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**PROJECT: TIMBOROA – ELDORET ROAD  
REHABILITATION**

**COUNTRY: KENYA**

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**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT  
SUMMARY**

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# **ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)**

## **SUMMARY**

**Project Name:** Timboroa – Eldoret Road Rehabilitation  
**Country:** Kenya  
**Project Number:** P-KE-DBO-019

### **1. Introduction**

The Timboroa – Eldoret Road was identified for improvement as part of the European Union’s Northern Corridor Backlog Maintenance and Rehabilitation Programme. The project road is 73 km in length, and is located in Rift Valley Province. It begins at Timboroa Primary School, continues in a north westerly direction, passing through the trading centres of Timboroa, Nabkoi, Kondoo, Burnt Forest, Cheptiret and finally Eldoret Municipality, before ending about 1 km north of the Municipality boundary at Maile Nne. The road is part of the A104, which in turn is part of the Northern Corridor.

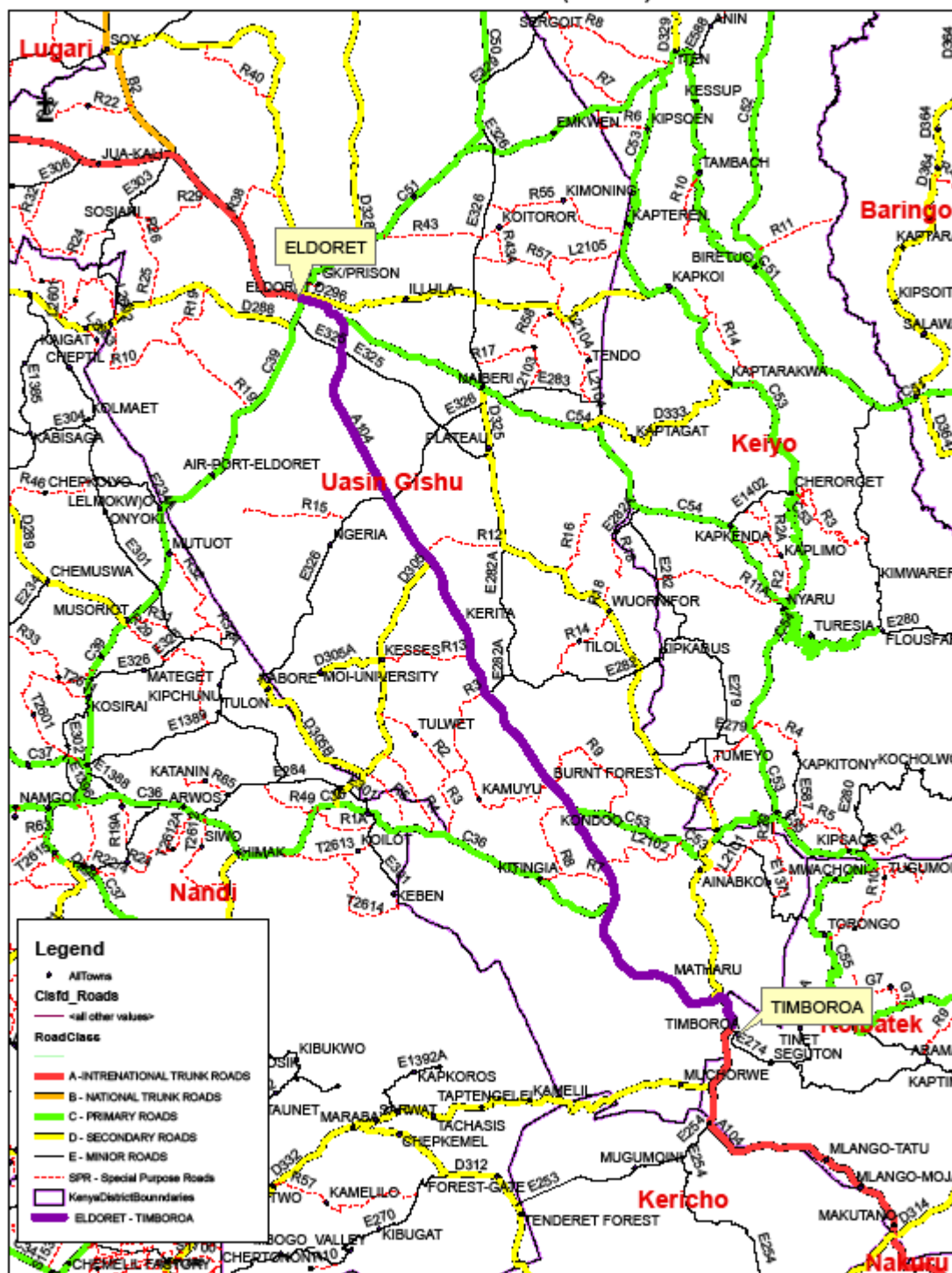
The size and characteristics of the project road have necessitated a full Environmental and Social Impact Assessment (ESIA) to be conducted. In conformity with the AfDB’s policies on disclosure, an Executive Summary ESIA has to be prepared and posted on its website and disseminated to the Public Information Center and the AfDB’s field office in Nairobi, Kenya. This summary, therefore, presents the assessment of the road beginning with the Project Description and Justification; Policy, Legal and Administrative Framework; Description of Project Environment; Project Alternatives; Potential Impacts and Mitigation/Enhancement Measures; Environmental and Social Monitoring and Management; Monitoring Program; Public Consultations and Disclosure; Complementary Initiatives; Conclusion; References and Contacts.

