUBLIC ABOUT THE IN INSTALL STORM WATER DRAINS AVOID NIGHT TIME CONSTRUCTIONTION COMPENSATE THE STRUCTURE LAND
DANIEL KIRUI	MALE			KAPSAOS	IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF YOUTH		
BENJAMIN LANGAT	MALE			KAPSAOS	REDUCED TIME AND COST OF TRAVEL IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF YOUTH		
SAMWEL ARAP MIBEI	MALE			KAPSAOS	IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF YOUTH		

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
SAMWEL KIRUI	MALE			KAPSAOS	REDUCED TIME AND COST OF TRAVEL IMPROVED BUSINESS IMPROVED SECURITY		
WESLEY MUTAI	MALE			KAPSAOS	REDUCED TIME AND COST OF TRAVEL IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF YOUTH		
HILLARY MUTAI	MALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH REDUCED TIME AND COST OF TRAVEL IMPROVED SECURITY		
SHADRACK CHEPKWONY	MALE			KAPSAOS	IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF YOUTH		
JUDITH MARITIM	MALE			KAPSAOS	IMPROVED SECURITY IMPROVED BUSINESS EMPLOYMENT OF YOUTH		
MERCY CHEPKWONY	FEMALE			KAPSAOS	REDUCED TIME AND COST OF TRAVEL IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF YOUTH		

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
PAUL TONUI	MALE			KAPSAOS	REDUCED TIME AND COST OF TRAVEL IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF YOUTH		
VINCENT	MALE			KAPSAOS	REDUCED TIME AND COST OF TRAVEL IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF YOUTH		
WILLIAM CHEPCHILAT	MALE			KAPSAOS	REDUCED TIME AND COST OF TRAVEL IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF YOUTH		
JOSEPH LANGAT	MALE			KAPSAOS	REDUCED TIME AND COST OF TRAVEL IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF YOUTH		
DAVID KIPLANGAT CHEPKWONY	MALE			KAPSAOS	REDUCED TIME AND COST OF TRAVEL IMPROVED BUSINESS IMPROVED SECURITY		
WILSON BUTICH	MALE			KAPSAOS	IMPROVED BUSINESS IMPROVED		

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
					SECURITY REDUCED TIME AND COST OF TRAVEL		
DAVID KIRUI	MALE			KAPSAOS	REDUCED TIME AND COST OF TRAVEL IMPROVED BUSINESS IMPROVED SECURITY		
WESLEY	MALE	071254480	32705429	KAPSAOS	IMPROVED BUSINESS		
SAMUEL BII	MALE	0702619277	12747332	KAPSAOS	EMPLOYMENT OF YOUTH IMPROVED BUSINESS		
GIDION SIEL	MALE	0718232258	35911183	KAPSAOS	REDUCED TIME AND COST OF TRAVEL IMPROVED BUSINESS EMPLOYMENT OF YOUTH		
ENOCK KIPROTICH	MALE	0790749446	39422153	KAPSAOS	IMPROVED BUSINESS REDUCED TIME AND COST OF TRAVEL EMPLOYMENT OF YOUTH		
WILSON KIPTOOROP	MALE	0718463529	20996422	KAPSAOS	IMPROVED BUSINESS		
HILLARY ROP	MALE	0715096530	29196756	KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH		
GEOFFREY CHEPKWONY	MALE	0710685911	28021482	KAPSAOS	REDUCED TIME AND COST OF TRAVEL IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF		

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
					YOUTH		
DAVID KIPKEMOI MITEI	MALE	0790111527	1792400	KAPSOAS	REDUCED TIME AND COST OF TRAVEL IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF YOUTH		
JOSEPH KIPLELGO CHEPKWONY	MALE	0721853579	8548721	KAPSAOS		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS INTERRUPTION OF SERVICES	COMPENSATE THE STRUCTURE LAND
EDWIN KIGEN	MALE	0727079790	24215843	KAPSAOS	REDUCED TIME AND COST OF TRAVEL IMPROVED BUSINESS EMPLOYMENT OF YOUTH		
RUTH CHEBET CHEPKWONY	FEMALE	0723063312	25771004	KAPSAOS	REDUCED TIME AND COST OF TRAVEL IMPROVED BUSINESS EMPLOYMENT OF YOUTH		
BENJAMIN KIPRONO LANGAT	MALE	0722171327386649		KAPSAOS		LOSS OF FARMLAND TREES CROPS DEMOLITIONS OF STRUCTURES DUST AND NOISE DURING CONSTRUCTIONTION INTERRUPTION OF SERVICES	EDUCATE THE PUBLIC AND THE CON COMPENSATE THE STRUCTURE LAND

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
JONATHAN MARITIM	MALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH REDUCED TIME AND COST OF TRAVEL		
MIRRIAM KIRUI	FEMALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH		
FAITH KIRUI	MALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH IMPROVED SECURITY		
GEOPHREY SIGEI	MALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH IMPROVED SECURITY		
ROBERT KIPKIRUI CHIRCHIR	MALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH REDUCED TIME AND COST OF TRAVEL		
SAMSON KIPTOO	MALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH		
ROBERT SANG	MALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH		
DAVID CHEPKWONY	MALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH		

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
HILLARY KIBET	MALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH		
BENARD TONUI	MALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH		
MERCY RONO	MALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH REDUCED TIME AND COST OF TRAVEL		
SARAH	FEMALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH		
BENARD SANG	MALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH REDUCED TIME AND COST OF TRAVEL		
PETER KIRUI	MALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH REDUCED TIME AND COST OF TRAVEL		
FREDERICK LANGAT	MALE			KAPSAOS	EMPLOYMENT OF YOUTH IMPROVED BUSINESS REDUCED TIME AND COST OF TRAVEL		
MAMA CHEBET	MALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH REDUCED TIME AND COST OF TRAVEL		

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
PHILLIP RONO	MALE			KAPSAOS	IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF YOUTH		
NANCY ROP	FEMALE			KAPSAOS	IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF YOUTH		
PETER KIRUI	MALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH REDUCED TIME AND COST OF TRAVEL		
DUNCAN KIBET	MALE			KAPSAOS	REDUCED TIME AND COST OF TRAVEL IMPROVED BUSINESS EMPLOYMENT OF YOUTH		
BENARD CHIRCHIR	MALE			KAPSAOS	IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF YOUTH		
LILLIAN KIRUI	FEMALE			KAPSAOS		DEMOLITIONS OF STRUCTURES INCREASED ACCIDENTS	PUT UP ROAD SIGNS COMPENSATE THE STRUCTURE LAND
SAMWEL RUTO	MALE			KAPSAOS	IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF YOUTH REDUCED TIME AND COST OF		

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
					TRAVEL		
NICHOLAS CHEPKWONY	MALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH REDUCED TIME AND COST OF TRAVEL		
VICTOR MUTAI	MALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH REDUCED TIME AND COST OF TRAVEL		
STEPHEN SANG	MALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH REDUCED TIME AND COST OF TRAVEL		
SHARON CHEBET	MALE			KAPSAOS	IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF YOUTH REDUCED TIME AND COST OF TRAVEL		
COLLINS KIRUI	MALE			KAPSAOS	REDUCED TIME AND COST OF TRAVEL IMPROVED BUSINESS IMPROVED SECURITY EMPLOYMENT OF YOUTH		

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
SAMWEL TOO	MALE			KAPSAOS	REDUCED TIME AND COST OF TRAVEL EMPLOYMENT OF YOUTH IMPROVED BUSINESS		
STEPHEN KIRUI	MALE			KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH REDUCED TIME AND COST OF TRAVEL		
ANDREW RUTO	MALE	0722454467	6000709	KAPSOIT		DUST AND NOISE DURING CONSTRUCTION DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS INTERRUPTION OF SERVICES	APPLY WATER TO CONTROL DUST AN COMPENSATE THE STRUCTURE LAND INFORM THE PUBLIC ABOUT THE IN
STEPHEN TERGECH	MALE	0721347237	6001172	SITOTWET		LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
JOYCE KIPLANGAT	FEMALE	0701032424	28390201	KAPSOIT		DUST AND NOISE DURING CONSTRUCTION DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	INFORM THE PUBLIC ABOUT THE IN COMPENSATE THE STRUCTURE LAND APPLY WATER TO CONTROL DUST AN
BETTY CHELANGAT	FEMALE	0721260792	25047841	KAPSOIT		DEMOLITIONS OF STRUCTURES INTERRUPTION OF SERVICES DUST AND NOISE DURING CONSTRUCTION	AVOID NIGHT TIME CONSTRUCTIONTION INFORM THE PUBLIC ABOUT THE IN COMPENSATE THE STRUCTURE LAND
JANET CHEBET	FEMALE	0729113364	30039863	KAPSOIT	EMPLOYMENT OF YOUTH		
ROBERT NGETICH	MALE	0716473896	25165865	KAPSOIT			
JOSPHAT	MALE	0792113573	27249412	KAPSOIT			

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
KIPKIRUI BENARD ROP	MALE	0710241993	27090065	KAPSOIT			
SARAH MUTAI	FEMALE	0710790655	11219899	KAPSOIT		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
JOYCE SOI	FEMALE	0712851117	12745709	KAPSOIT		LOSS OF FARMLAND TREES CROPS DUST AND NOISE DURING CONSTRUCTION	COMPENSATE THE STRUCTURE LAND APPLY WATER TO CONTROL DUST AN
EDNAH CHELOGOI	FEMALE	0791909370	20857815	KAPSOIT		LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
JUDITH CHELANGAT	FEMALE	0712467889	34046303	KAPSOIT		LOSS OF FARMLAND TREES CROPS DUST AND NOISE DURING CONSTRUCTION INTERRUPTION OF SERVICES	APPLY WATER TO CONTROL DUST AN INFORM THE PUBLIC ABOUT THE IN COMPENSATE THE STRUCTURE LAND
EUNICE YEBEI	FEMALE	0717113896	11638067	KAPSOIT		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS DUST AND NOISE DURING CONSTRUCTION	APPLY WATER TO CONTROL DUST AN AVOID NIGHT TIME CONSTRUCTIONTION COMPENSATE THE STRUCTURE LAND
IMMACULATE CHEROTICH	FEMALE	0768270395	30482190	TELANET		DUST AND NOISE DURING CONSTRUCTION DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS INTERRUPTION OF SERVICES SPREAD OF DISEASES	APPLY WATER TO CONTROL DUST AN INFORM THE PUBLIC ABOUT THE IN COMPENSATE THE STRUCTURE LAND AVOID NIGHT TIME CONSTRUCTIONTION
NORAH CHEMUTAI	FEMALE	0794279472	22480019	TELANET		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS INTERRUPTION OF SERVICES	COMPENSATE THE STRUCTURE LAND APPLY WATER TO CONTROL DUST AN INFORM THE PUBLIC ABOUT THE IN

