



AFRICAN DEVELOPMENT
BANK GROUP

**PROJECT: ISEBANIA-KISII-AHERO ROAD REHABILITATION
PROJECT**

COUNTRY: REPUBLIC OF KENYA

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT SUMMARY

Date: July 2015

Appraisal Team	Team Leader:	G. Makajuma, Infrastructure Specialist, EARC
	Team Members:	Z. Tessema, Chief Transport Engineer, EARC/OITC.2 N. Kulemeka, Chief Socio-Economist, ONEC.3/SARC E. Ndinya, Senior Environmental Specialist, ONEC.3/SARC J. Aguma, Senior Transport Economist, OITC.1 P. Owuori, Senior Procurement Officer, ORPF.1/EARC D. Mutuku, Principal FM. Specilaist,ORPF.2/EARC
	Sector Director:	A. Oumarou (OITC)
	Regional Director:	G. Negatu (EARC)
	Sector Manager:	A. Babalola (OITC.2)

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)

SUMMARY

Project Title: Isebania-Kisii-Ahero Road Rehabilitation Project

Project Number: P-KE-DB0-023

Country: Kenya

Department: OITC

Division: OITC.2

Project Category: Category 1

1. INTRODUCTION

The Government of the Republic of Kenya through the development Budget and support from the African Development Bank (AfDB) intends rehabilitate the Isebania-Kisii-Ahero (A1), 167 km Road. Towards this end, the government engaged a Consultant, Zamconsult Consulting Engineers Ltd to Review and Update the Draft Environmental and Social Impact Assessment (ESIA) report carried out in 2011, Prepare the Resettlement Action Plan (RAP) and Gender Analysis for the proposed rehabilitation of the Isebania-Kisii-Ahero (A1), 167 km Road.

According to AfDB environmental screening guidelines, projects involving upgrading and rehabilitation of major roads, are classified Category 1, and these require detailed environmental and social impact assessment. Similarly, according to the Environmental Management and Co-ordination Act, (EMCA) 1999 of Kenya and the Environmental Impact Assessment and Audit Regulations, the proposed road construction project falls within the activities that require a mandatory EIA. The proposed road upgrading project falls under mandatory list of projects requiring full environment and social impact assessment as per the above cited regulations.

The ESIA study for the road was therefore carried out in fulfilment of these requirements. The ESIA study shall be submitted to the National Environment Management Authority for review and disclosure to the general public in accordance with the Environmental Management and Co-ordination Act, (EMCA) 1999 of Kenya. This ESIA Summary has been prepared from the project documents in accordance with AfDB's Environmental and Social Assessment Procedures (ESAP). In addition, over 200 persons will be involuntarily displaced by the project. A full Resettlement Action Plan (RAP) has been prepared and is included as Annex 1.

2. POLICY LEGAL AND ADMINISTRATIVE FRAMEWORK

The Environmental Management and Coordination Act (EMCA), 1999 provides for the establishment of a legal and institutional framework for the management of the environment and for matters connected therewith and incidental thereto. Just as in the new constitution, Part II of EMCA confers to every person the right to a clean and healthy environment and to its judicial enforcement. The new Constitution and EMCA therefore obligates the project's Executing Agency and Contractor to work in a clean environment and not to contravene the right of any person within its zone of influence, to this entitlement. EMCA has provided for the development of several subsidiary legislations and guidelines which govern environmental management and are relevant to the project implementation. These include;

- The Environmental (Impact Assessment and Audit) Regulations, 2003 Legal Notice No. 101;

- The Environmental Management and Coordination (Waste Management) Regulations, 2006 Legal Notice No. 121;
- The Environmental Management and Coordination (Water Quality) Regulations, 2006 Legal Notice No. 120;
- The Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009 Legal Notice No. 61;
- The Environmental Management and Coordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations, 2006 Legal Notice No. 160;
- The Environmental Management and Coordination (Fossil Fuel Emission Control) Regulations, 2006 Legal Notice No. 131;
- The Environmental Management and Coordination (Controlled Substances) Regulations, 2007 Legal Notice No. 73.

Kenya's key environmental assessment and monitoring agencies include the following;

- 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.

The Occupational Safety and Health Act, 2007, is an Act of Parliament to provide for the safety, health and welfare of all workers and all persons lawfully present at workplaces, to provide for the establishment of the National Council for Occupational Safety and Health and for connected purposes. The Act applies to all workplaces and workers associated with it; whether temporary or permanent. The main aim of the Act is to safeguard the safety, health and welfare of workers and non-workers. It is thus recommended that all Sections of the Act related to this project, such as provision of protective clothing, clean water, and insurance cover are observed so as to protect all from work related injuries or other health hazards.

There are sectoral legislation and regulations relating to various environmental aspects and that are relevant to the road project that were reviewed, including international treaties and agreements that Kenya has ratified and these have been included in the ESIA Report. In addition, the African

Development Bank's Integrated Safeguards Policy has been applied in the preparation of the ESIA and RAP studies

The African Development Bank's Integrated Safeguards System has been reviewed. The road exceeds the Bank threshold of 50Km and there are likely to be significant disturbance and impacts on the traders, businesses and settlements along the road corridor hence Operational Safeguards (OS) 1 on Environmental Assessment and OS2 on Involuntary Resettlement are triggered. The project road will largely follow the existing alignment. As such, the environment along the corridor shall not be modified hence OS 3 on Biodiversity is not triggered. OS 4 on Pollution Prevention and Hazardous Substances is triggered since construction will involve use of fuels and possibly some hazardous materials. OS 5 on Labour, Working Conditions, Occupational Health and Safety is triggered since the construction will involve a significant number of construction workers. On Climate Change, the project has been classified as Category 2 according to the Bank's Climate Safeguards System. This implies that the proposed project could be at risk from climate change and further review is therefore required to consider broad climate trends and identify practical risk management and adaptation measures that should be integrated into the project design and implementation plans.

3. PROJECT DESCRIPTION AND JUSTIFICATION

The Isebania-Mukuyu-Kisii-Ahero Road project is approximately 172 kilometres and it traverses four counties; Migori, Kisii, Homa Bay and Kisumu. The project starts at Ahero junction on B1 road. It then moves in a southerly direction via Katito, Onyuongo, and Nyabondo to Sondu. At Sondu it takes a south westerly direction via Kabondo, Ringa, Ober to Oyugis where it meets C26. From Oyugis it moves in a southerly direction via Mosocho and Nyamataro where it meets B3 road within Kisii town where it changes direction and moves in a south westerly direction via Suneka, Gesonso, Gasero, Kamagambo, Rongo, Ranen, Awendo, Uriri, Kakrao near Mukuyu, Migori and terminates at the Isebania border (Sirare).

The major market/town centres traversed in the southerly direction include Ahero, Awach, Katito, Onywongo, Sondu, Chabera, Kadongo in Kabondo-Kasipur, Ringa, Oyugis, Mosocho, Nyakoe, Kisii, Suneka, Kamagambo, Rongo, Gucha, Ranen, Sare (Awendo), Uriri, Kakrao(Mukuyu), Migori, Isebania and Nyabikaye.

The project road condition has deteriorated over the years due to increasing transit traffic on the road. Currently, the road carriageway width measures 4-5m wide, and increasingly is becoming a major constraint for the main economic activities within the Lake Victoria basin. Traffic accidents have increased due to the narrow and heavily potholed road condition; most regional public transport vehicles have diverted away from this route leading to limited transport service to the populations served directly by the highway. It now requires a much stronger pavement and improved geometric features.

The rehabilitation of the Isebania-Kisii-Ahero (172km) section of the Tanzania-Kenya-South Sudan Corridor will facilitate cross border movement of passengers and freight, and further enhance access to regional markets, and to social and economic centers as a result of the additional upgrading of the 75km of feeder roads contiguous with the main trunk road linking the project road with markets, social and administrative centers such as the: *Oyugis-Kendu Bay road (19.5km)*, *Nyachenge-Tabaka-Ogembo road (15km)*, *Sondu-Nyabondo road (6km)*, *Oyugis-Gamba road (7km)*, *Suneka-Rangwe road (18km)*, and *Misambi-Ekerenyo road*

(11km). The road improvement project will entail 5m wide service roads on both sides of the road at major trading centers along the project corridor to enhance accessibility to businesses.

The improved road geometrics and enhanced pavement structure will go a long way in raising the level of service for the transit traffic. The construction of bus terminals complete with market stalls at Oyugis and Migori and roadside markets at Katito, Sondu, Chabera, Kadongo, Mosocho, Nyachenge and Ranen, which are aimed at separating local traffic from the transit traffic on the main trunk road thereby maintaining acceptable level of service for long distance traffic besides improving road safety for many roadside traders most of which are women. Other components under the project include: establishment of Roadside Traffic Crash Trauma and Injury Recovery Centre at Nyabondo hospital consisting of: a new surgical unit, medical emergency equipment, including provision of five (5) ambulances, post-crash counseling unit, and water supply points at Nyabondo hospital and to the surrounding community.

Accordingly, and in order to address this situation, the project road has been identified in the Country Strategy Paper (CSP 2013-2017) as priority for development. In addition, the Project is well aligned with the regional infrastructure strategic pillar of the East African Regional Integration Strategy Paper (RISP) (2011-2015), focusing on Regional Transportation/Trade Facilitation Infrastructure. Indeed the EAC Master Plan for Transport (2012) has identified the Isebania-Kisii-Ahero road links as one of the key economic corridors (Corridor No.3) requiring urgent attention, hence the need to expand capacity of this highway link. This is expected to promote seamless connectivity within the EAC region at large.



Figure 1: Location Map for Isebania-Kisii-Ahero (A1) Road

The proposed project includes improvement of feeder roads linking the project road with lower rural road network so as to foster networks connectivity. The project road intersects major classified roads at Ahero (B1), Sondu (C25), Oyugis (C18, C26 and D220), Suneka (D215), Rongo (C20), Awendo (D202) among others.