### **2. Project Justification and Description**

The road is part of the major highway linking the port of Mombasa to Uganda, the landlocked countries of Rwanda and Burundi, as well as eastern DRC and southern Sudan. Consequently it is heavily trafficked, with some 4000 vehicles plying it per day, of which more than one third comprises freight. The adjoining sections of the road that is from Mombasa to Nairobi, Nairobi to Nakuru, and Nakuru (Njoro Turnoff) to Timboroa have been either recently rehabilitated, or substantially completed. The Eldoret – Webuye – Malaba Road is also under consideration for rehabilitation by the EU. Thus the Timboroa-Eldoret section of the Northern Corridor Route is the only section within Kenya that will not have been rehabilitated. (see map below).

Currently the first 25 km of the road is in very poor physical condition, with severe wheel path rutting and eroded shoulders, and the remaining 48 km requires improvement in

# ELDORET - TIMBOROA (A104) ROAD



structural and riding quality. The present condition of the road is associated with significant loss of economic time, heavy fuel consumption (contributing to air emissions) as well as social inconveniences.

Therefore the main objective of the project is to rehabilitate the Timboroa - Eldoret section of the A104, with respect to pavement adequacy, drainage, road safety and environmental and social considerations, for a design period of 15 years.

The design has been based on rehabilitating the existing road, following the existing alignment. This will entail reconstruction and overlay for the different sections of the road. The specifications of 7 m carriageway width and 2 m surfaced-dressed shoulders on each side will be retained. No realignments are necessary, and where minor improvements to the horizontal alignment are required, these will be contained within the road reserve. According to the Ministry of Public Works and Housing (MOPWH) Design Standards, the desirable road reserve is set at 60 m, but can be reduced to 40 m. Provision has been made for maintenance of existing bridges, improvement of drainage structures, and accommodation for stormwater flow in Eldoret Municipality, road safety devices, and truck lay-bys.

### **3. Policy, Legal and Administrative Framework**

The Government of Kenya's Policy on Road Transport is to provide efficient and reliable road network to spur social, economic and security improvement.

Kenya's National Environment Action Plan process culminated in the formulation of the policy on Environment and Development under Sessional Paper No. 6 of 1999. This policy presents broad categories of development issues that require a sustainable approach. Its main objectives are to ensure that environmental considerations are taken into account in all development policies, programs and projects, and that independent EIA reports are prepared for projects before implementation.

The main piece of legislation governing environmental management in Kenya is the Environmental Management and Co-ordination Act (EMCA) of 1999. The main objective of this Act is to provide for the establishment of an appropriate legal and institutional framework of the management of the environment in Kenya, including the establishment of a National Environment Management Authority (NEMA), which became operational in July 2002. NEMA has the statutory mandate to coordinate all environmental activities. The Act makes environmental impact assessment mandatory for activities specified in its Second Schedule, including the rehabilitation of major roads. The Environmental (Impact Assessment and Audit) Regulations, 2003, provide the basis for procedures for carrying out Environmental Impact Assessments (EIAs) and Environmental Audits. Several other

regulations have been issued which have relevance to this project, including the Environmental Management and Co-ordination (Waste Management) Regulations, 2006 and the Environmental Management and Coordination (Water Quality) Regulations, 2006.