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
ELIZABETH CHEPKORIR SAMBU	FEMALE	0726229363	5235163	TELANET			
MARY KEMEI	FEMALE	0711811655		TELANET		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS OTHER SPECIFY DUST AND NOISE DURING CONSTRUCTION	APPLY WATER TO CONTROL DUST AN COMPENSATE THE STRUCTURE LAND OTHER SPECIFY
GEOFFREY RONO	MALE	0713551944	26517001	TELANET		DUST AND NOISE DURING CONSTRUCTION LOSS OF FARMLAND TREES CROPS DEMOLITIONS OF STRUCTURES INTERRUPTION OF SERVICES	COMPENSATE THE STRUCTURE LAND APPLY WATER TO CONTROL DUST AN AVOID NIGHT TIME CONSTRUCTIONTION INFORM THE PUBLIC ABOUT THE IN
JOYCE LANGAT	FEMALE	0792763689	25519986	AINAMOI		SPREAD OF DISEASES	EDUCATE THE PUBLIC AND THE CON
ESTHER LANGAT	FEMALE			TELANET		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND OTHER SPECIFY
REBBY BUSIENEI	FEMALE	0707016519		AINAMOI		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
MERCY CHELANGAT	FEMALE	0715989936	35716682	TELANET		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
CELESTINE CHEPKEMOI	FEMALE	0719797389	33627970	TELANET		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
NANCY	FEMALE	0707237011	36116290	TELANET			

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
CHEPKEMOI							
CHEPNGENO BEATRICE ROTICH	FEMALE	0715241046	26474782	TELANET	IMPROVED BUSINESS		
RICHARD KIPTONUI KIGET	MALE	0722698296	0735250	TELANET		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
NANCY CHEPKEMOI TANUI	FEMALE	0710936177	11080970	TELANET		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
SARAH CHEMELI SOI	FEMALE	0708435808	28629146	TELANET		LOSS OF FARMLAND TREES CROPS DEMOLITIONS OF STRUCTURES	COMPENSATE THE STRUCTURE LAND
JANETH TONUI	FEMALE	0720120330	27862437	TELANET		LOSS OF FARMLAND TREES CROPS DUST AND NOISE DURING CONSTRUCTION DEMOLITIONS OF STRUCTURES	APPLY WATER TO CONTROL DUST AN COMPENSATE THE STRUCTURE LAND
NANCY CHEMUTAI CHEPKWONY	FEMALE	0712301183	24866118	TELANET		LOSS OF FARMLAND TREES CROPS DUST AND NOISE DURING CONSTRUCTION	APPLY WATER TO CONTROL DUST AN COMPENSATE THE STRUCTURE LAND
EDNAH CHEPKORIR	FEMALE	0727305860		TELANET		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
JOYCE CHEPKOECH NGENO	FEMALE	0701078056	24904472	TELANET		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
KEN KORIR	MALE	0725915383	23998952	TELANET		LOSS OF FARMLAND TREES CROPS DEMOLITIONS OF STRUCTURES	COMPENSATE THE STRUCTURE LAND

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
BETTY CHEPKORIR	FEMALE	0724440907	35482371	TELANET		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
CHEPKOROS EVELYN	FEMALE	0712877116	23194531	TELANET		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
PHILIP KOSKEI	MALE	0729248479	13009642	TELANET		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
FAITH KOECH	FEMALE	0712388551		TELANET		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
ALICE KOSGEI	FEMALE			TELANET	IMPROVED BUSINESS		
KENNETH KOECH	MALE	0716730580	20771798	TELANET		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
IVINE CHEPKEMOI	FEMALE	0724524114	37070211	TELANET		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
RUTH CHELEL	FEMALE			TELANET		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
MAGRET MUTAI	FEMALE	0711556801	23873577	TELANET		DUST AND NOISE DURING CONSTRUCTION	APPLY WATER TO CONTROL DUST AN
NICHOLAS KETER	MALE	0725687703	21973075	TELANET	EMPLOYMENT OF YOUTH		
ESTHER KOECH	FEMALE		600354	TELANET		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
SAMUEL KOSKEI	MALE	0724045686	7699157	TELANET		LOSS OF FARMLAND TREES CROPS DEMOLITIONS OF STRUCTURES	COMPENSATE THE STRUCTURE LAND
KEVIN CHERUIYOT	MALE	0113612593	39527839	TELANET	IMPROVED BUSINESS		
FAITH KEINO	FEMALE	0712596774	25532575	TELANET		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
VIPIAN CHEROP	FEMALE	0729549582	25412271	TELANET		LOSS OF FARMLAND TREES CROPS DEMOLITIONS OF STRUCTURES	COMPENSATE THE STRUCTURE LAND
CAROLINE CHEPKURUI	FEMALE	0715182266	22448893	TELANET	REDUCED TIME AND COST OF TRAVEL		
GIDEON BII	MALE	0726473307	24208506	TELANET		DUST AND NOISE DURING CONSTRUCTION LOSS OF FARMLAND TREES CROPS DEMOLITIONS OF STRUCTURES INTERRUPTION OF SERVICES	APPLY WATER TO CONTROL DUST AN INFORM THE PUBLIC ABOUT THE IN AVOID NIGHT TIME CONSTRUCTIONTION COMPENSATE THE STRUCTURE LAND
JULIUS RUTO	MALE	0705489455	20861104	KAPSAOS		DUST AND NOISE DURING CONSTRUCTION DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	APPLY WATER TO CONTROL DUST AN INFORM THE PUBLIC ABOUT THE IN COMPENSATE THE STRUCTURE LAND AVOID NIGHT TIME CONSTRUCTIONTION OTHER SPECIFY
SIMON KIPRONO	MALE	0713136231	25260199	KAPSAOS		LOSS OF FARMLAND TREES CROPS DEMOLITIONS OF STRUCTURES	COMPENSATE THE STRUCTURE LAND

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
SHEILA BII	FEMALE	0724662313		KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH		
RUTH CHERONO ROTICH	FEMALE	0703650957	20543266	KAPSAOS		DUST AND NOISE DURING CONSTRUCTION LOSS OF FARMLAND TREES CROPS INTERRUPTION OF SERVICES	APPLY WATER TO CONTROL DUST AN COMPENSATE THE STRUCTURE LAND AVOID NIGHT TIME CONSTRUCTIONTION INFORM THE PUBLIC ABOUT THE IN
ZEPHER CHELANGAT	FEMALE	0790084969	38079160	KAPSAOS		DUST AND NOISE DURING CONSTRUCTION DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	APPLY WATER TO CONTROL DUST AN COMPENSATE THE STRUCTURE LAND AVOID NIGHT TIME CONSTRUCTIONTION
RICHARD KIRUI	MALE			KAPSAOS	REDUCED TIME AND COST OF TRAVEL IMPROVED BUSINESS EMPLOYMENT OF YOUTH		
STEPHEN KIRUI	MALE	0791249810	5224737	KAPSAOS		DUST AND NOISE DURING CONSTRUCTION DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND APPLY WATER TO CONTROL DUST AN
SAMWEL CHEPKWONY	MALE	0717631566	14637267	KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH		
ELIAS KIBET	MALE	0729938001	38812428	KAPSAOS		LOSS OF FARMLAND TREES CROPS DUST AND NOISE DURING CONSTRUCTION	COMPENSATE THE STRUCTURE LAND APPLY WATER TO CONTROL DUST AN AVOID NIGHT TIME CONSTRUCTIONTION

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
SHEILA CHEPKWONY	FEMALE	0725055354	37057592	KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH		
FREDRICK LANGAT	MALE	0725249247	22188294	KAPSAOS	IMPROVED BUSINESS EMPLOYMENT OF YOUTH REDUCED TIME AND COST OF TRAVEL		
ELIZABETH KIRUI	FEMALE			KAPSAOS		DUST AND NOISE DURING CONSTRUCTION DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS INTERRUPTION OF SERVICES	APPLY WATER TO CONTROL DUST AN INFORM THE PUBLIC ABOUT THE IN AVOID NIGHT TIME CONSTRUCTIONTION COMPENSATE THE STRUCTURE LAND
SELINA SERONEI	FEMALE		13103614	KAPSAOS		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS DUST AND NOISE DURING CONSTRUCTION	COMPENSATE THE STRUCTURE LAND APPLY WATER TO CONTROL DUST AN AVOID NIGHT TIME CONSTRUCTIONTION
NANCY CHERUTO TOROITICH	FEMALE		26021720	KAPSAOS		DUST AND NOISE DURING CONSTRUCTION LOSS OF FARMLAND TREES CROPS INTERRUPTION OF SERVICES	APPLY WATER TO CONTROL DUST AN AVOID NIGHT TIME CONSTRUCTIONTION COMPENSATE THE STRUCTURE LAND INFORM THE PUBLIC ABOUT THE IN
WILLIAM KIPSANG SERONEI	MALE	0769226867		KAPSAOS		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
REUBEN KIRUI	MALE	0726331841	13107893	KAPSAOS	EMPLOYMENT OF YOUTH IMPROVED BUSINESS		

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
FANCY CHEPNGENO	FEMALE	0748614101		KAPSAOS		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND OTHER SPECIFY
LILY CHEPKWONY	FEMALE	0704669352	27199566	KAPSAOS		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS DUST AND NOISE DURING CONSTRUCTION	COMPENSATE THE STRUCTURE LAND APPLY WATER TO CONTROL DUST AN AVOID NIGHT TIME CONSTRUCTIONTION
LILY RONO	FEMALE	0111709025		KAPSAOS		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
DORCAS CHEBET	FEMALE	0798743921		KAPSAOS		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
ZABLON KITTONY	MALE	0729545474	26445653	KAPSAOS		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
BENARD CHEPKWONY	MALE			KAPSAOS		LOSS OF FARMLAND TREES CROPS DUST AND NOISE DURING CONSTRUCTION	APPLY WATER TO CONTROL DUST AN COMPENSATE THE STRUCTURE LAND
BRIAN RUTO	MALE	0768699797		KAPSAOS		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS INTERRUPTION OF SERVICES	COMPENSATE THE STRUCTURE LAND INFORM THE PUBLIC ABOUT THE IN
EDNAH KITOCH	FEMALE	0759806136	25533745	KAPSAOS		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS INTERRUPTION OF SERVICES	COMPENSATE THE STRUCTURE LAND INFORM THE PUBLIC ABOUT THE IN