4. DESCRIPTION OF THE PROJECT ENVIRONMENT

Climate: In Nyando sub-county, altitude rises from 1100m a.s.l along the Kano plain to 1800m a.s.l in Nyambondo plateau. Mean annual precipitation lies between 600mm-1630mm. However the rains are bimodal and exhibit wide variation in distribution. Rachuonyo sub-county exhibits an inland equatorial climate which is modified by the effect of the altitude and its proximity to Lake Victoria. Local temperatures are relatively high. Rainfall in the District is caused by the convergence of the Westerlies and South Easterlies, which results in the heavy downpour with thunderstorms especially in the afternoons. The sub-county has two main rain seasons; the long rains which starts from late February and runs through June with rain fall ranging between 500mm and 1,000mm and the short rain season which occurs between the months of August and November with rainfall ranging between 250mm and 700mm.

Kisii County exhibits a highland equatorial climate resulting into a bimodal rainfall pattern with average annual rainfall of 1,500mm. The long rains are between March and June while the short rains are received from September to November; with the months of January and July being relatively dry. The maximum temperatures in the County range between 21°C–30°C, while the minimum temperatures range between 15°C and 20°C. Gucha and Migori districts exhibits similar climatic patterns whereby rainfall is in two seasons like most of Kenya and the highest rainfall is between March and May. Average rainfall is approximately 1200mm and above.

Geology: The project area forms part of the Kisii highlands, a sub-mountainous landscape, shaped by deeply weathered pre-Cambrian volcanic rocks of the Bukoban system within the Nyanzian and Kavirondian rock systems; consisting of mainly basalts and basaltic tuffs, quartzites and cherts, rhyolites and tuffs, porphyritic and non-porphyritic felsites and Andesite. The Bukoban non-Porphyritic basalts are exposed west of Kisii town, they are fine grained and grey-blue to greenish in color. The Bukoban quartzite and cherts outcrops can be seen along the Manga Ridge, North of Kisii town. They are fine – medium grained and white- bluish color. They are believed to be as a result of a sedimentation process in shallow water. The Bukoban andesite and felsites overlays the quartzites, they are fine grained with deep red or purple color, this covers the project area.

The geology across Riana River Bridge consists of dark grey basalts with Kisii soapstone locally developed. This rock formation outcrops at the river valley and is overlain directly by brownish loam soil. The geology of the area around Oyugis town consists mainly of Nyanzian rhyolites with intercalated volcanic tuffs and agglomerates. The geology at Sondu consists of compact Precambrian post Nyanzian granodiorites which outcrop across the river bed and river valley. At Asawo River and Store Pamba area, the geology consists of undifferentiated granitoid gneisses overlain by a very thin layer of silty loam soil.

Soils: Most parts traversed by the road project have deep red soils rich in organic matter but some parts have clay soils, red loam and sandy soils. The soils types include vertisols,

phenosols, gleysols, phaezems and combisols. The organic peat soils are important in brick making, pottery and manufacture of tiles. The red volcanic soils support the growth of cash crops such as tea, coffee, pyrethrum, maize, beans, potatoes and bananas.

From Ahero (Km 0+000) to Km 18+000 the subgrade soils are predominantly black cotton typical of Kano plains. From Km 18+000 to the end of project the subgrade soils are predominantly red loamy soils with well distributed gravel locations. The Kano plains and the adjacent zones are suitable for cotton as well as irrigated rice.

Hydrology and Water Resources: There are several rivers in the project areas influencing the hydrology of the road catchment. The hydrology is largely that of the Lake Victoria. River Ragana crosses at Suba Kuria and joins Migori River, River Oyani which also drains from Transmara and joins Gucha River, River Migori whose catchment starts from Kilgoris area and crosses the project road at Migori town and joining Gucha River, the Gucha River System which comprises of River Sare and River Gucha (aka Kuja). The Gucha (Kuja) river drains the whole of Kisii highlands and has several tributaries upstream of the road crossing at Kuja market. Such tributaries are Enyangweta River whose confluence with Gucha River is at the boundary of Kisii and Migori counties, Omogonga River that joins Gucha River at Ogembo Town and drains from Ramosha, Masimbu areas and Echirichiro River which drains from Keroka town area. It is joined by Kemera River which starts from eastern side of Manga hills at Chabera market. The main Gucha River originates at Kiabonyora near Kebiringo market.

On the Kisii – Ahero road section, there is River Mogusii (Nyakoe River) which crosses the road at Nyakoe market with its tributary, Mosochi River crossing the road at Mosochi. The river drains from the western side of Manga hills and drains into Lake Victoria with a changed name as River Oluchi. River Oluchi is used for irrigation of the Oluchi- Kimira scheme. The other major rivers crossing the road are River Sondu and River Awach.

Forests: The forest resources in the counties are the most important assets in the provision of basic needs, conservation and improvement of physical conditions of the county. They supply essential wood products, employment opportunities, revenue collection base and control of soil erosion and conservation of water catchment areas. Homa Bay County has two gazetted forests covering 29.6 km². These forests are Gwassii and Wire hills. The county also has eight non-gazetted forests covering about 128 km². They are Ngorome hills, Ruri hill, and Gembe hills, Mfangano, Homa Hills, Asego Hill and Koderia Forest. Kisii County does not have any gazetted forests. Migori County has a good amount of forest coverage such as Kibiriri forest which is an extension of God Kwer forest in Migori.

Vegetation: The formerly Nyanza Province is endowed by a variety of plant species that are used for medicine, firewood, construction, vegetables and other viable uses. Degradation of the plant community is caused by the demand for land for agriculture and settlement. In the province, the situation worsened by the high rate of population growth and open access system to areas where these plants occur.

Fisheries: Fishing is one of the key economic activities in Kisumu County. Most of the fish harvesting takes place in Lake Victoria. With the advent of fish ponds, households are investing in the ponds and there are over 1,330 fish ponds in the county. Overall, there are 3,275 fishermen and 189 fish farm families in the county. The fish produced include; *Rastrineobola argentea*, Tilapia, Nile perch, among others. The fishing gear used includes fishing nets, hooks, traps and motor boats. Kisumu County has the following beaches: Kaloka Beach, Ndere Island,

Kisumu Port, Dunga Beach, Sango Beach and Kusa Beach. Fishing remains a prominent activity in Homa Bay county engaging upwards of 18,300 people and 3,600 families. The main types of fish harvested include Nile perch, tilapia and *clarias (Omena)*. According to the 2010 Frame Survey, the county had a catch of 12,000 tonnes valued at nine billion Kenya shillings. The county has 151 landing beaches managed by 133 Beach Management Units (BMUs). Kisii County has about 2,399 fish farmers with 2,808 fish ponds covering an estimated area of 728,727 m².

Agriculture and Crop Production: The project area is endowed with various resources including the rich soils of Kisii Highlands as well as ample rainfall which support agriculture and livestock production, large water mass, variety of mineral resources, forest resources as well as wildlife. The Kano plains and the adjacent zones are suitable for cotton as well as irrigated rice.

Exploitation of the natural resources has been varied, with some of these such as arable land being almost wholly exploited while others partially exploited. Generally, there is a mixture of cash and food crop production. Food crops include maize, sorghum, beans, groundnuts, cassava, sweet potatoes etc. Among the cash crops grown are; tea, coffee, cotton, rice, tobacco, sugar cane, bananas, etc. Some cash crops serve a dual purpose of cash as well as food crops.

Population: The total population of the project region (formerly Nyanza province) as recorded from the Kenya National Bureau of Statistics 2009 Population Census was 5,442,711. The population comprised 2,824,977 females and 2,617,734 males.

HIV/AIDS: HIV and AIDS is a major public health challenge. The four project counties are among the first 10 counties with the largest number of People Living with HIV (PLHIV).

Table 1: 2014 Kenya NACCHIV/AIDS statistics for the project Counties

Name	Overall County HIV prevalence rate	County Male HIV prevalence rate	County Female HIV prevalence rate	National rank in HIV prevalence with highest at 47	National rank in new HIV infections	% of population never tested for HIV by 2009	County ranking of ART coverage with highest at 47
Homabay	25.7	23.7	27.4	47	47	31	25
Kisii	8.0	7.3	8.5	42	43	73	37
Kisumu	19.3	20.6	17.8	45	46	73	4
Migori	14.7	13.6	15.7	44	44	73	15

The national average HIV prevalence is 6.04%. The HIV prevalence rate in all the counties is therefore higher than the national average. Indeed, with the exception of Kisii County, the HIV prevalence in the region is categorized as hyper endemic - a disease constantly present at a high incidence and/or prevalence rate and affecting all age groups equally. The Counties also rank highly in new HIV infections.

In all the counties, the women living therein have been more vulnerable to HIV infection than the men. The statistics show that the highest percentage (60%) of adults who enrolling for HIV care have their point of entry to the care through voluntary counseling and testing followed by those whose point of entry is voluntary prevention of mother-to-child transmission at 38%. The percentage of those enrolling for HIV care due to medical ward admissions, tuberculosis or other illness is, overall, negligible at less than 3 %. This shows that the opportunity for care for those infected with HIV can be largely tapped through voluntary counseling and testing.

Land Tenure: The percentage of land with title deeds in Kisumu County is 61.3 per cent. The land in the county is largely owned by individuals (78.8 per cent), 10.7 per cent of it is rented or leased, 4.9 per cent clan/family owned and 0.4 per cent is communally owned. Others are owned by the various local authorities. The percentage of land with title deeds in Homa Bay County stands at about 48 per cent. Most of the land in the county is rural. The number of individuals with title documents in Kisii County is estimated at about 40 percent. This is mostly ancestral land, hence inherited, and therefore many do not see the need to acquire the ownership documents. The population holding title deeds in Migori is low, due to the slow land adjudication process in the county.

5. PROJECT ALTERNATIVES

No Project Alternative: The no construction alternative would imply that the Isebania-Kisii-Ahero Class A road, an important link road, be maintained in its present state. This decision is unfavorable if the broader objectives for the Region, National and International Economic development are to be achieved. While the “no project’ alternative may ensure non-interference in the biodiversity, social conditions will suffer as a result of inaccessibility to the rest of the country, markets, educational services and health care facilities as well as delayed exit to international borders. The “no project’ alternative would mean that this area with great agriculture and tourism potential will continue to be isolated. It would mean that especially the government will continue to incur heavy maintenance costs due to tear, wear and breakdown of their vehicles.