Other legal instruments applicable to environmental and social management with respect to this road project include:

- Workmen's Injury Benefits, 2007;
- Occupational Safety and Health Act, 2007 (which incorporates Rules for Building Operations and Works of Engineering Construction; Health & Safety Committees; Noise Prevention and Control; Fire Risk Reduction);
- Water Act, 2002;
- Energy Act, 2006 (which has rules to address storage, handling and transport of petroleum);
- Traffic Act, Cap. 403;
- Public Health Act, Cap 242;
- Wayleaves Act, Cap 292;
- Land Acquisition Act, Cap 295;
- Public Roads and Roads of Access Act, Cap 399;
- Chief's Authority Act, Cap.128.

The ESIA has also been guided by, among others, NEMA's draft EIA Guidelines (November 2002), and the AfDB's Integrated Environmental and Social Assessment Guidelines (October 2003).

The National Environment Management Authority has the overall responsibility for approval of environmental assessment studies, enforcement and compliance as well as monitoring. The Provincial and District Environment Officers represent NEMA at provincial and district levels, and are required to inspect and monitor all activities that may have environmental impacts, and to investigate any complaints and claims that the public may have with regard to environmental issues caused by any project or activity.

An environmental and social section has recently been set up within the Planning and Environment Department of KeNHA. This unit is responsible for overseeing management of environment and the preparation / implementation of environmental management plans for all highway projects in the country.

## 4. Description of the Project Environment

### ***Environmental Setting***

The project road traverses two major physical features: the undulating Tinderet Highlands that extend from Timboroa to Burnt Forest and the Uasin Gishu Plateau that stretches from Burnt Forest to the end of the road and beyond. Within the Tinderet Highlands, the altitude along the road drops from 2,750 m asl to 2,440 m asl, after which the road traverses through rolling terrain in the Uasin Gishu Plateau, where altitude ranges from 2,440 m asl to 1,990 m asl.

The climate of the project area is largely influenced by altitude. Temperatures range from an average maximum of 26°C to an average minimum of 8°C during the wetter months of July and August. Mean annual rainfall is between 995 and 1,340 mm in the project area. Rainfall is well distributed throughout the year, peaking in July and August.

The geology of the Tinderet Highlands originates from ancient basement systems that were overlain with more recent volcanic flows. The rock in the area is predominantly agglomerates and phonolites. The Uasin Gishu Plateau was formed by the slow cooling volcanic flows over the original basement system, and as a result in phonolites, pyroclasts, tuffs and volcanic rock outcrops are found within the Plateau area.

Soils between in the Tinderet Highlands are predominantly nitisols, rich in organic matter and friable, and therefore susceptible to erosion. Then road then goes through an area with predominantly poorly drained gleysols till just past Cheptiret. Thereafter, until just before Eldoret, the main soil type is ferrasols – well drained, reddish brown soils. As the road approaches Eldoret town, the soils become shallow excessively-drained leptosols, these being impervious, hard and stable.

The project area lies within the Lake Victoria Drainage Basin, and therefore the major rivers flow westwards towards the lake. Three major rivers cross the project road: the Sosian, Kerita and Namu Rivers, and the Ngeria Swamp. The high rainfall experienced in the project area contributes to high river flows in the lower reaches.

Between Timboroa and Burnt Forest, the main vegetation is plantation forest, predominantly pine and cypress. Beyond Burnt Forest, the land is substantially cultivated, although between Ngeria and Sosian, wattle (*Acacia mearnsii*) plantations have been established (for the production of tannin). There is no significant wildlife in the project area, due to the natural vegetation being significantly altered (plantation forest has replaced natural forest, and grasslands have been converted for agriculture).

### ***Social/ Economic Setting***

The annual population growth rate within Uasin Gichu district where the project road traverses had been 3.35% (1999 Census). By the end of 2008, it was projected to

increase to 834,250 people. The population structure for the district shows a very high population of young people. (UG DDP, 2002 – 2008).