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
DAVID KOROS	MALE	0746648448	12749419	KAPSAOS		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
PAUL KIPYEGON MARITIM	MALE	0790102922	11525519	POYWEK		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
JOSEPH KIPNGENO LANGAT	MALE	0725579585		POYWEK		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
SHADRAC K KIMETTO	MALE	0728813145	37932836	POYWEK		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
DAVID KITUR	MALE	0728698165	11796650	POYWEK		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
BENARD LANGAT	MALE	0707490222	32072946	POYWEK		DUST AND NOISE DURING CONSTRUCTION DEMOLITIONS OF STRUCTURES	AVOID NIGHT TIME CONSTRUCTIONTION APPLY WATER TO CONTROL DUST AN COMPENSATE THE STRUCTURE LAND
MARY BETT	FEMALE	0705393057	26569744	POYWEK		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS INTERRUPTION OF SERVICES	COMPENSATE THE STRUCTURE LAND INFORM THE PUBLIC ABOUT THE IN
SARAH KIMETTO	FEMALE			POIYWEK		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
CAREN CHEPKEMOI	FEMALE	0728916368	35347441	POIYWEK		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
NATHAN KIPKOECH	MALE	0704378699	26424245	POIYWEK		LOSS OF FARMLAND TREES CROPS DEMOLITIONS OF STRUCTURES	COMPENSATE THE STRUCTURE LAND
ERIC KIPKORIR KOGO	MALE	0729361993	36481121	POIYWEK		LOSS OF FARMLAND TREES CROPS DEMOLITIONS OF STRUCTURES	COMPENSATE THE STRUCTURE LAND
BENARD LELGO	MALE	0700550611	34292412	POIYWEK	IMPROVED BUSINESS		
JOSEAH KIPKOECH KERING	MALE	0729580971	30023673	KAPSAOS		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
WESLEY KOGO	MALE	0714413374	26463388	KAPSAOS		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
CHERUIYOT SAMWEL KOGO	MALE	0745814792	30037094	POIYWEK		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
PASCALINE KOGO	FEMALE	0719125848	30037079	POIYWEK		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
GRACE MENJO	FEMALE		4752752	POIYWEK		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
EDNAH CHERUIYOT	FEMALE	0797073946		POIYWEK		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
BRIAN MELLY	MALE	0707169315	33723545	POIYWEK	IMPROVED BUSINESS		
BRIAN KIPTOO	MALE	0711259757		POIYWEK		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	

RESPONDENT	GENDER	PHONE	ID NO	LOCATION	POSITIVE EFFECTS	NEGATIVE EFFECTS	PROPOSED MITIGATION MEASURES
MICHAEL KOSGEI	MALE	0728547614	10507238	POIYWEK		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
RIVALDO MUTAI	MALE	0701418283	31793306	POIYWEK		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND
SHARON CHERUIYOT	FEMALE	0713041067	27738734	POIYWEK		DEMOLITIONS OF STRUCTURES LOSS OF FARMLAND TREES CROPS	COMPENSATE THE STRUCTURE LAND