Road Alignment: The project road is an existing road passing through heavily populated rural areas that relies on subsistence and commercial agriculture, and trading in household merchandise. Diversion from the existing right of way would therefore result into high number of displaced persons, property and businesses. The general alignment was therefore somehow fixed to minimize expensive compensation and relocation of persons.

Bypasses Vs Road Widening at the Trading Centers: Some local improvements within congested urban/market areas and intersections were considered at the preliminary stages of design. One alternative was to include approximately 10-km long bypass road to the east of Oyugis town and another from Suneka to Nyakoe near Kisii town. However, this alternative was dropped as the costs were so high and there was no guarantee that the targeted transit traffic would use them instead of the existing alignment. In addition, it was possible to include cost-effective improvements at Oyugis to address the congestion and possible conflicts between local and transit traffic. The current alternative of separating local and transit traffic at Oyugis and providing a rotary intersection at Kisii was therefore adopted.

6. POTENTIAL IMPACTS

Positive Impacts

Employment Opportunities: During construction, the project is expected to generate several direct job opportunities for both skilled and unskilled labour attracting employees both locally and beyond. It is expected that approximately 3,600 local people shall be employed in semi-skilled and unskilled jobs during construction and 400 during maintenance. Among these shall be 30% women. There are other indirect employment opportunities that will be created such as

those associated with provision of goods and services to the permanent and temporary employees. Indirect jobs will be created, upon completion of the road, in commerce and trade, transport industry, tourism, mining activities and irrigated agriculture.

Through recruitment of labour locally, the workers will have an opportunity to learn an array of skills that relate to road construction. This may be difficult to quantify, but is regarded as an important positive impact. Such skill sets will be available to the local market whenever required after the project completion. In addition, the contractors shall be obliged to develop a code of conduct to ensure no abuse takes place at the work place. Appropriate facilities including mobile toilets and ablution facilities shall be provided for both women and men.

Training of Women and Youth Contractors: The project includes a component on training approximately 500 women and youth contractors. The aim is to provide training of small-to-medium scale women and youth contractors as a way to enhancing infrastructure maintenance capacity in the project counties, and to help build their managerial and entrepreneurial capacity and in so doing contribute to sustainability of these micro-enterprises and help grow them into SMEs. This is envisaged to foster economic empowerment and gender equity in the construction industry.

Improved Access and Reduced Travel Time: Overall there will be improved access with traveling across the region taking shorter time with improved comfort. It is envisaged that the upgrading of the project road will improve accessibility to social amenities and especially markets and service roads, of importance is accessibility to health facilities for the disadvantaged in the local community especially women. Improved access to better health care in less time will lead to decreased mortality rates. This coupled with improved access to vaccination services will help lower mortality rates in the region and beyond.

Impacts on Local Economy: The more immediate beneficiaries will be transporters, traders and freight forwarders, whether located in Nairobi, Isebania or regional centres. These activities are labour intensive and will generate substantial additional employment. There exists a close relationship between transport and primary production (agriculture, animal husbandry, fishing, forestry and mining). Without transport access, much of primary production is not feasible. Availability of transport attracts not only traders and transporters, but agricultural, animal husbandry and other extension services. This may be accompanied by market value addition from subsistence consumption through building of cold storage facilities that allow marketing of fish to major markets in Kericho and beyond.

Equally important, expected improvement in educational and social services as a result of improved access will impact educational, health and other social services, which are essential for the population to develop and benefit from the increased economic activity. On completion of the project, prices of commodities such as consumer goods and agricultural inputs are expected to reduce, since transportation costs will drop in the project area. This will have a ripple economic effect.

Negative Impacts

Land Take: Land on the right of way will be required for use of road improvements such as the earthworks, deviations, installation of storm water drains, shoulders and drainage structures. Land will be acquired for the weighbridge at Rongo and the rotary intersection at Kisii. Land will also be acquired for ancillary works such as offices, accommodation camps, material

processing and storage as well as material extraction as borrow sites and quarry sites. It is anticipated that no land take is required for the improvement of feeder roads, market facilities and the other social amenities included in the project. Impacts include: (i) Loss of assets such as fences, gates, access culverts, building structures, business structures crops and trees; (ii) Loss of livelihood occasioned by disruption of roadside businesses and kiosks.

Accidents: Currently, accidents are caused by the narrow road whereby, the smaller vehicles are bullied off the road. There is likelihood of more human and animal collisions leading to accidents along the road since, the speed of vehicles will increase without commensurate increase in the speed of crossing humans and livestock. There will be increased possibility for accidents between vehicles, and with non-motorized transport such as cyclists, pedestrians.

Impacts on Public Health: Potential public health and safety issues will be both directly and indirectly associated with the activities of the project. The direct impacts include effects of dust, noise and fumes from machinery and construction traffic, as well as noise and fumes from the expected increase in truck traffic along the road. Construction workers will be most predisposed to these direct impacts, during the construction phase. Noise and vibration during both construction and operation could have impacts on health in urban centres and the rural country.

There is likelihood of migration of commercial sex workers due to presence of construction workers during construction and stop-over from long-distance truck operators. This has indirect impacts on health and safety of the project workers including the potential for transmission of STDs and HIV-AIDS. The project zone has high HIV/AIDs prevalence.

Another impact is related to the creation of breeding grounds for water-borne diseases especially malaria which is a leading cause of mortality in the area, typhoid and bilharzias. Construction activities may create water-holding ditches and ponding, more so in the flat undrained areas of Nyando. Also, containers left lying around can hold water for days, creating breeding grounds for mosquitoes.

Climate Change Impacts: There is likely direct and indirect long term environmental and social climate change impacts due to construction and operation of the proposed project. In assessing the proposed projects contribution to climate change, it is observed that generally, road transport is viewed as one of the chief and growing GHG-emitting sectors such as CO₂. The proposed project is no exception.

During the construction phase, emission of particulates as well as NO_x and SO_x from the diesel and gasoline engines will increase due to operation of construction traffic – trucks, earthmovers, water bowsers, stone crushers, graders, vibratos among others. During the operational phase, emission of particulates as well as NO_x and SO_x from the diesel and gasoline engines on the highway will increase from the current status due to the projected growth in traffic volumes as trade between Kenya and Tanzania increases. On the other hand, the proposed project's vulnerability to climate variability and change was also assessed. Such Vulnerability includes flooding from increased precipitation in frequency and intensity and overtopping of culverts and bridges.

Impacts of Material Sourcing: Construction of the roads will have direct impacts related to excavation; quarrying and deposition of spoil material. There are four hard stone quarries identified on this project; two are existing quarry sites at Km40+300RHS (Otuchi) and Km80+500 (Nyakoe) and two sites are potential quarries at Km 27+500 (Nyabondo Plateau)

and Km42+800 RHS (Kakach). There are a total of 18 potential gravel sites that have been identified with suitable material for use in construction. Water for construction is proposed to be obtained from major rivers crossing the road e.g. River Oyani, River Sare, and River Kuja. There are also a number of tributaries running parallel to the road in some sections can contribute as water sources for construction. The sources of clean river sand include Arawo River in Sondu, Migori River and Rongo. The expected impacts of material sourcing are landscape scarring, land take; dust and safety hazard to local communities if pits are left unprotected.

Loss of Vegetation and Natural Habitats: Land clearance to obtain the required additional area to accommodate the roads carriageway widening, climbing lanes and associated road shoulders will involve uprooting vegetation which falls within the area as well as displacing topsoil. Detours to provide access to traffic during construction phase will further cause loss of habitat.

7. MITIGATION MEASURES AND COMPLIMENTARY INITIATIVES

Mitigation Measures

Mitigation for Land Take: A full Resettlement Action Plan (RAP) consistent with the AfDB Resettlement Safeguard Policies and Land and Compensation laws and regulations of the Government of Kenya has been prepared. A summary of the RAP is included as an Annex to this ESIA Summary. The compensation recommended for payment to the project affected persons shall be in accordance with the Compensation guidelines of the National Land Commission (NLC). Crops and trees on the Right of Way that may be affected by the project shall be valued and compensated prior to commencement of civil works.

The proposed mitigation measures include; (i) Consult the Project Affected Persons (PAP's) on entitlements and compensation during the RAP verification exercise; (ii) Land acquisition and compensation to be done before the contractor prior to commencement of Civil Works; (iii) Compensate those affected according to the laid down policies in collaboration with the ministry of lands and NLC. (iv) Implement an institutional structure or a mechanism for monitoring and evaluating the compensation/resettlement process.

Mitigation for Public Health Impacts: (i) Vehicles and construction plant to be maintained compliant with the manufacturer's specifications; (ii) The contractor to regularly provide and replace personal protective equipment and clothing (PPE) to construction crew; (iii) Construction activities to be scheduled carefully to minimize the impact of noise from construction machinery. Night time's uses of certain noisy machines, such as pile drivers and concrete vibrators, to be avoided. (iv) Intensify education and awareness on HIV/AIDS through staff training, community awareness campaigns along the project road; (v) Conduct sensitization and awareness campaigns for the community about Malaria and the use of mosquito nets including proper hygiene and sanitation, Proper disposal of containers and other wastes that may act as mosquito breeding grounds.

Mitigation for Accidents related to Pedestrians: To ease up crossing of roads and ensuring safety of pedestrians and other non-motorized traffic (NMT), the project will construct footbridges at 3 locations (Katito, Kisii, and Rongo) being sites selected as most appropriate and convenient. To ensure inclusive utilization of the road, all footbridges shall be provided with ramps for wheel chairs, elderly and people with disability. Raised pedestrian walkways shall be included

in the design at busy places and towns. Access roads will improve transportation flow and access to services in the area especially where there are commercial activities; in addition to separation of vehicular traffic from NMTs. The project will improve safety and security by providing sidewalks and street lighting in built-up areas. This will be both single sided and double sided as found appropriate.