The road passes through high potential agricultural areas, and agriculture is therefore the main economic activity in the project area. The major cash crops grown in the project area are wheat, barley and maize, and food crops include carrots and potatoes. Dairy farming is also common. Average landholdings range from 10 to 20 hectares. However, the road passes through the trading centers of Timboroa, Nabkoi, Kondoo, Matharu, Burnt Forest, Cheperit, Ngeria and Eldoret Municipality where a number of commercial activities comprising of retail, wholesale shops, groceries, bars and restaurants are found.

Uasin Gishu District has 12.1% prevalence of HIV/AIDS (UG DDP, 2002 – 2008). An accurate prevalence of the rural setting indicated 6.8% prevalence rate.

## **5. Project Alternatives**

In terms of project alternatives, two options have been considered:

- i. “Do nothing” option;
- ii. Rehabilitation of the road from Timboroa to Eldoret.

The first option will not achieve the overall goals of the project, since movement of traffic will still be hindered by the poor road condition. This will contribute to loss in economic time and therefore productivity, and result in higher fuel consumption, increased levels of air pollution and severely hinder access to social services, in particular health care.

Rehabilitation of the road is expected to improve traffic flow, consequently lowering vehicle operating costs, improving transportation of agricultural and other goods, and people. Road safety is also expected to improve along this section of the A104.

## **6. Potential Impacts and Mitigation/Enhancement Measures**

Positive environmental and social impacts derived from the project include:

- Wider and better regional connections, especially with Uganda, Rwanda, Burundi, eastern DRC and southern Sudan;
- Improved transportation of commodities;
- Stimulation of trade along the project road and its area of influence;
- Improved access to markets;
- Improved road safety;
- Improved drainage;

- Creation of job opportunities for members of the local communities, particularly in regard to unskilled labour. Women will also have an opportunity to secure employment.

The road project comprises the rehabilitation of an existing road; no realignments are proposed, and any minor improvements of horizontal alignment to improve curvature and sight distance will be accommodated within the road reserve. Thus, the direct impact on land use will be negligible, and the requirements for land acquisition are minimal, apart from those for the establishment of the Contractor's and workmen's camps.

A number of negative impacts could also arise from the project. Soil erosion would result from earthworks, excavation of materials sites and deviations; improper drainage and clearing of vegetation. This can be addressed through supervision of earthworks, proper design and maintenance of drainage structures, incorporating soil conservation measures (for example in the drains and along embankments), ensuring that clearing of vegetation is limited to areas required for construction works. Materials sites pose a danger to children and livestock in particular, and should be fenced when in use, and rehabilitated after use. Although deviations will be contained within the road reserve as far as is possible, where traffic needs to be diverted onto private land, the landowners will have to be compensated for temporary use of land, and this would have to be rehabilitated on completion of works. Traffic will have to be managed during construction so that smooth flow is ensured; in this case it may be necessary to re-route heavy through traffic along parallel roads (eg C54, C 53, C55 and B4). However the Contractor would have to ensure that these roads are motorable, and remain so after traffic resumes along the A104. Dust emissions from earthworks, operating plant and equipment, and from construction traffic can be minimised by watering of deviations and works sites. Stormwater discharge will be a particular problem in Eldoret town; the drainage structures will have to be designed to allow for this. Solid waste (including construction debris), oil and medical wastes will have to be disposed of in accordance with NEMA's Waste Management Regulations. Noise pollution can be mitigated by providing PPE to the workforce where appropriate, and where blasting may be required, by giving ample notice to those potentially affected as well as the local authorities. Pollution from oil and oil products can be controlled by proper storage and handling: diesel and bitumen tanks should be properly contained in accordance with the Petroleum Rules, while waste oil should be disposed of as stipulated in NEMA's Waste Management Regulations.

In order to adapt to the impacts of **climate change**, the design will have to ensure that drainage structures are able to accommodate high rainfall and flash floods. In addition, the Contractor should maintain plant and equipment to limit carbon emissions, and should plant trees along the road periphery (10 trees per km) in order to help absorb carbon emissions from road traffic.

Once construction is complete, the Contractor's and workmen's camp, equipment, excess materials and oil tank farms will have to be removed or dismantled. All work areas will have to be rehabilitated (including deviations). The Contractor must prepare a decommissioning plan for approval by the Supervising Consultant. Special attention must be given to remediation of oil polluted areas and the relocation of oil tanks.