TABLE 3.15: OVERALL ROUTE OPTIONS ASSESSMENT FOR ALL THE KERICHO BYPASS POTENTIAL ROUTES

S/No	CRITERIA	WEIGHT (%)	OPTIONS													
			1	SCORE	2	SCORE	3	SCORE	4	SCORE	5	SCORE	6	SCORE	7	SCORE
A	**TRANSPORTATION AND TRAFFIC**	**40**		**15.7**		**21.1**		**23.7**		**32.7**		**24.7**		**26.7**		**22.5**
	Length (Km)	2	11.7	2	18.2	1.3	16.4	1.4	19.4	1.2	16.35	1.4	15.43	1.5	21.77	1.1
	Accommodation of future travel demand (Traffic Operations, LOS, delays, travel time)	5	Accomodation of future travel demand through land acquisition and improvement of existing access roads and intersections,increase in number of lanes and additional auxiliary lanes	0	Accomodation of future travel demand through land acquisition and improvement of existing access roads and intersections,increase in number of lanes and additional auxiliary lanes	1.8	Accomodation of future travel demand through land acquisition and improvement of existing access roads and intersections,increase in number of lanes and additional auxiliary lanes	2.4	Accomodation of future travel demand through land acquisition and improvement of existing access roads and intersections,increase in number of lanes and additional auxiliary lanes	4.4	Accomodation of future travel demand through land acquisition and improvement of existing access roads and intersections,increase in number of lanes and additional auxiliary lanes	3.0	Accomodation of future travel demand through land acquisition and improvement of existing access roads and intersections,increase in number of lanes and additional auxiliary lanes	3.9	Accomodation of future travel demand through land acquisition and improvement of existing access roads and intersections,increase in number of lanes and additional auxiliary lanes	2.1
	Travel safety-accidents (Number of Conflict Points, % of roads separated)	3	18 Number of Conflict Points, All grade separated junctions; Safeguarding urban roads against heavy truck loading 4 Major junctions; 14 Minor junctions	2.2	20 Number of Conflict Points, All grade separated junctions; Safeguarding urban roads against heavy truck loading 4 Major junctions; 16 Minor junctions	2.0	15 Number of Conflict Points, All grade separated junctions; Safeguarding urban roads against heavy truck loading 4 Major junctions; 11 Minor junctions	2.5	21 Number of Conflict Points, All grade separated junctions; Safeguarding urban roads against heavy truck loading 4 Major junctions; 17 Minor junctions	1.9	17 Number of Conflict Points, All grade separated junctions; Safeguarding urban roads against heavy truck loading 4 Major junctions; 13 Minor junctions	2.3	17 Number of Conflict Points, All grade separated junctions; Safeguarding urban roads against heavy truck loading 2 Major junctions; 15 Minor junctions	2.6	13 Number of Conflict Points, All grade separated junctions; Safeguarding urban roads against heavy truck loading 3 Major junctions; 10 Minor junctions	3.0
	Accessibility to adjacent properties, farms	2	Full Access Control	2	Full Access Control	2	Full Access Control	2	Full Access Control	2	Full Access Control	2	Full Access Control	2	Full Access Control	2
	Combatibility with growth plans for Kericho (future development plans such industries, real estate	10	100% of the road lies within the Kericho Municipality	0	64.3% of the road lies within the Kericho Municipality	3.6	52.74% of the road lies within the Kericho Municipality	4.7	11.83% of the road lies within the Kericho Municipality	8.8	40.95% of the road lies within the Kericho Municipality	5.9	21.06% of the road lies within the Kericho Municipality	7.9	58.24% of the road lies within the Kericho Municipality	4.2
	Benefits to public transit	3	Positive Benefit to through traffic (reduced travel times)	3	Positive Benefit to through traffic (reduced travel times)	1.9	Positive Benefit to through traffic (reduced travel times)	2.1	Positive Benefit to through traffic (reduced travel times)	1.8	Positive Benefit to through traffic (reduced travel times)	2.1	Positive Benefit to through traffic (reduced travel times)	2.3	Positive Benefit to through traffic (reduced travel times)	1.6
	Serving future planned developments e.g special economic zones	5	Connects the two special transport nodes of Kapsoit and Brooke planned as the alternative driver's of the town's development	2.5	Connects the two special transport nodes of Kapsoit and Brooke planned as the alternative driver's of the town's development	3.0	Connects the two special transport nodes of Kapsoit and Brooke planned as the alternative driver's of the town's development	3.0	Connects the two special transport nodes of Kapsoit and Brooke planned as the alternative driver's of the town's development	3.0	Connects the two special transport nodes of Kapsoit and Brooke planned as the alternative driver's of the town's development	3.0	Connects the planned Kerenga Airstrip in addition to serving the two special transport nodes of Kapsoit and Brooke planned as the alternative driver's of the town's development	3.5	Connects the planned Kerenga Airstrip in addition to serving the two special transport nodes of Kapsoit and Brooke planned as the alternative driver's of the town's development	4.0
	Connectivity	5	Improves connectivity with existing roads and towns	2	Improves connectivity with existing roads and towns	3.0	Improves connectivity with existing roads and towns	3.0	Improves connectivity with existing roads and towns	5.0	Improves connectivity with existing roads and towns	2.5	Improves connectivity with existing roads and towns	1.0	Improves connectivity with existing roads and towns	1.5
	Traffic Study															
	Traffic flow and volumes	5	Filters trucks away from CBD	2	Filters trucks away from CBD	2.5	Filters trucks away from CBD	2.5	Filters trucks away from C	4.5	Filters trucks away from CBD	2.5	Filters trucks away from CBD	2	Filters trucks away from CBD	3
B	**ENGINEERING**	**30**		**20.8**		**19.5**		**19.5**		**23.8**		**19.8**		**21.3**		**20.8**
	Impacts to major services/utilities (rail,power, pipeline etc)	5	Major Utility Lines are affected due to the relatively high settlement density	3	Minor Utility Lines are affected due to the relatively low settlement density	3	Minor Utility Lines are affected due to the relatively low settlement density	3	Minor Utility Lines are affected due to the relatively low settlement density	4	Minor Utility Lines are affected due to the relatively low settlement density	4	Minor Utility Lines are affected due to the relatively low settlement density	3.5	Minor Utility Lines are affected due to the relatively low settlement density	3.5
	Drainage/Storm water impacts	5	No major impacts of storm water(Side drain will be adequate with minor erosion preventive measures anticipated). Cross Culverts to be determined	4	No major impacts of storm water(Side drain will be adequate with minor erosion preventive measures anticipated). 25m bridge span across river Kipkwes Cross Culverts to be determined	3	No major impacts of storm water(Side drain will be adequate with minor erosion preventive measures anticipated). 25m bridge span across river Kipkwes Cross Culverts to be determined	3	No major impacts of storm water(Side drain will be adequate with minor erosion preventive measures anticipated). 25m bridge span across river Kipkwes Cross Culverts to be determined	3	No major impacts of storm water(Side drain will be adequate with minor erosion preventive measures anticipated). 25m bridge span across river Kipkwes Cross Culverts to be determined	3	No major impacts of storm water(Side drain will be adequate with minor erosion preventive measures anticipated). Cross Culverts to be determined	4	No major impacts of storm water(Side drain will be adequate with minor erosion preventive measures anticipated). Cross Culverts to be determined	4
	Construction Materials Availability															
	Alignment Soils	2	Predominantly Red Soils (>75%)	0.5	Predominantly Red Soils (>50%)	1	Predominantly Red Soils (>50%)	1	Predominantly Gravel Soils (>75%)	2	Predominantly Gravel Soils (>50%)	1	Predominantly Red Soils (>50%)	1	Predominantly Red Soils (75%)	0.5
	Sources of Natural Gravels	1	Sources of Natural Gravels outside the corridor	0.5	Sources of Natural Gravels outside the corridor	0.5	Sources of Natural Gravels outside the corridor	0.5	Sources of Natural Gravels within the corridor	1	Sources of Natural Gravels within the corridor	1	Sources of Natural Gravels within the corridor	1	Sources of Natural Gravels within the corridor	1
	Sources of Aggregates	1	Sources of Aggregates outside the corridor	0.5	Sources of Aggregates outside the corridor	0.5	Sources of Aggregates outside the corridor	0.5	Sources of Aggregates within the corridor	1	Sources of Aggregates mainly from tunnel boring and within the corridor	1	Sources of Aggregates within the corridor	1	Sources of Aggregates within the corridor	1
	Sources of Water and Quality	1	Sources of Water and Quality	0	Sources of Water and Quality	1	Sources of Water and Quality	1	Sources of Water and Quality	1	Sources of Water and Quality	1	Sources of Water and Quality	1	Sources of Water and Quality	0.5
	Highways Geometric Design															
	Horizontal Alignment and Vertical Alignment	5	Rolling Terrain Design Speed=100kph Min. Horizontal radius=600m Max. gradient=4% Min. k values: crest=62; sag=37 Min. k values: crest=62; sag=37 Sight Distance=200 Cross-section type II	4.75	Rolling Terrain Design Speed=100kph Min. Horizontal radius=600m Max. gradient=4% Min. k values: crest=62; sag=37 Min. k values: crest=62; sag=37 Sight Distance=200 Cross-section type II	4	Rolling Terrain Design Speed=100kph Min. Horizontal radius=600m Max. gradient=4% Min. k values: crest=62; sag=37 Min. k values: crest=62; sag=37 Sight Distance=200 Cross-section type II	4	Rolling Terrain Design Speed=100kph Min. Horizontal radius=600m Max. gradient=4% Min. k values: crest=62; sag=37 Min. k values: crest=62; sag=37 Sight Distance=200 Cross-section type II	4.25	Rolling Terrain Design Speed=100kph Min. Horizontal radius=600m Max. gradient=4% Min. k values: crest=62; sag=37 Min. k values: crest=62; sag=37 Sight Distance=200 Cross-section type II	3.25	Rolling Terrain Design Speed=100kph Min. Horizontal radius=600m Max. gradient=4% Min. k values: crest=62; sag=37 Min. k values: crest=62; sag=37 Sight Distance=200 Cross-section type II	3.25	Rolling Terrain Design Speed=100kph Min. Horizontal radius=600m Max. gradient=4% Min. k values: crest=62; sag=37 Min. k values: crest=62; sag=37 Sight Distance=200 Cross-section type II	3.25
	Number of Lanes and Lane Widths	3	Lane Width=3.65m Outer Shoulder Width=2.0m Inner Shoulder Width=1.5m Crossfall=2.5%	3	Lane Width=3.65m Outer Shoulder Width=2.0m Inner Shoulder Width=1.5m Crossfall=2.5%	3	Lane Width=3.65m Outer Shoulder Width=2.0m Inner Shoulder Width=1.5m Crossfall=2.5%	3	Lane Width=3.65m Outer Shoulder Width=2.0m Inner Shoulder Width=1.5m Crossfall=2.5%	3	Lane Width=3.65m Outer Shoulder Width=2.0m Inner Shoulder Width=1.5m Crossfall=2.5%	3	Lane Width=3.65m Outer Shoulder Width=2.0m Inner Shoulder Width=1.5m Crossfall=2.5%	3	Lane Width=3.65m Outer Shoulder Width=2.0m Inner Shoulder Width=1.5m Crossfall=2.5%	3
	Junction Intersections	4	4 Major junctions; 14 Minor junctions	1.5	4 Major junctions; 16 Minor junctions	1.5	4 Major junctions; 11 Minor junctions	1.5	4 Major junctions; 17 Minor junctions	1.5	4 Major junctions; 13 Minor junctions	1.5	2 Major junctions; 15 Minor junctions	1.5	3 Major junctions; 10 Minor junctions	2
	Constructability	3	Easy	3	Moderate	2	Moderate	2	Easy	3	Complex	1	Moderate	2	Moderate	2
C	**SOCIAL AND CULTURAL ENVIRONMENT**	**30**		**12**		**14**		**18**		**21**		**16**		**13**		**15**
	Social Environment															
	Noise Impacts	4	Elevated noise levels with the densely populated residential and institutional areas. Potential effect of vibrations during construction(new corridors)	1	Elevated noise levels with the densely populated residential and institutional areas(new corridors) Potential effect of vibrations during construction(new corridors)	2	Lesser noise levels with the less dense populated residential and institutional areas(less number of people per km) Potential effect of vibrations during construction(new corridors)	2	Less noise levels with the less dense populated residential and institutional areas(less number of people per km) Potential effect of vibrations during construction(new corridors)	3	Lesser noise levels with the less dense populated residential and institutional areas(less number of people per km) Higher Potential effect of vibrations during construction(new corridors) for instance tunnelling	2.5	Lesser noise levels with the less dense populated residential and institutional areas(less number of people per km) Potential effect of vibrations during construction(new corridors)	1	Lesser noise levels with the less dense populated residential and institutional areas(less number of people per km) Potential effect of vibrations during construction(new corridors)	1.5
	Property impacts-farms,residentila, commercial and institutional	3	Positive Land Value increases Increased accessibility Optimal/Economic use of space	1	Positive Land Value increases Increased accessibility Optimal/Economic use of space	1.5	Positive Land Value increases Increased accessibility Optimal/Economic use of space	2	Positive Land Value increases Increased accessibility Optimal/Economic use of space	2	Positive Land Value increases Increased accessibility Optimal/Economic use of space	3	Positive Land Value increases Increased accessibility Optimal/Economic use of space	2.5	Positive Land Value increases Increased accessibility Optimal/Economic use of space	2	Positive Land Value increases Increased accessibility Optimal/Economic use of space	2.5
	Social Impacts	5	Notable displacements and land take Influx of developers Intensive Land use changes Social conflicts Disruption of services Conflicts with drainage outfalls	1	Displacement, Noise, Dust, Disruption of services Conflicts with drainage outfalls	2.0	Displacement, Noise, Dust, Disruption of services Conflicts with drainage outfalls	2.5	Displacement, Noise, Dust, Disruption of services Conflicts with drainage outfalls	4.0	Displacement, Noise, Dust, Disruption of services Conflicts with drainage outfalls	2.0	Displacement, Noise, Dust, Disruption of services Conflicts with drainage outfalls	1.5	Displacement, Noise, Dust, Disruption of services Conflicts with drainage outfalls	1.0
	Cost of Land Acquisition	3	Appreciation of land values	0.2	Appreciation of land values	0.3	Appreciation of land values	0.3	Appreciation of land values	0.2	Appreciation of land values	0.2	Appreciation of land values	1.9	Appreciation of land values	3
	Cost of Land Acquisition		253 Acres @ 1,000,000= KShs. 253 Million		402 Acres @ 900,000=KShs. 361.8 Million		379 Acres @900,000=KShs. 341.1 Million		395 Acres @ 700,000= Kshs. 276.5 Million		375 Acres @ 650,000= KShs. 243.8 Million		346 Acres @ 7,000,000= KShs. 2,422 Million		538 Acres @ 7,000,000= KShs. 3,766 Million	
	Natural Environment															
	Watercourses/Fisheries	5	Water Resources degradation(rivers/streams)	5	Minimal additional conflicts with water resources	3.2	Minimal additional conflicts with water resources	3.6	Minimal additional conflicts with water resources	3.0	Water Resources degradation(rivers/streams)	2.0	Water Resources degradation(wetland, rivers/streams)	1.0	Water Resources degradation(wetland, rivers/streams)	1.0
	Vegetation and Forests		Limited loss of vegetation (indigenous,exotic plants, agricultural crops)		Limited loss of vegetation (indigenous,exotic plants, agricultural crops)		Limited loss of vegetation (indigenous,exotic plants, agricultural crops)		Limited loss of vegetation (indigenous,exotic plants, agricultural crops)		Limited loss of vegetation (indigenous,exotic plants, agricultural crops)		Loss of Tea plantation and some forested area		Loss of Tea plantation and some forested area	
	Parks/Wildlife	3	No parks or notable wildlife in the areas	1	No parks or notable wildlife in the areas	1.5	No parks or notable wildlife in the areas	2.0	No parks or notable wildlife in the areas	2.5	No parks or notable wildlife in the areas	2.0	No parks or notable wildlife in the areas	1.5	No parks or notable wildlife in the areas	1.5
	Waste Management		Generation of wastes and spoils during construction More waste generation with higher populations Improved waste flow upon road commissioning Increased wastewater and sewage upon commissioning of the road corridor Spoil disposal challenges during construction		Generation of wastes and spoils during construction More waste generation with higher populations Improved waste flow upon road commissioning Increased wastewater and sewage upon commissioning of the road corridor Spoil disposal challenges during construction		Generation of wastes and spoils during construction More waste generation with higher populations Improved waste flow upon road commissioning Increased wastewater and sewage upon commissioning of the road corridor Spoil disposal challenges during construction		Generation of wastes and spoils during construction More waste generation with higher populations Improved waste flow upon road commissioning Increased wastewater and sewage upon commissioning of the road corridor Spoil disposal challenges during construction		Generation of wastes and spoils during construction More waste generation with higher populations Improved waste flow upon road commissioning Increased wastewater and sewage upon commissioning of the road corridor Spoil disposal challenges during construction		Generation of wastes and spoils during construction More waste generation with higher populations Improved waste flow upon road commissioning Increased wastewater and sewage upon commissioning of the road corridor Spoil disposal challenges during construction		Generation of wastes and spoils during construction More waste generation with higher populations Improved waste flow upon road commissioning Increased wastewater and sewage upon commissioning of the road corridor Spoil disposal challenges during construction	
	Health and Safety	5	Public Safety Concerns during construction Road Safety concerns upon road commissioning Health Risks from dust, sanitation at camp sites Social diseases transmission (HIV/AIDS, STIs etc)	1	Public Safety Concerns during construction Road Safety concerns upon road commissioning Health Risks from dust, sanitation at camp sites Social diseases transmission (HIV/AIDS, STIs etc)	2.0	Public Safety Concerns during construction Road Safety concerns upon road commissioning Health Risks from dust, sanitation at camp sites Social diseases transmission (HIV/AIDS, STIs etc)	4.0	Public Safety Concerns during construction Road Safety concerns upon road commissioning Health Risks from dust, sanitation at camp sites Social diseases transmission (HIV/AIDS, STIs etc)	4.0	Public Safety Concerns during construction Road Safety concerns upon road commissioning Health Risks from dust, sanitation at camp sites Social diseases transmission (HIV/AIDS, STIs etc)	3.0	Public Safety Concerns during construction Road Safety concerns upon road commissioning Health Risks from dust, sanitation at camp sites Social diseases transmission (HIV/AIDS, STIs etc)	3.0	Public Safety Concerns during construction Road Safety concerns upon road commissioning Health Risks from dust, sanitation at camp sites Social diseases transmission (HIV/AIDS, STIs etc)	3.0
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	OVERALL SELECTION SCORE	**100**		**48.6**		**54.4**		**60.9**		**77.4**		**60.1**		**61.4**		**57.8**
	OVERALL RANKING*			**7**		**6**		**3**		**1**		**4**		**2**		**5**

FORM 7 (r.15(2))

mazingira yetu | uhai wetu | wajibu wetu

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY(NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT

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

License No : NEMA/EIA/ERPL/18693

Application Reference No: NEMA/EIA/EL/24656

M/S **WANJOHI MUTONYI CONSULT LTD**
(individual or firm) of address
P.O. Box 21714 - 00505 NAIROBI

is licensed to practice in the capacity of a (Lead Expert/Associate Expert/Firm of Experts) **Firm of Experts** registration number **0838**

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

Issued Date: **1/23/2023** Expiry Date: **12/31/2023**

Signature.....