Mitigation and Adaptation for Climate Impacts: Mitigation may be achieved by increasing the capacity of carbon sinks, e.g., through reforestation and/or planting trees along the road. To achieve some reduction in GHG, mostly CO₂ emissions from transportation, a special focus on transport demand management needs to be adopted that seeks to influence changes in management practices or consumer behavior. Protecting the naturally available carbon sinks like forests and trees, or creating new sinks through silviculture at sites to be identified along the roads alignment. Currently the stretch of the A1 road from Uriri to Migori and Isebania is planted with trees on both sides. Best effort should be employed to safeguard them during road rehabilitation and replant in case of damage.

Climate proofing infrastructure design measures include considering future climate data in review of the engineering designs in order to ensure adequate storm water conveyance channels, culverts and bridge openings as a direct consequence of predicted changes in rainfall patterns, increased precipitation and flooding due to climate change. In so doing, it's hoped that flooding and bridge overtopping risks are reduced to acceptable levels through long-lasting socially acceptable interventions implemented at the design stage. This was done for flood prone areas such as Ahero and Nyakach. Seek an integrated, multi-partner approach towards climate change action at the local level such as consultations with fleet operators. Encourage local action and participation from county governments, stakeholders and actors as indispensable for the realization of national climate change commitments.

Mitigation for Material Sources: Where construction materials such as gravel and stones are to be obtained from village lands, the material shall be purchased and this will be officially negotiated with villagers and/or land owner in order to avoid conflicts. The contractor may be compelled to pay a small fee. Potential long term environmental impacts of borrow pits and quarry sites relate to the way they are left once the resource has been extracted. In this case, all borrow pits and quarries shall be rehabilitated and proper landscaping done after completion of the road construction. Pits shall not be left with steep or vertical sides. The topsoil shall be stock piled for later use in reinstating the pits. Shallow slopes will encourage rapid re-vegetation thus preventing erosion as well as providing safety to animals.

Mitigation for loss of vegetation and Natural Habitat: The contractor shall seek permit from the Department of Forestry before felling of Trees; The road projects shall avoid as much as possible felling of big trees that take many years to grow. Topsoil shall be stockpiled and used for reinstating flora along the road. It is assumed that displaced fauna will return once the work is over, or seek another habitat locally. The contractor shall be instructed to give the uprooted trees/thickets in the road reserve area to the host community or any other arrangement that may seem convenient provided he does not contravene the local legislation. The budget for re-planting of the trees along the project road and selected road catchments shall be part and parcel of the project cost. The Forestry Department shall handle the replanting of trees.

Complimentary Initiatives

Tree planting program: The project has incorporated tree planting at selected locations along the road corridor. For the towns and trading centers traversed by the road, the tree planting will serve to support the Counties in the beautification initiatives. KeNHA in conjunction with the relevant county officers shall assess the locations suitable for tree planting along the corridor to serve the dual purposes of carbon sequestration and to support conservation initiatives in the counties traversed by the road. An estimated 10,000 tree seedlings shall be planted along the road and its catchment.

HIV/AIDS, STI and Malaria: Statistics show that the HIV/AIDS prevalence rates were, on average, higher than the average rates in the Country (HIV Profiles 2013). Among the interventions included in the project is the review and improvement of wellness centers at predetermined locations along the road with experience gained from the three-wellness centers that were established as part of the weighbridges project and their sustainability. KeNHA shall form a taskforce with representation from various key stakeholders and to take leadership of this taskforce for effective coordination of HIV/AIDS mainstreaming in the roads sub-sector. In turn, NACC will provide technical assistance to KeNHA by reviewing the terms of reference on the HIV component of the project road to be shared by the KeNHA team. On the other hand, the area is known to have a rare type of malaria (Highlands's malaria), which shall require special attention and awareness program.

Sensitization and orientation on gender mainstreaming: There is increasing substance abuse (growing and use of marijuana) and gender based violence in the project area. The project includes a sensitization program for the host communities with regard to gender mainstreaming and equality in all aspects including in participation of women during road construction. Part of the messages shall target such practices and seek a way, with community participation, of curbing such habits.

Road Safety Awareness and Educational Campaigns: The project road has had high incidents of road accidents partly due to the current condition of the road but also due to road user behaviors. As is evidenced elsewhere, once the road shall have been improved, over-speeding and other carelessness of drivers and pedestrians may result in high accident rates. Of importance is adequate signage especially during construction that will have to be emphasized in the traffic management plan and use of diversions and alternative routes by motorists. Pedestrians will have to be educated about the importance of crossing roads at designated crossing points and use of footbridges (where applicable) to avoid accidents. Particular sensitization programs will be for schools, local communities and motor cyclists (boda-boda).

Post-Crash Trauma Center: One of the five pillars of the Decade of Action for Road Safety (2011-2020) sponsored by the UN is post-crash care. It is in recognition that many lives are lost due to inadequate care after road accidents. In this regard, the project will include in its design establishment of a dedicated emergency unit at one of the centrally located health facilities (Nyabondo Hospital) within the zone of influence of the road. This shall be able to deal with injuries before they are referred to higher-level medical centers.

Feeder and Link Roads: The project area is rich in agriculture and other natural resources but development of these is hampered by lack of all-weather good roads. The project shall include 75km of feeder roads that will be constructed under the program. The selection criteria included: traffic utilization, population served, and number of administrative and social

facilities to be connected. The population of Lake Victoria Basin is over 4 million and up to 2 million people are directly served by the Isebania-Kisii-Ahero road and the associated feeder roads for their transport needs upon which they derive their income and livelihoods.

Training and Capacity Building for Women and Youth: In order to enhance benefits of the project to local communities especially women and youth, the project has included in its activities training of approximately 500 women and youth contractors in appropriate construction technics and business related skills. The program shall managed by the National Construction Authority (NCA) in conjunction with Government training institutions in the region. Selection criteria for participants and areas of training shall be developed by NCA in collaboration with relevant stakeholders.

Roadside markets including parking areas: The project has included construction of roadside amenities and improvements in designated parking areas for buses and light trucks. Specific sites and design of markets have been determined in consultation with local authorities who will be expected to maintain and enforce appropriate usage. It is however, imperative that the purpose for such roadside markets is to eliminate traffic congestion on the project road and reorganize flows of local vehicles vis-s-vis transit traffic; and above all eliminate selling of merchandise and produce on the carriageways.

8. RESIDUAL EFFECTS AND ENVIRONMENTAL HAZARD MANAGEMENT

Assessment has been made to the environmental and social impacts that will prevail even after applying mitigation or enhancement measures. These include GHG emissions and material sourcing sites.

GHG Emissions: Greenhouse gas emissions from vehicle exhaust systems will still be generated even after applying suggested mitigation measures. The emissions shall therefore continue to contribute to global climate change impacts. However, with adequate implementation of the tree planting mitigation measures, the impacts severity will be reduced.

Inadequate Restoration of Material Sites: Extraction of stones and gravel shall never be recovered. Moreover, physical land degradation created by establishment of borrow pits shall remain a scar spots on the entire relief. Inadequate restoration practices can further lead to emergence or intensification of diseases like malaria.

Hazard Management: Hazards and/or emergencies occurrence is inherent in any construction projects, whereas its severity normally increases with the scale of the undertaking. An emergency is a sudden unforeseen event, which may arise from natural, environmental, physical or personal unforeseen occurrences.

Emergencies which are likely to occur during the construction of the road project may cover one of the following events: (i) Worker injury at construction sites or workshops (mechanical, steel, or precast yard, carpentry), quarry, crusher plant, batch plant etc. (ii) Injuries to workers or member of the public due to collisions or run over; (iii) Fires or explosions at camp sites; (iv) Mishap spills of hazardous material such as large amount of concrete, bitumen, oil, fuel, or paint on the ground or in a river system; (v) Outbreak of pandemic diseases such as cholera, meningitis disease; (vi) Serious pollution to the water source (by hydrocarbons) which is relied on by the local people for living.

Accident and Emergency Response Plan: The Contractor shall develop an Accident and Emergency Response Plan (ERP). The ERP is a detailed program of action to control and/or to respond to hazards by minimizing the effects of emergency requiring prompt corrective measures beyond normal procedures, protecting human life, minimizing injury, optimize loss control, and reducing the exposure of physical assets and the environment from an accident. The contractor shall form an Emergency Response Team (ERT) which will report through the normal, internal management chain-of-command. Due to the diverse locations, and variety of field activities, which will be involved during construction, establishment of more than one ERT may be necessary. Under all circumstances, prompt and proper treatment of the employee injured employee or person, as well as response of hazardous spills, fires, or explosions, is of utmost importance.

Safety Training: During construction, field personnel will also be trained by the Contractor in a variety of measures to make the job site safe: (i) When and how to notify all others when actions or activities undertaken by them could affect health or safety of employees; to inform the Contractor of all injuries to workers; and who/how to report to Contractor any unsafe conditions that come to their attention. (ii) If in the course of the work an employee could be exposed to hazardous chemicals, or harmful physical agents, the location of material safety data sheets will be specified and made available for review. (iii) PPEs are expected to be worn that may include protective eyewear, gloves, hard hat, and footwear appropriate for the job site. Steel-toed footwear will be required on a project-specific basis.

9. ENVIRONMENTAL AND SOCIAL MONITORING PROGRAM

The purpose of environmental and social monitoring is to quantitatively measure the environmental effects of the road project. The environmental monitoring program will operate through the preconstruction, construction, and operation phases. It will consist of a number of activities, each with a specific purpose, key indicators, and significance criteria.

The monitoring of mitigation measures during construction will be carried out by the Contractor's Environmental Manager and Engineer's Environmental and Social Specialists. The officers will conduct mitigation monitoring as part of the regular works inspections. The weekly inspections will be undertaken by the Contractor's Environmental Manager. When available and appropriate the inspection will also be attended by Engineer's Environmental and Social Specialists, the main Contractors site management staff and their specialist advisors. A weekly Environmental Compliance Report will be produced following each inspection and will incorporate any actions identified by the client. The inspection report will summarize the status of the site's compliance, and include photographic records if appropriate.

The responsibility for mitigation monitoring during the operation phase dwell on the Environmental Section in KeNHA as the implementing agency. KeNHA will provide NEMA with reports on environmental compliance during implementation as part of their annual progress reports and annual environmental monitoring reports. Depending on the implementation status of environmentally sensitive areas of the project, NEMA will perform annual environmental reviews in which environmental concerns raised by the project will be reviewed alongside project implementation.