At Timboroa, vendors and hawkers (mainly women) sell fresh food (potatoes, vegetables and fruits) and grocery items along the road. A few of these informal business persons have built kiosks and structures within the right of way. However, they are aware that they were permitted to operate their businesses on condition that they would vacate the premises when needed by Ministry of Roads. The rehabilitation of Timboroa-Eldoret road would displace these small businesses, and would disrupt their source of income and affect their livelihood. This can be mitigated by identifying alternative sites to relocate them and improve the environment for vending by constructing purposeful stalls and sheds.

Social conflicts may arise if local people don't get the expected jobs at construction sites as project proponent will not necessarily employ workers living within the vicinity of the project road during its construction, operational and decommissioning phases. To ensure local communities benefit from transitory incomes during the rehabilitation phase, contractors and KeENHA should ensure that employment priority for unskilled jobs be given to local communities including women. Public awareness about the project and available job opportunities should be posted in a timely manner to ensure both men and women are availed equal opportunities to apply for various posts. Where feasible on-the-job training should be provided to local people. The contractor should however be gender sensitive, especially when incorporating women into the road rehabilitation activities.

The project contractor should aim at procuring locally available materials where feasible and use local suppliers where appropriate.

Increased population associated with road construction workers and vendors may exert pressure on local resources such as water and land, and may trigger price increases for commodities and services. Similarly, increased population associated with road construction workers and job speculators will stress the existing social services such as housing, health facilities and sanitation.

The contractors should take precaution to ensure rehabilitation work will not adversely affect the quantity and quality of water resources. Regular monitoring of quality of water resources should be undertaken.

Presence of construction workers earning above average incomes and often coming without their families may threaten the security of women leading to breaking up of marriages, early and unwanted pregnancies among girls, and the spread of HIV/AIDS

and STDs. Potential increase in HIV/AIDS and STI prevalence will be mitigated through implementation of initiatives which target knowledge, attitude, behaviour, prevention, treatment and care in collaboration with Kenya National AIDS Control Council (NACC) at regional and local levels, NGOs and CBOS. The project will include activities, capacity building for local and grass-root associations in communities and schools, and provide facilities for testing and treatment for construction workers to reduce pressure on local clinics. KeNHA should allocate some money for subsidizing the local clinics to meet increased demand for medicines for general ailments, antiretroviral and treatment of general opportunistic diseases associated with HIV/AIDS brought about by project workers. Interventions should give attention to high risk groups, factors perpetuating risk behaviours, female headed households, child headed household, orphans, people living with AIDS, youth, school girls and boys.

Increased movement of vehicles during construction and operation may lead to increased accidents among local communities, construction workers and vehicles operators. Educational campaigns will be mounted in order to reduce the risk of increased road accidents. Authorities will enhance compliance with road safety measures for both the contractor's workers and the communities. The road design should include provisions for bus stops and lay-byes to protect the pavement and improve road safety.

The local communities may be subjected to increased crime associated with immigrant construction workers, and others in search of jobs and business opportunities. To reduce crime associated with immigration, available local security should be reinforced and community information network enhanced.

## **7. Environmental and Social Monitoring and Management**

The ESIA study contains an Environmental and Social Management Plan (ESMP) which describes the proposed implementation arrangements for mitigation measures, environmental and social monitoring and reporting.

KeNHA, through its Environmental and Social Unit, is responsible for all coordination activities and inter-departmental liaisons, in regard to environmental and social issues. The Regional Manager, who is the KeNHA's representative on the ground, can assist in ensuring that the Contactor implements all environmental and social mitigation measures. The Supervising Consultant's Environmental/Social Expert, will coordinate between the Contactor, the community and KeNHA, and liaise with representatives from the local authorities (particularly NEMA, the District Environment Officers, District Water Officers and the District Planning Officers) with regard to environmental and social matters. The Contactor's Project Manager will be responsible for ensuring that environmental and social aspects are considered, and that the ESMP is properly implemented. The National Environmental Management Authority, through its District Environment Officer(s), will be overall responsible for monitoring environmental and

social aspects of the project implementation and operation. Their concerns will be communicated through the Supervising Consultant and/or his Environmental/Social Expert.