(Seal)
Director General
The National Environment Management Authority

P.T.O.

ISO 9001 BUREAU VERITAS Certification UKAS

ISO 9001:2015 Certified

FORM 7 (r.15(2))

mazingira yetu | uhai wetu | wajibu wetu

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY(NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT

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

License No : NEMA/EIA/ERPL/18690

Application Reference No: NEMA/EIA/EL/24653

M/S **ENG. I.G WANJOHI**
(individual or firm) of address
P.O. Box 21714 - 00505 NAIROBI

is licensed to practice in the capacity of a (Lead Expert/Associate Expert/Firm of Experts) **Lead Expert General**

registration number **0979**

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

Issued Date: **1/23/2023** Expiry Date: **12/31/2023**

Signature.....

(Seal)
Director General
The National Environment Management Authority

P.T.O.

ISO 9001:2015 Certified

FORM 7 (r.15(2))

mazingira yetu | uhai wetu | wajibu wetu

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY(NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT

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

License No : NEMA/EIA/ERPL/18692

Application Reference No: NEMA/EIA/EL/24655

M/S **ENG. I.K MUTONYI**
(individual or firm) of address
P.O. Box 21714 - 00505 NAIROBI

is licensed to practice in the capacity of a (Lead Expert/Associate Expert/Firm of Experts) **Lead Expert**
General

registration number **8286**

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

Issued Date: **1/23/2023** Expiry Date: **12/31/2023**

Signature.....

(Seal)
Director General
The National Environment Management Authority

P.T.O.

ISO 9001 BUREAU VERITAS Certification

ISO 9001: 2015 Certified

FORM 7 (r.15(2))

mazingira yetu | uhai wetu | wajibu wetu

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY(NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT

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

License No : NEMA/EIA/ERPL/18302

Application Reference No: NEMA/EIA/EL/23992

M/S **ROBERT NGUNJIRI NJERI**
(individual or firm) of address
P.O. Box 21714 - 00505 NAIROBI

is licensed to practice in the capacity of a (Lead Expert/Associate Expert/Firm of Experts) **Associate Expert** registration number **11682**

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

Issued Date: **12/30/2022** Expiry Date: **12/31/2023**

Signature.....

(Seal)
Director General
The National Environment Management Authority

P.T.O.

ISO 9001: 2015 Certified

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, ENVIRONMENTAL AND SOCIAL IMPACT STUDY, PRELIMINARY AND DETAILED ENGINEERING DESIGN OF

KERICHO BYPASS

CONTRACT NO.: KENHA/RD/HPD/3175/2020

STAKEHOLDERS ENGAGEMENT PLAN.

Client:

Director General,
Kenya National Highways Authority,
Barabara Plaza, Block A & C, Jomo Kenyatta International Airport(JKIA),
Off Airport South Road, along Mazao Road
P. O. Box 49712-00100,
NAIROBI, KENYA.

Consultant:

Wanjohi Mutonyi Consult Ltd.
Engineers • Environmentalists • Project Managers

Wanjohi Mutonyi Consult Limited
Corner Ngong/Ndemi Roads
P.O. Box 21714-00505
Nairobi, Kenya
Tel: +254- 20-3876690/1/2
Fax: +254-20-3876693
Email: wce@kenyaweb.com

TABLE OF CONTENTS

List of Tables

Acronyms

EA	Environmental Assessment
EMCA	Environmental Management and Conservation Act
ESIA	Environmental and Social Impact Assessment
GoK	Government of Kenya
KeNHA	Kenya National Highways Authority
km	kilometer
EMMP	Environmental Management and Monitoring Plan
Ltd.	Limited
MDD	Maximum Dry Density
MoTIHUD	Ministry of Transport, Infrastructure, Housing and Urban Development
NEMA	National Environment Management Authority
No.	Number
OSHA	Occupational Health and Safety Act
NGO	Non-Governmental Organization
PAPs	Project Affected Persons
PPE	Personal Protective Equipment
RAP	Resettlement Action Plan
Ref.	Reference
TOR	Terms of Reference
WCE	Wanjohi Consulting Engineers
WMCL	Wanjohi Mutonyi Consult Ltd.
HH	Household Head
KeRRA	Kenya Rural Roads Authority
KES	Kenya Shillings
NCA	National Construction Authority

1. Introduction

The Government of Kenya (GoK) and Kenya National Highway Authority KeNHA has undertaken to undertake 'Feasibility studies, Engineering Design, Environmental and Social Impact Assessment of the Proposed Kericho Bypass Road Project'.

The Client, KeNHA has subsequently engaged Wanjohi Mutonyi Consult Ltd. (Consultant) to undertake the assignment of providing engineering services for the proposed Kericho Bypass Road Project. The assignment also includes undertaking an Environmental and Social Impact Assessment (ESIA) and preparation of a Resettlement Action Plan (RAP) for the proposed works.

1.1. Need for Stakeholder engagement

Stakeholder engagement and public consultation are an integral aspect of successful decision making in the ESIA process and implementation of projects, plans and programmes. It is central to all other aspects of environmental and social performance. It is the basis for building strong, constructive, and responsive relationships that are essential for the successful management of a project's environmental and social impacts.

Poor stakeholder relations present risks to the successful implementation of projects, while constructive engagements offer benefits of improved risk management and better outcomes on the ground.

The process of engagement presupposes that the relevant stakeholders and interested public have access to timely and accurate information on the environment and the proposed development and are therefore able to offer informed views on the proposals.

Public consultation also forms a useful component for gathering, understanding, and establishing likely impacts of projects, determining community and individual preferences and selecting alternatives.

The stakeholder engagement strategy should be scaled relative to the risks and impacts a project is likely to create. For the proposed works in kericho Bypass Road project, stakeholder engagement mainly focused on project information disclosure, communication on project construction and operation impacts and mitigation measures, and collection of stakeholder's comments and recommendations.

1.2. Objective of the SEP

The overall objective of this SEP is to explain how the Project Proponents will engage with stakeholders throughout the development and operation phases of the proposed road project. Specifically, the SEP aims to:

- Understand the stakeholders to work with and rely on in the different phases of the project;
- Establish a better way to work together and maintain a healthy relationship;
- Provide guidance to the project stakeholders;

- Build relationships. Relationships lead to trust and where there is trust stakeholders work together easily, effectively, increases confidence, minimizes uncertainty and accelerates problem solving and decision making;
- Establish an acceptable baseline among stakeholders with different priorities and expectations;
- Understand the stakeholder/community's understanding and measure of success in the context of the project;
- Establish and clarify the stakeholders' roles, responsibilities, and influences in the proposed Road Project project; and
- Identify and agree on the channels or media of engagement.

Ultimately, the SEP will present how the stakeholder engagement activities are to be implemented, as well as an updated set of activities for future engagement during construction and operation phases.

2. Policy, legal and regulatory framework

2.1. The national policy and legal framework

The following sections outline Kenyan policy and legal requirements on public consultation and participation, and stakeholders' engagement:

2.1.1. The Constitution of Kenya 2010

Chapter Four – The Bill of Rights, and other provisions in the Constitution have a direct impact on rights of all individuals to be protected. Article 10 on national values and principles of governance include among others commitment to human dignity and human rights including non-discrimination and protection of the marginalized. Specifically:

Article 10 (2) indicates that public participation is among the national values and principles of governance.

Article 33 guarantees the freedom of expression including the freedom to seek, receive or impart information or ideas. Hence, every person should feel constitutionally empowered to share information and ideas during public participation processes.

Article 35 provides for the right to access information and guarantees every citizen the right to access information held by the state. This includes information required for effective public participation to take place.

Article 69 (1) (d) provides that the State shall: "Encourage public participation in the management, protection and conservation of the environment.

Article 174(c) reiterates that the powers of self-governance to the people can derive direct benefit from meaningful public participation as this contributes to better informed decision-makers armed with additional facts, values and perspectives obtained through public input.

2.1.2. The County Government Act, 2012

The legislation is based on Chapter Eleven of the constitution: Provides for county government powers, functions and responsibilities. The legislation provides for public participation, access to information and protection of minorities and vulnerable individuals and groups.

Part VIII on citizen participation provides the principles and requirements for inter alia development, decentralization and implementation of citizen participation.

2.1.3. The Land Act, 2012

This Act is the substantive law governing land in Kenya and specifies the manner for determination and the award for compulsory acquisition to be served on the persons determined to have interest in the affected land. According to Section 128 of the Act, any dispute arising out of any matter under the Act, which involves compulsory acquisition process, should be referred to the Land and Environmental Court for determination.

Sections 107-133 of the Land Act specify the procedure to be followed in the process of compulsory land acquisition. Section 134 of the Act creates a Settlement Fund for land acquisition to provide shelter and livelihoods to people who are involuntarily displaced. In managing public land, the Commission is further required in section 10(1) to prescribe guidelines for the management of public land by all public agencies, statutory bodies and state corporations in actual occupation or use. In these guidelines, management priorities and operational principles for management of public land resources for identified uses shall be stated.

This means that the Commission shall take appropriate action to maintain public land that has endangered or endemic species of flora and fauna, critical habitats or protected areas. As well the commission shall identify ecologically sensitive areas that are within public land and demarcate or take any other justified action on those areas and act to prevent environmental degradation and climate change.

2.1.4. The National Land Commission Act, 2012

The Act creates the National Land Commission (NLC) whose mandate is drawn from the National Land Policy of 2009, Constitution of Kenya 2010, National Land Commission Act, 2012, the Land Act 2012 and the Land Registration Act of 2012. Pursuant to Article 67(2) of the Constitution, the functions of the Commission shall be — on behalf of, and with the consent of the national and county governments, alienate public land and carry out compulsory acquisition as may be necessary.