External Monitoring: NEMA requires that an Environmental Audit be undertaken within 12 months of commencement of the project to monitor the implementation of the ESMP.

Environmental audits shall be part of the continuous monitoring programme in order to help determine the long-term effects of adopted mitigation measures. The audits will unveil the actual performance of mitigation measures and will allow effective measures to be included in future projects. Environmental audits would be a responsibility of a NEMA registered expert contracted by KeNHA.

Table 2 presents the monitoring parameters and the location of monitoring site which will be considered for various environmental components during the project implementation phases.

Table 2: Monitoring Parameters and Monitoring Sites for various Environmental Conditions

S/ No.	Environmental Items	Monitoring Parameter / Unit	Location of Monitoring / Monitoring Sites
1	Air quality	Measurement of dusts and vehicular emissions such as SPM, etc	Close to school, hospitals and settlements
2	Surface water quality	Monitoring of PH, DO, BOD, COD, etc	Rivers crossing the road
3	Flora and Fauna	Monitoring of flora and fauna and other resources	In vicinity of construction camp
4	Traffic movement	Monitoring traffic control devices	Construction areas
5	Waste management including construction wastes	Monitoring of collection, transportation and disposal of solid waste. Inspection of waste disposal sites and construction camps.	Construction yard/labour camp
6	Health and safety	Monitoring of health and safety of workers and HIV/AIDS cases in project areas	Construction sites/labour camps along the road
7	Reporting and documentation	Regular reporting	Along the road
8	Tree re-plantation	Two tree seedlings to be planted for each tree felled	Roadside slope

10. PUBLIC CONSULTATION AND DISCLOSURE

Public and Stakeholder Consultations were carried out between 14 April 2015 to 25 April 2015 with various groups including:-

- Government officials – Representatives from the Ministry of Interior and co-ordination of government, Heads of Departments of the various other ministries whose functions are not devolved such as Education, Youth
- Impacted neighboring communities -women, elders and youth, religious groups, transporters such as bus companies, *Boda Boda* operators etc. affected through components of the natural or social environment as a consequence of various aspects of the project
- Vulnerable Groups –elderly, youth, unemployed widows, orphans and PLWD
- Employees and managers - County government representatives, Traffic Police division, business communities, Teachers,
- NGO's and conservation organizations – local NGO's and CBO representatives

Various methodologies of reaching out to the public and stakeholders were deployed. Key Informant Interviews (KII) were conducted with County Officials and Heads of departments of various Government ministries. Second Level Public Consultation forums were held in locations agreed on with the Client and in consultation with the stakeholders. Local leadership was largely relied upon to mobilize the participants.

Project information was presented in English and Kiswahili since most of the stakeholders understood both; however Kisii and Luo were sometimes used during the meetings. Special effort was made to reach vulnerable groups especially the disabled and the aged. Some of the social concerns identified during the consultations include high levels of unemployment; spread of HIV/AIDs; high accident rates due to the narrow road, involving passing and overtaking maneuvers between trailers, buses, personal cars and boda bodas; there are rampant water shortages which necessitate frequent road crossing journeys by women; congestion on the main carriageway during market days; encroachment on the road reserve; and escalation of insecurity due to high unemployment rates. The prevalent environmental concerns include heavy storms and flooding, leading to soil erosion and overtopping of drainage structures, indiscriminate solid waste disposal especially at market centres, high malaria prevalence and spread of mosquitoes due to the poorly drained flat terrain and high temperatures especially in the Kano plains.

The general recommendations advanced by the stakeholders include: (i) Compensation and valuation process and procedures be fair, timely and transparent. (ii) optimizing drainage systems along the project road to prevent flooding; (iii) Fair and equitable employment opportunities among host communities; (iv) Road Safety signage and traffic calming measures to be made available at all required locations; (v) Public utilities, especially water supply infrastructure be relocated before construction begins; (vi) Designation of the road reserve boundaries; (vii) Replacement of access culverts to residential and business premises during construction.

11. ESMP

The Environmental and Social Management Plan (ESMP) presents the implementation schedule of the proposed mitigation measures to both environmental and social impacts as well as planning for long-term monitoring activities. The ESMP also includes the associated environmental costs needed to implement the recommended mitigation measures. The engineering designs have already included some of the mitigation measures recommended in this report. Additional recommendations are provided in the ESMP to enable the proposed roads to be more environmentally friendly. The implementation steps will involve the contractor, the Resident Engineer, Project Financier, KeNHA, road users and the local communities at large.

Implementation of ESMP: The environmental and social mitigation and enhancement measures incorporated in the detailed engineering design will be attached to the Contract Documents. The Contractor shall take stock of the contents of the Environmental and Social Impact Assessment Report of the Project. The contractor will have an Environmental Expert with at least 10 years' experience in projects of similar nature. The expert will be familiar with the scientific measurement of environmental and social impacts and remedies and enhancement.

The Contractors will be supervised by a selected consulting firm (Engineer). One of the team members of the supervision team will be an Environmental Specialist who is an expert in Environmental Management issues especially of construction projects (with at least 10 years' experience in projects of similar nature). One of his tasks will be to oversee contractor implementing the mitigation measures proposed by the ESMP during construction phase. His other duties will be to assist the contractor in the implementation of the Environmental Monitoring Plan during construction period.

Construction Specific ESMP: The project specific environmental construction guidelines (also known as contractor's specific environmental management plan, CSEMP) will be developed by the contractor's environmental expert. These guidelines should specify precautions and mitigation measures for construction activities, and to be included in the CSEMP. The ESMP developed in the project ESIA will serve as a reference material to comprehend the scope of the CSEMP.

The total estimated cost of environmental and social mitigation excluding for RAP is given in Table 3.

Table 3: Estimated cost of Environmental Mitigation

	IMPACT SOURCE/MITIGATION MEASURE	MITIGATION COST (KES)
1	Air Quality impacts due to Construction and Operation	900,000.00
2	Impact on Ambient Noise Level	600,000.00
3	Water Quality Sampling and monitoring	500,000.00
4	Impacts on General Wastes – Solid, liquid and Hazardous Wastes Generation	950,000.00
5	Tree Planting	2,880,000.00
6	Landscape Change & Visual Intrusion	28,800,000.00
7	Occupational Health and Safety of construction workers (OHS)	2,900,000.00
8	Noise & excessive Vibration	3,500,000.00
9	HIV/AIDs & Communicable Diseases	14,400,000.00
10	Road Safety Awareness	5,200,000.00
11	Potential Impacts on Removal of Structure Sites	Under RAP costs
12	Potential Impacts on Service Interruption	29,000,000.00
13	ESMP Implementation and Contract Administration	28,500,000.00
	GRAND TOTAL	118,130,000.00

The total estimated cost for environmental and social management, excluding RAP cost is KES 118,130,000.

12. INSTITUTIONAL CAPACITY AND STRENGTHENING PLAN

The staff capacity for carrying out ESMP and RAP oversight and reviews of reports in KeNHA is limited. KeNHA needs a qualified, competent and well-motivated team that takes responsibility for the Environmental and Social Management System (ESMS). Senior management needs to ensure realignment of reporting duties, allocation of appropriate time and authority to carry out the work involved.

A well-balanced ESMS Team is a prerequisite for meaningful engagement with peers and colleagues. It should include knowledgeable professionals from environment, health and safety, design and construction, planning and operations, contracts and purchasing and human resources among others. Once the ESMS Team is in place, KeNHA management should appoint a team leader, an important role, especially in the beginning, who needs to set the tone for the group and keep the Environmental and Social safeguards team motivated.

13. CONCLUSION

The ESIA concludes that the project will have substantial positive environmental benefits. It will enable easier and faster access and mobility, for police and military, in areas where law enforcement has been at times a problem. The project will improve the region's and country's economy.

The adverse impacts on the physical and natural environment are mostly confined to the construction phase of the project and will be "in sum total," not significant, and can be handled through the recommended mitigation measures and monitored during project implementation. There are incremental costs required to achieve these.

Overall, the Proposed Rehabilitation of Ahero-Kisii-Isebania (A1) Road has the following benefits:

- Improvement of access to agricultural and trade centres via the feeder roads, improved access in market centres through provision of service lanes as well as markets for trade will have a multiplier effect of increased earnings and trade, lifting the living standards of the people in the region and beyond.
- There will be reduced traffic accidents and therefore less lives lost as well as less life impairment as a result of the vehicular accidents due to the widened road.
- When completed, the road is expected to contribute to economic growth in the region through increased trade and better access for the Nyanza region. It is envisaged that by rehabilitating this section of the A1 Road, trade between Kenya and the East African Countries will increase, with benefits accruing to the people of all countries, and in particular to the people who reside along the road corridor and the adjacent areas.
- There'll be overall improved access with traveling across the region taking shorter time with improved comfort.
- It is envisaged that the rehabilitation of the project road will improve accessibility to social amenities and markets, of importance is accessibility to health facilities for the disadvantaged in the local community especially women, through the feeder roads paving.
- Improved access to better health care in less time will lead to decreased mortality rates. This coupled with improved access to vaccination services will help lower mortality rates in the region and beyond.
- Employment and skills transfer/improvement opportunities will be created for the local population; this will improve the general socio-economic wellbeing of the community

RESETTLEMENT ACTION PLAN SUMMARY

Project Title:	Isebania – Kisii – Ahero Road Rehabilitation Project		
Project Number:	P-KE-DB0-023		
Country:	Kenya	Department:	OITC
Division:	OITC.2	Project Category:	1

1. Description of the project, project area and area of influence

Kenya National Highways Authority (KeNHA), with assistance from the African Development Bank (AfDB) intends to rehabilitate the Ahero-Kisii-Isebania Road. This is an existing A1 road corridor with about 5.5m of carriageway without shoulders. This is too narrow and makes it prone to traffic congestion at major urban centers and road accidents. The project will involve reconstruction of the section between Ahero and Mukuyu (149 Km), and Rehabilitation of the Mukuyu-Isebania Section of the main A1 corridor. Thus, the proposed design intends to increase the carriageway to 7m with 2m shoulders on either sides of the road. Junctions, accesses, service lanes and climbing lanes are also included. The road is approximately 167 km of Class-A road that runs from Ahero (where it intersects Kericho-Kisumu B1 Road) through Kisii Town to the border town of Isebania. It traverses various town centers namely, Katito, Sondu, Ringa, Oyugis, Mosochi, Nyakoe, Gesonso, Suneka, Nyachenge, Rongo, Awendo, Uriri, Migori, Suba Kuria and Isebania. Administratively, the road mainly traverses four counties namely, Kisumu, Homabay, Kisii and Migori. However, it is also noted that a small strip of Kericho County is also affected at the transition between Homa Bay and Kisumu Counties.