The Project's Bills of Quantities includes the cost of standard construction mitigation measures, including drainage, top-soiling and stockpiling, scarifying, signage, road furniture (signage, markers, etc), speed bumps. The total project cost for environmental mitigation and monitoring, the HIV/AIDS awareness/prevention and Road Safety awareness campaigns is estimated at KShs 211,917,588 (about USD 2,716,892.15) and is broken down as follows:

	<b>Mitigation costs (KShs)</b>	<b>Costs included in BOQ (KShs)</b>
HIV/AIDS awareness/prevention campaign		3,000,000
Road furniture / safety measures		167,539,658
Road safety campaign	4,000,000	
River training		1,108,000
Land acquisition (contractor's camp, deviations, etc)		6,000,000
Tree planting		2,277,600
Reinstatement of deviations, gravel pits		12,367,500
Water acquisition	200,000	
Waste management	200,000	
Environmental mitigation measures	12,624,830	
Environmental monitoring	2,600,000	
<b>TOTAL ENVIRONMENTAL AND SOCIAL MITIGATION, MANAGEMENT AND MONITORING COSTS</b>	<b>19,624,830</b>	<b>192,292,758</b>

In addition, under Section 10 below on Complementary Initiatives, a number of activities are discussed which will contribute to mitigation, particularly with regard to compensation, road safety, HIV/AIDS awareness and prevention, strengthening the Environmental and Social Unit within KeNHA, and mainstreaming gender into KeNHA's projects.

## 8. Monitoring Program

The environmental and social monitoring program will have to be implemented during construction and operation. A monitoring plan is provided in the ESIA Report. The following aspects will need to be monitored:

Aspects for Monitoring	Measurable Indicators
Provision for drainage	<ul style="list-style-type: none"><li>▪ Number of drainage structures</li><li>▪ Number of drainage structures fully functioning</li></ul>
Environmental hazards – oils spills and fire	<ul style="list-style-type: none"><li>▪ Number of oil spills</li><li>▪ Number of fires</li></ul>
Rehabilitation of materials sites	<ul style="list-style-type: none"><li>▪ Number of materials sites rehabilitated, and number of materials sites that have achieved restoration to original state</li></ul>
Impacts on road safety	<ul style="list-style-type: none"><li>▪ Number of road accidents</li><li>▪ Number of fatalities due to road accidents</li></ul>
Changes in socio-economic activities along the project road	<ul style="list-style-type: none"><li>▪ % change in number of population involved in particular socio-economic activities: agriculture, quarrying, manufacturing, “jua kali” sector, transportation, raw food sales, restaurants/hotels, trade and commerce.</li></ul>
Traffic patterns	<ul style="list-style-type: none"><li>▪ % change in traffic volume in each category of vehicle</li><li>▪ % change in origin/destination routes</li></ul>
Impacts on STI/HIV/AIDS	<ul style="list-style-type: none"><li>▪ % change in incidence rate</li></ul>

The monitoring of mitigation measures during design, construction and defects liability period will be carried out by the Contractor’s Project Manager, who will provide regular reports to the Supervising Consultant. After construction, the responsibility for monitoring will lie with the KeNHA’s Environmental and Social Unit as well as NEMA.

## 9. Public Consultations and Public Disclosure

The purpose of public participation in this ESIA study was mainly to create awareness on the project, and involve and facilitate those likely to be affected positively or negatively,

other stakeholders by giving them an opportunity to raise their views, concerns, perceived impacts and ways mitigating/enhancing project effects. This intended to create a sense of commitment in implementing the ESMP. With due consideration of gender, various methods including interviews, consultation meetings, informal and formal group discussions with men and women were held with people living within the vicinity of the road at Timboroa, Matharu, Nakboi, Burnt Forest, Cheptiret, Ngenia, Eldoret town and Maili Nne. Feed back was received both orally and in writing. The study was able to assess the perceptions of impacts from the proposed rehabilitation project during its construction, operational, and decommissioning phases. This included the identification of the positive and negative socio-economic impacts of the development on the human environment and the possible mitigation/enhancement measures to address the potential effect during the project cycle. Issues raised are listed as follows:

- Creation of employment, leading to increased incomes;
- Social pollution, in that of the workforce's interactions with the local communities will increase prostitution along the town centres along project road, resulting in an increase in the incidence of STIs, including HIV/AIDS;
- Businessmen in the trading centres along the Timboroa-Eldoret Road will thrive regardless of the environmental considerations;
- Solid waste disposal and sanitation at the camps will be an issue;
- Water sources may be stressed;
- Increase in the number of traffic accidents during construction;
- Increase in noise and dust levels from heavy truck during the operations;
- Air, dust and noise will be nuisance to the people living within the vicinity of the project road;
- Excavation of quarries, borrow pits and sand sources will have negative impacts on the natural environment;
- Soil erosion will occur during and after construction works;
- Rehabilitation related work such as road diversions and clearing the vegetation will affect the communities and settlements in proximity to the project road.

Once the final ESIA report is ready it will be submitted to NEMA for approval and disclosure. NEMA is required to disseminate the ESIA report to lead agencies, including local authorities in the affected areas. The public at large will be notified through daily papers and asked to respond within a specified time frame. If need be, NEMA may organize public hearing(s) at a particular date and location(s). Following the approval of the ESIA report, KeNHA will post the full ESIA report on its website. On its part the Bank will post on its website the ESIA Summary at least 120 days prior to Board presentation. The Summary will also be made available at the Public Information Center (PIC) and at its Kenya Field Office (KEFO) in Nairobi.

## 10. Complementary Initiatives

**Compensation**: Consultations have been carried out with the affected persons with regard to encroachment on the road reserve. The meeting was attended by 50 representatives of the community, the Chief and the District Officer. An agreement was reached between the local authorities and all 24 operators and communities selling vegetables by the roadside, to vacate the road reserve voluntarily by end August 2010. The local authority will seek alternative place to relocate the affected persons. The local authority in collaboration with the KeNHA evaluation and monitoring unit should ensure that the right of way is free from encroachment prior and after construction.

**Highways Beautification Programme**: KeNHA has begun to plant trees along all its roads and highways, which they hope will help to reduce dust and noise levels, improve aesthetics and contribute to sequestering carbon emissions from road traffic. In line with this initiative, a tree planting programme has been included in the Bills of Quantities to allow the Contractor to plant 10 trees per km along the project road. During road construction the Contractor will be responsible for caring for the trees, but after the defects liability period, KeNHA in collaboration with the Kenya Forest Service and/or the local administrations (eg. Eldoret Municipality) will ensure that the trees survive.

**Road Safety**: The project road is a heavily utilized regional corridor traversing several towns and villages, which makes it prone to accidents. Available data shows that most accidents on this road stretch have been firstly as result of human error, and then road condition. Approximately 36 deaths were reported in 2006 with another 65 people seriously injured. The project has included in its design some specific measures to reduce the accident rates which are consistent with the Multilateral Development Banks' Joint Statement on "A Harmonized Approach to Managing Road Infrastructure Safety" signed in October 2009. These include: improved traffic signs, installation of guardrails, speed control measures such as humps, and rumble strips, increased skid resistance, reflective edge marker posts and road studs, clear marking for pedestrian crossing and installation of signs in Eldoret, and the future consideration of a bypass around the town. In addition the design will provide sealed shoulders, construction of parking areas (heavy vehicles and bus stops); creation of space for road-side markets; and allow for widening at major junctions to improve movement and safety of traffic (for example at Timboroa and Cheptiret).

The project has included intense road safety awareness and education campaigns aimed at the youth (in- and out-of-school), marketers especially women, cyclists, passenger bus operators and communities at village level on the proper use of the road and the importance of safeguarding road signs both during construction and there-after. Under the auspices of the Ministry of Transport, the Government of Kenya has constituted the National Road Safety Council (NRSC), comprising a cross section of membership. The NRSC has prepared a National Road Safety Action Plan for 2009 – 2014. It is anticipated

that the Road Safety Secretariat will be operational in the immediate future which will be charged with the responsibility of implementing the Action Plan.