2.1.5. The Environment and Land Court Act, 2012

The Act enacts Article 162(2) (b) of the Constitution; to establish a superior court to hear and determine disputes relating to the environment and the use and occupation of, and title to land, and to make provisions for its jurisdiction, functions and powers, and for connected purposes. It has power to hear and determine disputes relating to;

- Environmental planning and protection, climate issues, land use planning, title, tenure, boundaries, rates, rents, valuations, mining, minerals and other natural resources;
- Compulsory acquisition of land;
- Land administration and management of public, private and Community land and contracts, choices in action or other instruments granting any enforceable interests in land; and
- Any other dispute relating to environment and land.
- It shall be an important institution in case of grievances and other issues that cannot be solved through the proposed grievance redress systems.

2.1.6. The EMCA Act, 1999 (Amendment 2015).

The EMCA Act, 1999 (Amendment 2015) and the Environmental (Impact Assessment and Audit) Regulations, 2003 provide for public participation during the process of conducting an environmental impact assessment.

2.2. International standards

2.2.1. World Bank Environmental and Social Management Framework

The Environmental and Social Standard **ESS1**. 'Assessment and Management of Environmental and Social Risks and Impacts', **ESS5** 'Land Acquisition, Restrictions on Land Use and Involuntary Resettlement' and **ESS10** 'Stakeholder Engagement' require continuous engagement with stakeholders, including communities, groups, or individuals affected by proposed projects, and with other interested parties, through information disclosure, consultation, and informed participation in a manner proportionate to the risks to and impacts on affected communities.

3. Stakeholders' engagement program

3.1. Basis of identification

The first step in the process of stakeholder engagement is stakeholder identification to determine the project stakeholders, their key groupings and subgroups. Stakeholders are persons or groups who are directly or indirectly affected by a project, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

Mapping of stakeholder groups was enabled by definition of the impact zone of the project, i.e., from pavements works, drainage works, bridges, interchanges, overpasses settlements traversed and the target population, and the type of environmental and social impacts anticipated.

The following questions provided guidance in mapping and identifying the stakeholders:

- Who is critical to engage with first and why?
- What is the optimal sequence of engagement?
- Who will be adversely affected by the potential environmental and social impacts in the road project's area of coverage and influence?
- Who are the most vulnerable among the potentially impacted, and is special engagement necessary?
- At which stage of the project will the stakeholders be mostly affected (i.e. construction, operation or decommissioning phase of the project)?
- Which stakeholders might help enhance the project design?
- Who strongly supports or opposes the changes that the project will bring?

3.2. Categories of identified stakeholders

The Table below identifies the categories of stakeholders and describes their interest/relationship with the Proposed Project.

Table 3.2-1 Categories of identified stakeholders

Stakeholder	Description	Relevance
National Government County Government	Ministry of Interior and Coordination (Office of the County Commissioner-Kericho County	National government agencies are of primary importance in terms of establishing policy, granting permits or other approvals for the Project, and monitoring and enforcing compliance with Kenyan law throughout all stages of the Project life cycle.
	County government of Kericho	The county government will also grant relevant permits and will take over the operations of the project during implementation
Institutional stakeholders	• KeNHA	Kenya National Highway Authority is the Client and will take charge of the

Stakeholder	Description	Relevance
		project after implementation as well during design and implementation.
	• KeRRA	The road design follow an existing KeRRA road. As interested party it important for the agency to handover the road to KeNHA to implement the bypass project
Community	• Project affected communities including: • Roadside businesspeople whose livelihood will be affected by the implementation of the project • Residents who neighbour project sites and will be receptors of certain impacts • People who will benefit from road	The community in the project area- this include the PAPs and the beneficiaries of the proposed project.

Table 3.2-2;Stakeholder groups and their relevance to the project

Stakeholder Category	Stakeholder Group	Connection to the Project	Stakeholders
Government	• National regulatory bodies • Government agencies	National Government are of primary importance in terms of establishing policy, granting permits or other approvals for the Project, and monitoring and enforcing compliance with Kenyan Law throughout all stages of the Project life cycle.	• Office of the respective Members of Parliament • County Commissioners • Deputy County Commissioners • Assistant County Commissioners • Chief • Assistant Chiefs • Office of County Directors – Environment, Physical Planning, Water, Lands, Social Development, Public Health, Infrastructure (roads) and Agriculture

Stakeholder Category	Stakeholder Group	Connection to the Project	Stakeholders
	• Key County Authorities	County Government are of primary importance as they are responsible for implementation of legislation, and development plans and policies at the County level. The County will also have a role in issuing permits and processing applications associated with the Project. Kericho county will be impacted by the Project and will need to be kept informed of progress and plans in their area, to consider the Project activities in their policy-making, regulatory and other duties and activities.	• Office of County Governors • Office of County Senators • Office of Deputy Governors • Office of Members of County Assembly • Office of Women Representatives • Office of County Administrators • Office of Sub-County Administrators • Office of Ward Administrators • County Executives, specifically - Lands, Environment, Physical Planning, Social Development. Public Health, Infrastructure, Agriculture, Water and Labour
Traditional authorities	• Politically appointed authorities • Customary authorities	Local community leaders acting as representatives of their local community. Meetings with traditional authorities will follow local practices and should be held prior to any wider communication in local communities in order to respect the political and social structures.	• Elders • Community opinion leaders.

Stakeholder Category	Stakeholder Group	Connection to the Project	Stakeholders
Communities	Project affected communities including: • registered and customary land owners; • residents and occupiers of land; and • members who use of or access to land and resources.	Households and communities that may be directly or indirectly affected by the proposed Project and its activities. This includes people living on land affected by the Project, through direct land take or by social and environmental impacts, and other people who visit or use land or resources that may be affected.	Villages to be identified at the baseline data collection stage
Vulnerable groups	• women; • Female Headed Households (FHH); • elderly; • children; and • people with physical / mental health illnesses and disabilities.	Vulnerable groups may be affected by the Project by virtue of their physical disability, social or economic standing, limited education, lack of employment or access to land.	Vulnerable people to be identified at the baseline data collection stage during the ESIA and RAP.
Civil Society	• Community Based Organisations • Other Community Associations • Research and Academic Institutions • Religious groups	Organisations with direct interest in the Project, and its social and environmental aspects and that are able to influence the Project directly or through public opinion. Such organisations may also have useful data and insight and may be able to become partners to the Project in areas of common interest.	Churches, learning institutions etc.

Stakeholder Category	Stakeholder Group	Connection to the Project	Stakeholders
Non-Governmental Organisations (NGOs)	• National • Local	NGOs with direct interest in the Project, and its social and environmental aspects and that are able to influence the Project directly or through public opinion.	

3.3. Previous stakeholder engagement

3.3.1. Project design and ESIA phase engagement

3.3.1.1. Stakeholder workshop and public meetings

Public consultations were carried out with the objective of gaining views, concern and value in regard to possible negative and positive impacts due as a result of the project road during its project cycle. Through this, it was anticipated that transparency and accountability throughout the project cycle will be achieved. Possible conflicts between the project client (KeNHA/Gok), Contractor, proponents, stakeholders and community members living in close proximity to the proposed project sites would be addressed and solved at an earlier stage.

Interviews and consultative public meetings (barazas) were the main techniques which were used to consult the public and interested parties.

A total of four meetings were held along the road corridor within the project road, which was adequately attended by over 200 stakeholders.

The meetings were held at:

S/No	Meeting Type	Date
1	CC	18th Jan 2022
2	ACCs (Benson Mokami – ACC AinMoi, Janet Jawa,- ACC Kapsaos, Wilkister Alao – ACC Kericho East	19th Jan 2022
3	8 Chiefs at the County Commissioner Offices.	20thth Jan 2022
4	Meeting with locals at Kapsaos Tea buying Centre	23th Feb 2022, 11Am
5	Meetings with the locals at Ketepyese Primary School	23th Feb 2022
6	Meetings with the locals at Kaboswa Primary School	23th Feb 2022

3.3.1.2. Stakeholder Consultation Outcome

The ESIA Team conducted public participation within the Project Area with an aim of giving the Community a platform of expressing their social concerns in relation to the Project. Tables below present summaries of concerns raised by stakeholders and how the concerns were addressed during the ESIA exercise

Stakeholders Concerns and Response during Consultative Meeting with Deputy County Commissioner (DCC) Kericho.

Issues	Responses
• DCC, Mr Kamau Karungo advised further Consultations should be organized with the Local Administration who include the ACCs, Chiefs, Assistant Chiefs, and Village Elders within the Project Area. • CC was concerned on how the team will avoid problems since the project was touching people's lands.	• The ESIA Team confirmed that further Consultations organized and also Sensitization Meetings to the local communities will be conducted. • ESIA team agreed on taking the advice seriously by conducting through sensitization.

Stakeholder Concerns and Response during Consultative Meeting with Assistant County Commissioner

Issues	Responses
• The Leaders sought clarification on whether public participation forums will be organized to sensitize the community.	• ESIA/RAP Team confirmed that public participation will be organized which will include the PAPs identified during the field work conducted.
• The ACCs requested for a detailed explanation on the proposed Kericho By-bass.	• Consultant explained that the Project's objective is to reduce traffic from Kericho town by having trailer trucks and big Lorries that are not destined to Kericho town pass without congestion in the town.
• They sought clarification whether the affected PAPs will be compensated.	• ESIA/RAP Team clarified that full compensation will be done after an evaluation of properties of the people who are affected by the project. The compensation will include allowances like Disturbance allowances and others.
• They wanted to know the Project Commencement date	• The consulting explained that the commencing date wasn't communicated yet since the project is still at its baby phases and it's still a proposal waiting for an approval.
• Assist County Commissioner urged the Consultant to consider hiring local youths for the manual jobs for the period they shall be in the area for the project.	• ESIA team to ensure the ACCs that they will work with the local youths during the period they will be in Kericho
• ACC Mokami was concerned on how the Consulting team will conduct their public participation programs.	• The team requested for help from the ACC and his administrative team to help in getting the venues for holding the meetings, mobilizing the locals as they ensure their safety is granted. He will also be accompanying the team for the meetings with the locals. • ESIA team to ensure the ACCs that they will work with the local youths during the period they will be in Kericho.
• He also encouraged the team to use the local leaders for any exercise that shall be conduct in the area.	• They clarified that they have been using the local leaders and will continue working together with the local administrators in including youths for manual jobs
• Local were concerned on how adverse environmental impacts will be address by engaging the local communities	• ESIA Team also clarified that the project would ensure all advised environmental impact will be addressed and mitigated as much as possible
• Will be there be jobs for out youths?	• Involvement of local community was guaranteed to the local by the ESIA Team.