2. Potential impacts

The proposed project will have diverse positive and negative impacts on the local community. Some of the project components that will elicit resettlement include:

- Expansion of the A1 corridor –recovery of the 36.6 m of the existing road reserve. Persons encroaching on this reserve will have to step back into their compounds.
- Opening of the Oyugis and Kisii Bypasses, although designed to run within existing road corridors, the corridors will need to be expanded and this will elicit resettlement of populations along the desired areas.
- Relocation and Expansion of the Rongo Weighbridge where more land will be needed to increase the capacity of the weighbridge thus triggering resettlement.
- Ancillary operations – including establishment of site offices, camps, spoil areas, material sites and other auxiliary construction accessories.

In order to minimize resettlement, the right of way (RoW) considered for this project is limited to 36.6 m. The potential impacts of the project will thus include:

- Loss of buildings and other structures
- Loss of Trees and Crops
- Loss of businesses/livelihoods
- Loss of fences and gates
- Impact on vulnerable sub-groups such as widows, orphans and elderly people in the society.

The table below summarises the types and number of affected persons, inclusive:

<i>S/N.</i>	<i>Type of Asset</i>	<i>No. of PAPs</i>
1.	Structures (semi- and permanent)	2,579
2.	Structures (temporary)	1,083
3.	Other structures (wells, tanks, etc.)	1,542
4.	Fences and gates	3,540
5.	Trees and crops	3,773
6.	Livelihoods	2,479
7.	Other (wells, animal sheds, etc.)	131

*Not recommendable to add the numbers to avoid double counting

Following the census that was done along the RoW, there were 6,126 project affected households out of which 249 were institutions mainly fences and gates for schools and health facilities.

With regard to the vulnerable PAPs, there are four criteria that have been used to identify the vulnerable: those who are chronically ill, the elderly (above 55 years old), widows and children who are heading households. Among them are, in aggregate, 828 widows, 223 orphans, and 199 elderly.

3. Organisational responsibility

The following organizational responsibilities are proposed for the RAP implementation.

Ministry of Infrastructure and Transport: The Ministry is responsible for the roads sector and is responsible for procuring resources from the National Treasury for the overall project. The Ministry is also responsible for harmonizing the resettlement with other government policies on the same subject.

The National Land Commission: The Commission is responsible for compulsory land acquisition and payment of the compensation money to the affected persons.

County Government: The County is responsible for ensuring that the plan is acceptable to the local residents as it supplements the County's capital programs. The County government is also responsible for regulating trade and providing markets within its area of jurisdiction.

The local CBOs and other Civil Society: Their responsibility is to ensure that the resettlement plan is implemented as suggested and in the event of any departure or change in circumstances, the project-affected persons are not adversely affected. The group will also have a role to sensitize the people and empower them to realize maximum benefits from the project. They will be involved in the training and counseling of the project affected persons.

The office of the County Commissioner: The office particularly at the location level is best suited to mobilize the people as it has grass-root networks. It has the clout to chair meetings and settle disputes as it commands the general public support. The Chief knows all the residents of his area and has the advantage to give reliable information on various aspects of the plan for efficient implementation.

4. Community participation

- Community participation in the RAP process was conducted at three levels namely, socio-economic survey of affected communities; interviews with key informants; and general public participation forums. The general Public Consultations were organized through the county administration and chiefs' offices whose mandate is interior and coordination, relevant to the central government. The invitations covered the broad spectrum of community members likely to be affected by the project within the road's

corridor of influence. These included project affected persons, Heads of Departments, Representatives of Youth and women, Representatives from religious institutions, Village Elders, CBO's representatives, NGO's representatives, Representatives from county governments.

The stakeholder engagement plan was as follows:

Level of Public Consultation	Number of Persons/Contacts	Key Resettlement Issues Discussed
Socio-economic study	6127	See Chapter 6
Key Informant Interviews	30	Compensation Land ownership Compensating people with property on road reserve and issues of impunity Land adjudication Compensating people without titles Clarification of road reserve Encroachment onto the road reserve Compensation of institutions Eligibility criteria for compensation
2nd Level Public Participation Fora	10 (meetings, 5 on either sides of the project road from Kisii)	Date and value of Compensation Land ownership Compensating people with property on road Women and issues of land ownership Encroachment on road reserve and issues of impunity Land adjudication Compensating people without titles Clarification of road reserve Encroachment onto the road reserve Compensation of institutions Eligibility criteria for compensation

5. Integration with host communities

The nature of resettlement occasioned by the proposed rehabilitation of the A1 corridor, which is linear, does not involve complete relocation of affected persons from one geographical location to another. Instead, affected persons will be required to step-back within their compounds. Thus, the issue of host communities did not arise.

6. Socio-economic studies

A census enumeration and socio-economic studies were conducted among the affected communities. The following are among the major objectives of the surveys:

- To understand the scale and nature of project impacts on local communities,
- To identify PAPs and map out their social and economic characteristics,
- To establish institutional arrangements for the implementation of the Resettlement Action Plan (RAP) activities,
- To obtain information needed for entitlement and compensation payments for lost assets, and;

- To generate baseline data for monitoring and evaluation of livelihoods and income restoration and other sustainable development components.

Key findings of the socio-economic studies were as summarised below:

<i>Issue Investigated</i>	<i>Finding</i>	<i>Inference</i>
Sex of Household Heads (HH)	42% Males: 18% Females	Traditional family structures still upheld Gender issues in compensation of women in male-headed households to be considered
Male: Female Ratio of affected population	48% Male 52% Female	Consider females in compensation for losses
Marital Status of HH	81% Married 12% Widowed 4% Unmarried	Special support for widows Marriage still highly regarded
Literacy	89% Literate 11% Illiterate	Highly educated society
Occupation	33% Crop Farming 10% Livestock farming 30% Business	Expect a lot of agricultural PAPs Resettlement to have adverse impact on livelihood
Land Tenure	Individual & Family land Most land adjudicated Most people/sons have no titles	Expect land disputes and provide an appropriate measure for redress.
Income	36% < 1500/= 21% > 45000/= 30% 15000-30000/=	Poverty levels are still high Need for proper income restoration and social development of PAPs
Religion	98% Christians 2% Islam & Others	

The PAPs identified by county were as follows:-

No.	Road Section	County	HOUSE HOLDHEADED BY				Total PAHs
			Female	Male	Institution	Unknown	
1	Kisii-Ahero	Kisii	81	296	38	345	760
		Homabay	115	345	47	553	1,060
		Kisumu	61	125	20	161	367
		Sub-Totals	257	766	105	1,059	2,187
3	Kisii-Isebania	Kisii	203	802	40	427	1,472
		Migori	466	1,316	104	581	2,467
		Sub-Totals	669	2,118	144	1,008	3,939
TOTALS			926	2,884	249	2,067	6,126

7. Legal framework, including mechanisms for conflict resolution and appeal

National laws related to resettlement reviewed include the following:

The Constitution of Kenya: The Constitution of Kenya, 2010, protects the sanctity of private property rights and states that the Government except in accordance with law can compulsorily acquire no property. It further empowers the state to exercise the authority of compulsory acquisition. Land Act 2012 (LA) designates the National Land Commission (NLC) to compulsorily acquire land. Article 40 of the Constitution provides that the state may deprive owners of property only if the deprivation is "for a public purpose or in the public interest," which includes public buildings, roads, and way leaves, drainage, irrigation canals among others.

National Land Policy, 2007: The National Land Policy (“NLP” or “Policy”) was adopted in August 2009 with the aim of providing an overall framework for new legislation and defining key measures required to address critical issues such as land administration, access to land, land use, and restitution related to historical injustices and an out-dated legal framework

Land Act, 2012: This act recognizes three main types of land tenure system in Kenya: Freehold, Leasehold, and Customary. Section 9 states that; ‘Any land may be converted from one category to another in accordance with the provisions of this Act or any other written law’. It further provides forms through which it can be converted including, compulsory acquisition, reversion of leasehold interest to Government after the expiry of a lease; and transfer or Surrender. Sub section 2 states that conversion can be undertaken subject to public needs or interest.

National Land Commission Act, 2012: This is an Act of Parliament enacted to make further provision as to the functions and powers of the National Land Commission, qualifications and procedures for appointments to the Commission; to give effect to the objects and principles of devolved government in land management and administration, and for connected purposes.

Land Registration Act, 2012: The Land Registration Act, 2012 is an Act of Parliament to revise, consolidate and rationalize the registration of titles to land, to give effect to the principles and objects of devolved government in land registration, and for connected purposes. This Act repeals: The Indian Transfer of Property Act 1882, The Government Lands Act, (Cap 280), The Registration of Titles Act, (Cap 281), The Land Titles Act, (Cap 282) and The Registered Land Act (Cap 300).

Valuers Act: The valuation practice in Kenya is governed by the Valuers Act Cap 532, which provides for a Valuers Registration Board that regulates the activities and conduct of registered valuers.

Applicable AfDB Policies

*Involuntary Resettlement Policy, 2003

*AfDB Integrated Safeguard Standards, 2013 – Operational Safeguard (OS 2) on Involuntary Resettlement

* AfDB Gender Policy and Handbook on Stakeholders Consultations and participation on AfDB Funded Projects

Comparison and identification of gaps between Kenya and AfDB policies

The following table summarizes the gaps identified between Kenyan and AfDB legal framework and recommendations for bridging such gaps.