**HIV/AIDS Prevention and Awareness:** The National Aids Control Council (NACC) has earmarked A104 international trunk route from Mombasa to Malaba as a high risk route for HIV/AIDS transmission due presence of mobile groups such as long distance truck drivers, public bus drivers, and traders from bordering countries and within other regions within Kenya. The HIV/AIDS situation will be aggravated by presence of project workers and job speculators and traders during the road construction. Such risks are likely to continue after the decommissioning of the project and hence there is a need for sustainable HIV/AIDS interventions. NACC is willing to collaborate and support KeNHA and Contractor to mainstream HIV/AIDS interventions at all levels on the Timboroa – Eldoret road. Therefore, KeNHA should formally request NACC to avail their personnel and expertise to build capacity of their organization in mainstreaming of HIV/AIDS intervention into road projects. The project budget has funds allocated for HIV/AIDS initiatives. This will enable the project implementers to outsource services from existing personnel under the NACC structure which extends all the way from national, provincial, districts, constituency levels and which works in collaboration with existing NGOs, local authorities and various groups at the grass-root level. Activities should target men, women, youth, school boys and girls within the local communities resident along the project road, as well as high risk groups such as sexual workers, long distance truck/bus drivers, traders and their assistants, vendors, and construction workers. Activities should focus on advocacy and awareness raising prevention campaigns, distribution of condoms, school education programmes, peer education, care and treatment in VCT centres, and STI clinics.

KeNHA should ensure that the Contractor and Supervising Consultant develop and implement a workplace HIV/AIDS staff policy to protect their workers and prevent further transmission of the disease to communities in the project area. The Contractor and Supervising Consultant should allocate a budget to hire an HIV/AIDS/Gender Specialist to be located at the project site. The hired staff will coordinate implementation HIV/AIDS interventions and ensure appropriate mainstreaming of HIV/AIDS into road projects.

**Environmental and Social Unit:** KeNHA was recently been instituted, and is still in the process of staffing its various departments. The Environmental and Social Unit is situated within the Planning and Environment Section of KeNHA. This unit currently has only one environmentalist. In order to be able to undertake its environmental and social management responsibilities fully with regard to supervision, auditing, monitoring and evaluation of road projects, the unit will have to be strengthened considerably by hiring a multi-disciplinary team (eg a sociologist/gender specialist, ecologist, economist). Even so, it will not be possible for this unit to monitor all rehabilitation, improvement and maintenance projects that are going on at any one time within KeNHA. Therefore, it is recommended that capacity at KeNHA's regional offices be enhanced so that the regional officers are able to support the Environmental and Social Unit.

**Gender.** KeNHA, the Contractor and Supervising Consultant should mainstream gender issues into the road design, rehabilitation and operation of the road projects by allocating a budget for a gender expertise. The Ministry for Gender and Children's Affairs is willing to work with KeNHA, its contractors and supervising consultants to build their capacity on mainstreaming gender issues into the design, construction and operations. The Ministry should exploit this opportunity by creating working modalities to utilize the expertise it has available for gender mainstreaming at the national, regional and district levels.

## **11. Conclusion**

The rehabilitation of the Timboroa-Eldoret road is expected to improve the road transport service along the Northern Corridor by reducing travel time and facilitating regional movement to and from Uganda, Rwanda and Burundi, eastern DRC and southern Sudan.

The road is part of an existing major highway. Rehabilitation works will be confined to the existing alignment, and no new alignments will be constructed. Consequently the main environmental issues will result from construction activities, (rather than during operation), particularly dust and air emissions, noise and vibration, clearing of vegetation, soil erosion due to excavation and earthworks, pollution of soil and water sources from spillage/leakage of oil and oil products and sediment loading. Other environmental impacts include those due to the disposal of solid and liquid wastes, and sources and use of water. GHG emissions during the operation phase of the project have not been calculated, but it is expected that there will be little change from present values. The main social impacts relate to the spread of STDs/HIV/AIDS due to interactions between the workforce and the local communities, road safety, the need to provide employment opportunities to members of the local communities (particularly promoting youth and women) and insecurity.

Mitigation measures have been proposed for all identified impacts, and an environmental and social management plan has been prepared. Mitigation measures included in the Bill of Quantities are drainage, road furniture, HIV/AIDS awareness campaign, rehabilitation of materials sites, compensation for temporary acquisition of land (eg for deviations and the contractor's camp), and making good after construction. Other measures (eg protection of water sources, minimization of dust) have been specified in the conditions of contract and the technical specifications.

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Uasin Gishu District Development Plan 2002 – 2008

## **Contacts**

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