Stakeholder Concerns and Response during Consultative Meeting with Chiefs in Kericho

Issues	Responses
• They sought clarifications where the proposed by-pass pass through.	• Consultant to give details on the Project. It will start from Brooke, an area called Chagaik, touch Kapsaos centre, pass through Aina Moi locations then it ends at Kapsoit Locations where inter-change will be constructed. • The objective of the By-pass is to Minimize the traffic congestion at Kericho town also has high volume vehicles evade the town. The road to be 90m, 45m from the middle to the left and 45m from the middle to the right with road reserve included. WMCL has been contracted by KeNHA.
• They sought clarification whether the affected PAPs will be compensated.	• Consultant Team clarify that full compensation will be done after an evaluation of properties of the people affected by the project. The compensation will include allowances like Disturbance allowances and many others. .
• The Locals sought clarification on whether public participation forums will be organized to sensitize the community. •	• Consultant Team to confirm that public participation will be organized and will include the PAPs identified during the field work conducted.

Stakeholder Concerns and Response during Consultative Meeting with Locals at Chepkitach Tea Buying Centre.

Issues	Responses
• Mr Peter, one of resident, sought clarification on the areas that will be affected by the project.	• The Consultant to give details on the Project. It will start from Brooke, an area called Chagai, touch Kapsaos centre, pass through Aina Moi locations then it ends at Kapsoit Locations where inter-change will be constructed. The road to be 90m,with road reserve included.
• Mzee Kiprono Rono sought clarification whether the affected PAPs will be compensated.	• Consultant team explained to the residents that after evaluation of the properties damaged by the project is done, owners will be compensated and be given allowances that will ensure they adjust to the changes without their lives being affected.
• Ng'eto raised concerns about the ownership title deeds since most of them are in dead relatives. • Reuben clarification on commencing of the project. • Philemon questioned the construction of new road	• Consultant was aware of the delayed title deed succession in Kericho areas, therefor, advised the residents to start the process as soon as possible. ACC Mokami assured the residents to give a hand to anyone who seeks his help as succession matter is concerned. • Consultant team clarified the project is at it's early stage, therefor, no official date has been given. Although, advised locals to continue living their normal because the project may take some years.

Issues	Responses
while the there is an existing road. • Mr Sang requested the Consultant to consider hiring local youths for the manual jobs for the period they shall be in the area for the project.	• Isaiah, the Surveyor explained objective of the By-pass is to Minimize the traffic congestion at Kericho town also have the big vehicles evade the town. The road to be 90m, 45m from the middle to the left and 45m from the middle to the right with road reserve included. • Consultant team to ensure the locals that they will work with the local youths during the period they will be in Kericho

Stakeholder Concerns and Response during Consultative Meeting with Locals at Ketepyese Primary School.

Issues	Responses
• Mr Peter, one of resident, sought clarification on the areas that will be affected by the project. • Edward Rotich sought clarification whether the affected PAPs will be compensated. • Ng'eto Michael raised concerns about the ownership title deeds since most of them are in dead relatives. • Amir clarification on commencing of the project. • Peter Ng'etich questioned the construction of new road while the there is an existing road. • Mr Martim Daniel requested the Consultant to consider hiring local youths for the manual jobs for the period they shall be in the area for the project.	• The Consultant to give details on the Project. It will start from Brooke, an area called Chagai, touch Kapsaos centre, pass through Aina Moi locations then it ends at Kapsoit Locations where inter-change will be constructed. The road to be 90m,with road reserve included. • RAP team explained to the residents that after evaluation of the properties damaged by the project is done, owners will be compensated and be given allowances that will ensure they adjust to the changes without their lives being affected. • Consultant was aware of the delayed title deed succession in Kericho areas, therefor, advised the residents to start the process as soon as possible. ACC Mokami assured the residents to give a hand to anyone who seeks his help as succession matter is concerned. • The consulting explained that the commencing date wasn't communicated yet since the project is still at it's baby phases and its still a proposal waiting for an approval. • Isaiah, the Surveyor explained objective of the By-pass is to Minimize the traffic congestion at Kericho town also have the big vehicles evade the town. The road to be 90m, 45m from the middle to the left and 45m from the middle to the right with road reserve included. • Consultant team to ensure the locals that they will work with the local youths during the period they will be in Kericho

Stakeholder Concerns and Response during Consultative Meeting with Locals at Kaboswa Primary School

Issues	Responses
• Local Elder, one of resident, sought clarification on the areas that will be affected by the project. • Terget sought clarification whether the affected PAPs will be compensated. • David arap Siele raised concerns about the ownership title deeds since most of them are in dead relatives. • Richard Ng'etich clarification on commencing of the project. • Juma Sang questioned the construction of new road while the there is an existing road. • Madam Chepng'eno Daniel requested the Consultant to consider hiring local youths for the manual jobs for the period they shall be in the area for the project	• The Consultant to give details on the Project. It will start from Brooke, an area called Chagai, touch Kapsaos centre, pass through Aina Moi locations then it ends at Kapsoit Locations where inter-change will be constructed. The road to be 90m,with road reserve included. • RAP team explained to the residents that after evaluation of the properties damaged by the project is done, owners will be compensated and be given allowances that will ensure they adjust to the changes without their lives being affected. • Consultant was aware of the delayed title deed succession in Kericho areas, therefor, advised the residents to start the process as soon as possible. ACC Mokami assured the residents to give a hand to anyone who seeks his help as succession matter is concerned. • The consulting explained that the commencing date wasn't communicated yet since the project is still at its baby phases and it's still a proposal waiting for an approval. • Isaiah, the Surveyor explained objective of the By-pass is to Minimize the traffic congestion at Kericho town also have the big vehicles evade the town. The road to be 90m, 45m from the middle to the left and 45m from the middle to the right with road reserve included. • RAP team to ensure the locals that they will work with the local youths during the period they will be in Kericho

3.3.1.3. Recurrent Issues of Concern and Views from the Community

Issues of Concern Discussed	Participants Views and Suggestions
Pre-Construction / Design Phase	
Land acquisition during design and surveying process	● A group number of participants wanted to know if their property will be affected through the alignment and road design.
Sources of raw materials for road construction, whereby an EIA will be required	● The road Contractor to consult the management of d local community before starting any extraction of materials
Identification of Environmental & Social sensitive location	● Community will assist the RAP team to identify all the Environmental & Social sensitive locations
Areas of social and cultural significance, - sacred trees or sites, grave sites.	● Contractor's failure to recognize and respect the areas of social significance can create conflicts with the community members. ● The areas to be identified before the start of construction work.
Construction Phase	
Employment, - youth (men and women) during construction phase Location of workmen's camps and related impacts.	● Locals should be given job the opportunity, especially low-skilled tasks as opposed to the Contractor bringing in workers from elsewhere. ● Women should be given job opportunities, mainly less strenuous tasks.
Haulage of raw materials from quarries and borrow pits	● Locals should be given the opportunity to supply raw materials to the contractor.
Operation Phase	
Insecurity for road users or tos driving along the project road	● Police posts to be constructed at the possible volatile areas.
Highway robbery during road operation.	● Additional police posts to be built along the project road. ● Constant police control

3.3.1.4. Consultative meeting and puplic participation meetings

S/N	DESCRIPTION	PHOTO
1	Stakeholders Consultative Meeting with Locals at Chepkitach Tea Buying Centre.	
2	Stakeholders Consultative Meeting with Locals at Ketepyese Primary School.	
3	Stakeholder Meeting with Locals at Kaboswa Primary School	
4	Stakeholders Consultative Meeting with Chiefs in Kericho	
	Stakeholders Meeting with Deputy County Commissioner (DCC) Kericho.	

3.3.2. Planned engagement in the subsequent phases of the project

3.3.2.1. Engagement prior to construction phase

The consultations related to valuation of affected structures and Resettlement Action Plan (RAP) activities. Sensitisation meetings were held with the affected people (businesspeople and residents along the road reserve) to inform them on the RAP process including census, valuation of affected assets, the cut-off date and the grievance redress mechanism.

3.3.2.2. Engagement during construction phase

Stakeholders' engagement during the construction phase will relate to all activities including civil works, and establishment, operation and decommissioning of the construction camp and other facilities. The stakeholders will be engaged in monitoring of the impacts identified during the ESIA. The following activities will be undertaken.

Table 3.3.2.2-1 Engagement during construction phase

Activity	Information to be relayed	Engagement strategy
Notifying local stakeholders of construction activities and any changes to already laid schedule	• Project start date and duration • Potential impacts • Who to contact in cases of concern	• Print media • Local vernacular radio • Informal meetings
Involving the stakeholders in monitoring of anticipated impacts Reporting to the stakeholders on the progress of implementation of the ESMP	• Emerging issues during monitoring of the ESMP • Success of mitigation plans	• One on one meetings • Public barazas • Formal meetings
Resolution of grievances	• Measures taken to resolve grievances	• One on one meetings • Public barazas
Management of risks to stakeholder relations from contractor(s)	• Contractor's obligations to the community during construction	• Public barazas
Industrial labour relations	Unrealized expectations if any	Informal meetings (Baraza)

3.3.2.3. Engagement during the decommissioning

Completion of construction works will be characterised by down scaling of the construction related activities. The anticipated impacts include loss of local employment, general decline in the local economic activities. It is imperative to engage with stakeholders' way before these events take place. through stakeholder engagement at this phase, it will be possible to develop effective material sites and borrow pits rehabilitation plans and also in developing workers retrenchment programs.

Table 3.3.2.3-1 Engagement during commissioning phase

Activity	Information to be relayed	Consultation method
Notification on construction completion and downscaling of activities	• Scaling down of management presence • Termination of casual employment contracts and other lease agreements • Closure of outstanding issues • Site restoration/rehabilitation plans	• Formal meetings between contract parties • Public barazas

3.3.2.4. Engagement during operation phase

During the operation phase the numerous impacts associated with civil works decrease but the transition brings with it many changes which require to be managed to ensure continuity in stakeholder relationships. There will be a reduction in overall employee and contractor workforce, and the number of grievances and frequency of engagement with stakeholders will decrease. The following activities will be undertaken:

Table 3.3.2.4-1 Engagement during operation phase

Activity	Information to be relayed	Consultation method
Managing transition from construction to operation including the changes in staff	• Introductions of in-coming teams to local communities • The changes that are to be expected and what impacts this might have, on local residents	• Public barazas • Informal meetings
Establishment/evaluation of internal systems and functions	Departmental plans, procedures, functions and management systems	• One on one meetings • Round-table discussions
Disclosure, consultations and reporting to stakeholders	• Status of implementation of the project's commitments to stakeholders • Emergency preparedness and response plans • Resolution of grievances	• Public barazas • Informal meetings • One on one meetings
Environmental and social audit of the project's performance	Overall environmental and social performance	• One on one meetings • Public barazas

3.3.2.5. Engagement and strategy for special stakeholders.

Any special groups identified in the project locality will require special consideration and prioritisation in engagement. These groups may include the youth, women, widows, people living with disabilities and the elderly.