<i>Kenya Law</i>	<i>AfDB Policy Guidelines</i>	<i>Comparison/Gaps</i>	<i>Recommendation to bridge gap</i>
Compensation for land and developments acquired for public purpose is paid for at the prevailing market price and in monetary form including an element for disturbance except where the beneficiary opts for alternative land equivalent to the value ascertained	The policy recommends payment for compensation be land-for-land or at replacement cost	Payment of compensation in monetary form instead of in kind	Due to lack of suitable land to exchange, payment to be in cash including the disturbance allowance

Grievance redress mechanism is not adequately provided for	The mechanism is fully documented and the procedures laid down	The process of handling disputes on compensation have been legalistic, lengthy and formal	Need to create more awareness and fast tract the dispute resolution mechanism recently introduced by the judiciary
--	--	---	--

8. Grievance Redress Mechanism

The implementation of involuntary resettlement is a complex process with potential for conflicts, disagreements and grievances on the part of PAPs and other stakeholders, mainly because it involves the expropriation and compensation of land and other assets, the demolition of houses and the relocation of families, etc. The grievance mechanism provides affected parties with a mechanism to express any issues and problems that they may have with the compensation and resettlement process for the Project in a way, which is free of cost and without retribution. Aggrieved parties will also have ultimate recourse to the courts in accordance with the provisions of Kenyan law.

In the context of the Project, grievances could arise from:

1. Misidentification of owner/occupier of eligible property and assets;
2. Errors in asset assessments;
3. Disputes over plot limits, either between the affected person and the Project, or between two neighbors
4. Complaints about entitlement policy of the project;
5. Disagreement of asset valuation;
6. Disagreement on entitlement and ownership;
7. Disputed ownership of businesses (for example if the owner and the operator are different persons
8. Discontent over time and manner of compensation.

Aggrieved people will have the opportunity to submit their grievances at the village level. This setting provides maximum accessibility to the grievance mechanism for all affected people and the possibility to resolve grievances in a practical and direct manner. Local resettlement committees/village leaders as members of the resettlement committees will record grievances in oral or written form. It is expected that a large part of grievances can be resolved directly through explanation and information to the claimant. Three layers will be recognized as part of the process.

The first tier of contact will be the village level grievance redress committee that will include:

- (i) One Village Elder from affected village
- (ii) Chief and Assistant Chief of Area
- (iii) County Ward Administrator
- (iv) Youth representative
- (v) Women representative
- (vi) Vulnerable group representative

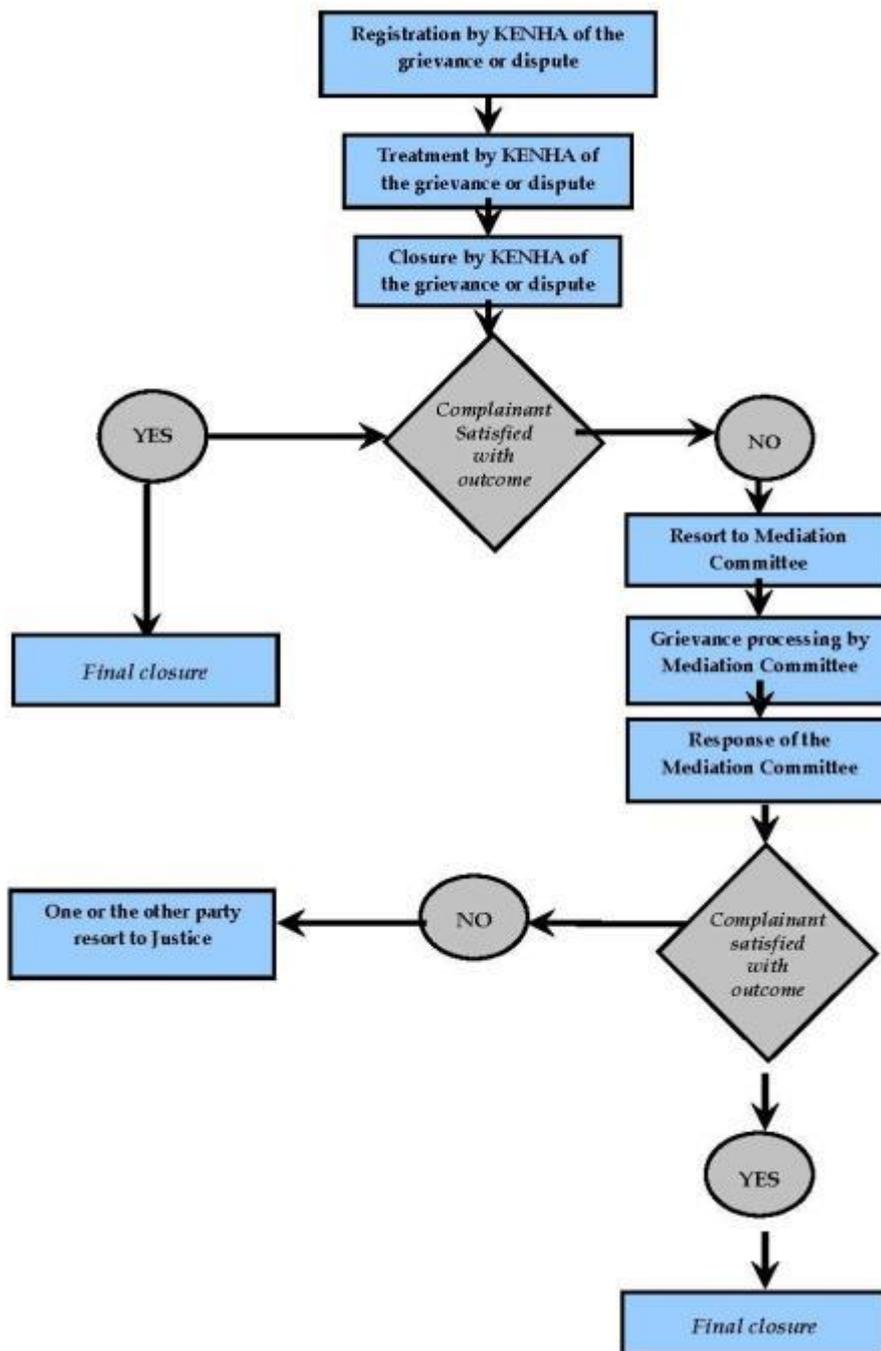
The second tier of grievance management shall be based on a Mediation Committee established at sub County level, which will include:

- *One representative of the Administration - National Government
- *One representative of Sub County Administration - County Government
- *Sub County Land Officer

- *One representative of the KENHA, acting as an observer;
- *One representative of the construction contractor, acting as an observer
- *Three representatives of the affected people, amongst them at least one woman, chosen i.e. from community based organizations, elders, customary authorities.

The third and last tier would be the Court of Law, which unfortunately would take time to resolve the matter. This would arise in case this mechanism will fail to amicably reach an agreement. The complainant or the defendant can resort to Justice.

The Figure below provides an overview on the grievance management mechanism.



9. Institutional framework

The Kenya National Highways Authority (KeNHA) is expected to institute the RAP process prior to commencement of the project. The Commissioner for Lands in collaboration with the District Land Boards, and Land Tribunal will closely participate in the verification process and ensure timely execution of compensation and resettlement. The verification process will confirm the socio-economic characteristics of all project affected persons, valuation of assets to be compensated and preparation of an updated list of the PAPs at the time KeNHA will start project implementation. KeNHA will ensure that all relevant instruments are out in place, which shall include RAP Implementation Committee; Local RAP Implementation Committee; Responsibilities of Local RAP Implementation Committees; PAP Committees; and Responsibilities of KeNHA itself. The following is a summary of the set-up.

<i>Committee</i>	<i>Committee Member</i>	<i>Committee Composition</i>	<i>Responsibility</i>
KeNHA RAP Implementation Committee	KeNHA Resettlement Unit (KRU)	Officers from KeNHA with various Key Disciplines	Oversee the RAP Implementation Process
Local RAP Implementation Committee	Local RAP Implementation Committee (RIC)	Government representatives - Lands, Housing, Agriculture, NEMA, local Administrators & Community leaders, PAP representatives (by gender)	Ensure a timely execution of the whole process and further clarifies the role of PAPs and their responsibility in the entire resettlement process
PAP Committee	PAP Committee	Representatives chosen by the PAPs	Represent the PAPs & attend meetings to negotiate with KRU on behalf of KeNHA on issues related to compensation, resettlement & livelihood restoration

10. Eligibility

Project Affected Person (PAP) will be any entity (person, household or institution) that will lose privately owned land and/or property as a result of the proposed project and is therefore legally entitled to compensation as long as were enumerated during the census whose cut-off date was 30 April 2015.

Eligibility Criteria for different types of losses

Land – A person is eligible for compensation for loss of land if and only if the proposed project affects his/her privately-owned land. In cases where individuals/institutions have encroached onto the road reserve, such persons are not eligible for land compensation even if they have put up property on the encroached reserve. The study identified that there will be no loss of land triggered by the proposed project.

Permanent/Immovable Building Structures – A person is only eligible for compensation for loss of permanent/immovable building structures occasioned by the proposed project. This applies whether the land on which the building stands is privately owned or is an encroached road reserve. The study identified the following loss of permanent structures triggered by the proposed project.

		PAPS by Loss of Structures				
Road Section	County	Permanent	S/Permanent	Temporary	Others	Total PAPS
Kisii-Ahero	Kisii	155	91	216	43	505
	Homabay	109	63	300	18	490
	Kisumu	33	37	145	6	221
	Sub-Totals	297	191	661	67	1,216
Kisii-Isebania	Kisii	281	185	318	894	1,678
	Migori	309	1,316	104	581	2,310
	Sub-Totals	590	1,501	422	1,475	3,988
TOTALS		887	1,692	1,083	1,542	5,204

Temporary/Movable Structures - Those with temporary structures are not eligible for compensation for loss of the structures. Instead, such persons will be given notices to relocate the structures. They will only be eligible for disturbance costs if the structures are used for livelihood purposes.

Other Structures

These were identified as wells, water tanks, access culverts, manholes and septic tanks and animal sheds. The study identified the following loss of other structures triggered by the proposed project.

No.	Road Section	County	Total Wells PAPS
1	Kisii-Ahero	Kisii	21
		Homabay	6
		Kisumu	2
		Sub-Totals	29
3	Kisii-Isebania	Kisii	81
		Migori	21
		Sub-Totals	102
TOTALS			131

Fences and Gates

These were identified as live fences, permanent fences, barbed wire fences, chain link fences and all types of gates. The study identified the following loss of fences and gates triggered by the proposed project.

		Types Of Fences & Gates					
Road Section	County	Live Fence	Permanent	Barbed Wire	Corrugated Iron & Chain Link	Gates	Total PAPs
Kisii-Ahero	Kisii	173	58	68	28	82	409
	Homabay	109	14	95	11	27	256
	Kisumu	60	4	48	6	18	136
	Sub-Totals	342	76	211	45	127	801
Kisii-Isebania	Kisii	397	77	119	53	710	1,356
	Migori	238	32	118	26	969	1383
	Sub-Totals	635	109	237	79	1679	2739
TOTALS		977	185	448	123	1	1806

Trees & Crops

These were identified as indigenous commercial, fruit, and medicinal trees and all types of crops. All persons losing trees or crops as a result of the proposed project will be given notice to cut them and not to plant on the road reserve the next season. The study identified the loss of trees and crops triggered by the proposed project as follows:-

		Types Of Trees & Crops					
Road Section	County	Indigenous	Commercial	Fruit	Medicinal	Crops	Total PAPs
Kisii-Ahero	Kisii	28	143	64	8	169	412
	Homabay	94	386	52	11	87	630
	Kisumu	30	55	14	2	27	128
	Sub-Totals	152	584		21	283	1,170
Kisii-Isebania	Kisii	94	291	258	38	530	1,211
	Migori	170	443	133	39	607	1,392
	Sub-Totals	264	734		77	1,137	2,603
TOTALS		416	1,318		98	1,420	3,773

Livelihoods

These were identified as roadside livelihoods within residences – Persons with residential-based business kiosks will issued with notices to step backward within their residences. Also all roadside kiosks refer to other roadside traders will be moved to the planned market areas (marked for improvement in this project) or other nearby markets. These include grocery stalls, food kiosks, hotels, retail & hardware shops, hair and beauty shops – salons, welding & carpentry shops, auto spare shops and garages, among others. Such persons will only be eligible for replacement of livelihood lost during the transition period. The study identified the following livelihood losses triggered by the proposed project.

No.	Road Section	County	Total Businesses (No)
1	Kisii-Ahero	Kisii	230
		Homabay	261
		Kisumu	148

		Sub-Totals	639
2	Kisii-Isebania	Kisii	560
		Migori	1,280
		Sub-Totals	1,840

Loss due to Involuntary Disturbance

The following categories of project affected persons will be eligible for disturbance allowance:

- All persons losing business structures as a result of the proposed project
- All persons losing livelihoods (whose livelihood is disturbed) as a result of the proposed project.

11. Valuation of, and compensation for losses

The RAP has outlined the methodology used for valuing losses and the proposed types of and compensation regimes to be applied. Where applicable, as described in the eligibility criteria, losses recommended for replacement were valued at full replacement cost of the lost assets. This is in line with the AfDB Integrated Safeguard Systems Operation Safeguard 2 on Involuntary Resettlement, Land Acquisition, Population Displacement 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 buildings and structures, adopted in the RAP is the replacement cost approach. This involved determining the present utility value of all affected buildings and structures, excluding the cost of land (since all affected buildings and structures fell within the road reserve). The replacement cost of the building was then taken as the equivalent value of constructing a substitute building/structure of equal utility as the lost one. A total of 887 immovable building structures were identified. The resulting value of compensation for these building structures is Ksh. 1,013,048,950.50.

Valuation of gates and fences was based on the classification as Live Fence (fence comprising fully or partly some vegetation); permanent fence (including wall fences and barbed wire fence); corrugated iron sheet fences; and electric fences. The compensation rates were computed per unit area of fences based on possible cost of replacement of the fences. According to the study, a total of 1734 fences will be lost during the project valued at K.Shs. 87,952,602.77 inclusive of gates value.

Valuation of loss of trees and crops was on the basis of their types i.e. whether annual or perennial. For annual crops, compensation values are computed following the criteria below:

- The proportion of area harvested, along with the area covered by each crop types, is taken into account.
- Yield per unit area of land is set for each crops.
- Total crop production is calculated by multiplying yield per unit of land obtained and the area of land cropped by each crop types.
- Value of crops is computed by multiplying the total crop production by the current prices taken as a basis for valuation. The retail prices of crops, and other required outputs were also collected and reviewed from the weekly market of close major towns considered to be terminal markets.

Only under unforeseen situations during implementation shall the above apply, otherwise the general approach in this RAP is that all tree owners shall be issued with notices to cut them since all the trees and crops affected fall within the road reserve. Similarly, crop owners should be notified to harvest their crops and not to plant in the next season. Hence the tree and crops were not valued all their quantities were enumerated.

Valuation of loss of livelihood and businesses that range from small-case businesses in stalls/kiosks to large-scale business establishments shall be compensated. Business/Livelihood valuation was based on the amount of average income from each business per month. The livelihood PAPs were considered for one-month earnings equivalent as compensation with a total value of loss of Ksh 38,943,250.00.

Valuation of Disturbance is taken as a percentage of the cost of all other items lost by a PAP which is considered adequate to cater for their disturbance as a result of involuntary resettlement. The disturbance allowance was valued at 15% of the total cost of lost property. This sets the total value of disturbance at K.Shs. 113,940,000.00.

Valuation of other structures such as water tanks and animal sheds was not carried out. This was due to the understanding that the types of these assets are movable and shall be relocated. The disturbance allowance shall cater for this activity. Owners will be notified to move them as such they were not valued. However, immovable structures such as water wells will be reconstructed by the project.

12. Implementation schedules

Time scale for the resettlement process is estimated to last for the duration of the project; and commences earlier following the completion of design period and public consultations. This takes into account important variables such as creation of awareness on the potential impacts and resolution of conflicts / grievance and cash flow from GoK/KeNHA. Time schedule and summary of activities is presented in Chart below.

Indicative Resettlement Action Plan Implementation Schedule

	RAP Implementation Component	Time Schedule - Months																					
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18				
1	Land Recovery (Road Reserve)					9 Months																	
2	Relocation of Buildings, Other structures, fences and gates.					9 Months																	
3	Trees & Crops							6 Months															
4	Restoration of livelihood/businesses							3 months															
5	Working Group / Task Team Set-up																						
6	Road Reserve Confirmation Survey and & Installation of Beacons																						
10	Clearance of Road Reserve (Demolition)																						

The responsibility of ensuring the resettlement plan is implemented rests with KeNHA through the Resettlement Committee and its sub-committees. The KeNHA mandate does not expire with the end of construction, but goes into monitoring the effects on PAPs livelihood.

13. Costs and budget

The overall cost for implementing the RAP is K.Shs. 1,517,200,611.96 of which K.Shs. 125,388,480.33 is earmarked for RAP implementation and monitoring. The bulk of this cost is the full replacement costs of immovable permanent structures within the road reserve for which demolition is triggered. The RAP costs are expected to be met by Government through KeNHA and hence be budgeted for accordingly.

RAP Asset Entitlement

<i>Lost Assets</i>	<i>Entitlement (K.Shs)</i>
Immovable Buildings & Structures	1,013,048,950.50
Fences	87,952,602.77
Businesses/Livelihood	38,943,250.00
Disturbance	113,940,000.00
TOTAL	1,253,884,803.27

RAP Implementation Budget

Designation	Amount (Ksh)
Total Cost of Compensation/Entitlement	1,253,884,803.27
RAP administration & Monitoring Cost (10% of Entitlement cost)	125,388,480.33
Allowance for Inflation and Contingencies (10%)	137,927,328.36
TOTAL RAP Implementation Budget	1,517,200,611.96

14. Monitoring and evaluation

The main type of monitoring to be adopted for the purpose of the RAP will be internal performance monitoring (IPM). Accordingly the implementing agency and the main units and institutions charged with the implementation of the RAP will undertake continuous and systematic IPM of the RAP. The general approach for internal monitoring will include the following:

- Maintain and regularly update a database for each household with baseline socioeconomic data, inventory of loss data, values of losses, registration of property and assets, entitlements due, compensation paid, resettlement entitlements delivered, and rehabilitation measures delivered;
- Maintain and regularly update a database of all grievances made by affected people;
- Monitor the use entitlements by affected people;
- Monitor the development, delivery and impact of the livelihood programs;
- All data will be disaggregated by gender and ethnicity. The internal monitoring database shall be made available to the independent institution/body.

IPM applies to all components and activities and will last through out the period of implementation of the RAP. The following are some of the key indicators to be monitored:

- Disbursement of compensation for different types of assets
- Disbursement of relocation/transfer assistance and special assistance for vulnerable groups;
- Effectiveness and timing of public participation and consultation activities.
- Land acquisition against targets and vis-à-vis construction activities;
- Sufficiency and effectiveness of the assistance provided to vulnerable groups;
- The number and types of community and social development projects initiated and effectiveness of these projects;
- The number and types of grievances lodged by PAPs and the related responses and decisions on them;
- The number and types of income restoration projects and activities initiated and effectiveness of these projects; and
- The problems and challenges faced in the process of implementation of the above mentioned and other resettlement activities.

An external evaluation of the RAP will be undertaken at the end of implementation. The terminal or completion evaluation will be undertaken by an external agency, preferably an independent national or international consultant. The terminal external evaluation will be general and comprehensive in nature in that its main purpose is to assess the outcomes and effects of the RAP in relation to the objectives and aims. Accordingly, the focus of the evaluation will be on the impact of the project on PAPs and the outcomes of the mitigation, income restoration, and social development programs and projects on the income, livelihood and well-being of PAPs and local communities in the project affected areas. In addition to the external evaluation will be RAP progress reviews; and a RAP Implementation Completion Report.