The following principles will be applied to accord them a fair and equal opportunity for participation in the stakeholder engagement process:

- Information, consultation and participation for all on issues affecting special stakeholder groups;
- Employment equity – deliberate effort will be put in place in form of quotas or special preference for members of these categories;
- Committee representation – deliberate effort will be made to include the members of vulnerable groups in committees.
- Inclusivity in a culturally appropriate manner; and
- Respect of the culture, knowledge, and preferences of the vulnerable members.

4. Grievance redress mechanisms

During the life of the proposed road project, it is inevitable that complaints will arise among the affected people over contentious issues. The purpose of a Grievance Mechanism is to offer stakeholders an effective avenue for expressing themselves and achieving resolution for their concerns.

The purpose of this section of the SEP is to define the community grievance management procedure, specifically the process of receiving, acknowledging and registering, reviewing, investigating and resolving grievances submitted by individuals, families, groups and/or communities and other local stakeholders' resident within the project affected areas.

The Grievance Mechanism seeks to:

- Provide an equitable and context-specific process which respects the confidentiality of all parties, protects all parties from retaliation and builds trust as an integral component of broader community relations activities;
- Provide a predictable, accessible, transparent, and legitimate process to all parties, resulting in outcomes that are seen as fair, effective, and lasting; and
- Enable more systematic identification of emerging issues and trends, facilitating corrective action and pro-active engagement.

The procedure governs how the Project Proponent will receive grievances pertaining to project activities. It will capture grievances arising from actual project impacts, as well as issues that are simply perceived to be related to the Proponent, irrespective of whether they derive directly from the Proponent or contractor activities.

Grievances shall be investigated and resolved through a defined series of steps as outlined in this procedure. This process allows for three stages of resolution. Specifically:

Tier 1 (Entry level) procedures define the means through which community-level grievances may be (i) received, acknowledged, and registered by the project; and (ii) how field-level investigation and resolution of grievances will occur.

Tier 2 procedures allow for unresolved grievances to be escalated for further review at the field level.

Tier 3 grievance management, which allows for the grievant to proceed to court if the grievance cannot be resolved to the satisfaction of the grievant and the project, will remain outside the scope of this procedure.

4.1. Minimising grievances

The following measures are proposed to minimise grievances during project implementation:

Information disclosure: The Proponent will ensure that there is continued flow of accurate information regarding the project activities. This will cut down on complaints that mostly arise from misinformation.

Transparency by the Proponent especially regarding Job opportunities: The Proponent should ensure there is transparency in terms of available vacancies, qualifications and modes of selection to avoid grievances around employment from the locals;

Accessibility of the Proponent's CLO to the community: An active Community Liaison Officer who may also serve as a Grievance Officer (GO) is both the face of the Proponent on the ground, and an available link between communities and the Proponent. He ensures any issues that arise are resolved before they become too serious.

Locally constituted Grievance Management Committee (GMC): The members of the GMC will be elected by the community within which the project is located.

Continued engagement throughout the Project life: This encourages the Proponent and host communities' collaboration, and positively impacts project implementation and sustainability.

4.2. Grievance mechanism principles

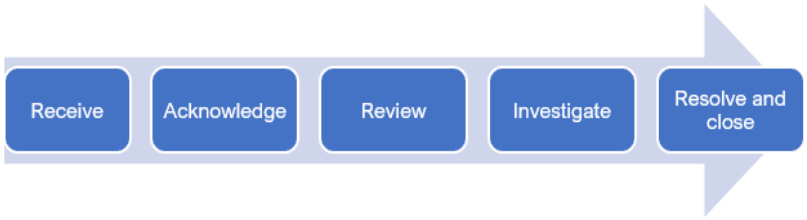
The Proponent is committed to operating in line with international best practice for the environmental and social management of its projects. This grievance mechanism has been designed in line with the following principles:

- Proportionality: the mechanism is scaled in line with the level of risk and adverse impacts on affected communities;
- Community appropriateness: taking into account culturally appropriate ways of handling community concerns;
- Accessibility: providing a clear and understandable mechanism that is accessible to all segments of the affected communities at no cost;
- Transparency and accountability: to project affected stakeholders at field (operational) level; and
- Appropriate protection: prevents retribution and does not impede access to other remedies.

4.3. Community grievance management procedure.

The Grievance Mechanism is based on a step-by-step procedure for receiving, acknowledging and registering, reviewing, investigating and resolving complaints and grievances from all project affected stakeholders' resident in the area of operations.

Figure 4.3-1 Key steps of the Tier 1 (entry level) grievance management process



4.3.1. Tier 1 (entry level) grievance capture and management

4.3.1.1. Receipt

The First Tier of the grievance management procedure captures all grievances or complaints at the field (operational) level as an entry level method of receipt. Grievances may be received through a variety of channels:

- The Proponent's dedicated grievance hotline and/or email address;
- The Proponent's Community Office;
- The Proponent's staff who hold responsibility for stakeholder engagement and who visit the communities within the project area of operations on a regular basis; and
- The Proponent's GO or the GMC.

4.3.1.2. Register/Acknowledge

When a grievance is presented, the GO will note and record the grievance onto a Grievance Registration and Acknowledgement Form and check the content with the grievant. If appropriate, the GO could take pictures related to the issue to substantiate the claim. Where relevant, GPS coordinates shall also be noted.

If the grievant is unable to present the complaint in writing, the GO will complete the appropriate forms. All forms will be signed, or thumb printed by the grievant, a witness (if necessary) and the GO.

Each grievant should receive a copy of the Grievance Registration and Acknowledgement Form, which has a reference number.

If possible, grievances will be addressed immediately through dialogue with the Grievant. As noted above, the details of the grievance will be recorded from respondents and witnesses contacted during the grievance review and will be detailed on the Grievance Registration and Acknowledgment Form. If accepted, the agreed resolution will be documented on the Grievance Resolution Form, the latter signed by the complainant, witnesses and/or any other individuals who choose to make comment with regard to the particular grievance.

If further review is required, the GO will describe the process and the timeline for further review to the grievant/complainant.

A sample of the Forms to be used in recording of grievances is attached in **Appendix A** of this SEP.

4.3.1.3. Review

In the case of a grievance that has not been resolved at the time of registration, the GO will investigate the grievance to determine its validity and where appropriate ensure appropriate redress as part of the process of closing out the grievance.

4.3.1.4. Investigate

The GO is responsible for determining how to investigate a grievance. The aims of the investigation are:

- To determine the validity and truthfulness of the grievance;
- To verify the claims made by the Grievant, and evidence provided to substantiate the claims; and
- To determine appropriate redress where required.

Investigation should seek to examine the event leading to the grievance and to verify the impact thereof. Investigation may involve visiting the location of the event leading to the grievance; photographs of the scene; engagement with other stakeholders in the field (i.e. triangulation) to confirm reliability of the account; and other evidence as appropriate.

Potential redress options include an apology, compensation of the aggrieved or any other resolution option within the limits and capacity of the field staff.

If investigation and resolution cannot be achieved within 5 days, a letter will be sent to the Grievant informing them that their grievance is being investigated, setting out the reason for the delay and advising the Grievant of anticipated closure day

4.3.1.5. Resolve and close

It is the responsibility of the GO to communicate the outcome of the review to the aggrieved person in writing through the Grievance Resolution Form and verbally if requested by a Grievant.

This response will be either:

- The outcome of the grievance review; or
- Notification that the company needs additional time to examine the issue further.

The GO shall have two (2) copies of the Grievance Resolution Form; one for the Grievant and one to be signed for company records.

If the Grievant is not satisfied with the outcome of the review, alternative resolutions should be considered and discussed among field operational management and with the Grievant before the case is escalated to the Second Tier (field level Grievance Management Committee).

Where resolutions have been approved and agreed upon by the complainant, the GO ensures that the administrative process for redressing the grievance is immediately initiated. The resolution details and target timeframe should be updated in the Complaint/Grievance Register.

In cases where the complainant "walks away" without signing the Grievance Review Outcome Form, the grievance can only be closed out following agreement by site management after it is determined that everything reasonable has been done to resolve the case.

4.3.2. Tier 2 grievance management (Field GMC)

The Second-Tier process is for grievances that cannot be resolved directly between the GO and the complainant and requires involvement by a Grievance Management Committee (GMC), which may also include appropriate external representation to resolve the complaint. If a grievance is escalated from the First Tier to the Second Tier, the GO should sign off that appropriate measures have been taken to resolve the grievance through the Entry Level (First Tier) process. The need to include an appropriate third party on the GMC will be determined on a case-by-case basis.

The Second-Tier process is used when First Tier procedures are not acceptable to one or more parties for the situation of concern; there are disputes of fact or conflicts about data; or the parties have been unable to reach a voluntary resolution. In such cases:

- The Grievant can contact the GO in the first instance to seek further clarification if for any reason he/she is dissatisfied with the explanation of the review (not for further negotiation);
- The GO points out the next level resource mechanisms available to the complainant (i.e. use of the GMC to review and offer resolutions for the case; use of a third party);
- If a case is referred to an approved third party or subject specialist, rather than utilising the GMC, the GO will report on the status of the case on a bi-weekly basis to the Proponent until closure; and
- To demonstrate good faith, that the Proponent will within reason, attempt to comply with the requirement of the third party if one is used. Where resolution cannot be reached through the Tier 1 or Tier 2 community grievance management procedures, the grievant/complainant can refer the issue to official agencies or statutory judicial processes for resolution. Such agencies include the National Environment Management Authority (NEMA); the National Environment Tribunal (NET); and Land and Environment Court and should be considered as a last resort for grievance redress

5. SEP monitoring

Monitoring and evaluation of the stakeholder engagement program is critical for ensuring that stakeholder engagement activities do not simply occur in isolation, but that they support the objectives of the proposed project and occur in an on-going coordinated manner across and between functions with responsibility for stakeholder engagement.

A monthly summary of engagement activities carried out will be produced. The information produced will inform stakeholders of project activities, the environmental and social performance, outcomes of engagement activities carried out, and grievances and their resolution.

The stakeholder engagement program will be reviewed periodically and may result in updating of the SEP.

Appendix

Appendix A. Grievance form

Form 1 ____ Grievance Form	
Reference:	**Date received:**
Complainant/ site details	
Name:	
Address:	
Telephone/ other contact details:	
Work location	
Statement of Grievance (*the nature and facts of the grievance: who was involved, when did it occur, where did it occur, what happened, why is it a grievance*)	
Remedy sought (*What action by the contractor will resolve the grievance*)	
Disposition of the grievance (*what happened*)	
Follow up actions (*any follow up required*)	
Form Completed by:	
Name:	
Location/ Organization:	