MULTINATIONAL (KENYA – TANZANIA) : ATHI RIVER – NAMANGA – ARUSHA ROAD

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT SUMMARY
1. Introduction

The project road runs from Arusha through the Namanga Border post and Kajiado District of Kenya to Athi River on the Nairobi–Mombasa (A109) Road in Kenya. The road is 240 Km long with the Arusha–Namanga section in Tanzania 104 km and the Namanga–Athi River section being 136 km. It is classed for the Bank as a Multinational Project and its planning and design has been undertaken by the East African Community (EAC) based in Arusha.

The project is Category 1 mainly because it is an international strategic highway. Travelling south from Athi River, after the town of Kitengela, the road passes through an area of very low population density, supporting Maasai pastoralist groups. The population only increases on approaching the lower slopes of Mt Meru and significantly increases within 10 km of Arusha. The road traverses semi-arid land on both sides where water sources for both human and animal consumption are limited.

There will be limited net environmental impacts resulting from the project beyond a positive facilitation of wildlife and natural area tourism. Significant environmental management requirements are therefore largely confined to those related to potential construction impacts. Being a strategic road project, alternatives with respect to design and location are strictly limited. Indeed the road forms part of a network of infrastructure development prioritized by NEPAD.

The project construction works are to be implemented over a period of 36 months starting in April 2007 and to be completed by April 2010.

2. Project Description and Justification

Project Background

East African Community (EAC) secretariat is developing a role in supporting economic development programmes and regional transport infrastructure planning to deepen economic co-operation and foster regional integration within the EAC countries. The East African Community is currently addressing the legal and institutional constraints and other non-physical barriers such as customs and immigration through the implementation of different projects and the removing of formalities at border posts. In line with the above goals the EAC has requested the Bank to finance the rehabilitation of the Arusha-Namanga-Athi River trunk road.
The road forms part of the Corridor No.5 of the East African Community Regional Roads Network Programme which runs from Tunduma at the Tanzania/Zambia border to Moyale on the Kenya/Ethiopia border. The Bank financed the participatory feasibility study and detailed design of the project road between 2003 and 2006. The overall economic internal rate of return was found to be 17.1%. The present value of cost/benefits streams discounted at 12% over a 20 year period gave a positive net present value of USD 26.42 million.

**Project Concept and Rationale**

The Governments of Tanzania and Kenya recognize that sustainability of the current economic recovery programme is dependent on the improvement of transport facilities and services, particularly regional road transport facilities. The road traverses Tanzania, from Arusha to Namanga (105 km), and Kenya, from Athi River to Namanga (137 km) and forms part of the Corridor No. 5 of the East African Community Regional Road Network. Indeed the road is the link to connect Arusha (and Dar) to Kampala in Uganda. When the ongoing Isiolo–Moyale road project in north Kenya is complete, this project will effectively connect Tanzania to Ethiopia by road.

The implementation of the project is part of the strategy of the EAC to deepen economic cooperation and foster regional integration among member states of the community. The road is important for tourism for both Tanzania and Kenya. In Kenya tourism contributes about 10 per cent of GDP, and many of the tourists continue to Tanzania through the Kajiado district which adjoins the Arusha region in Tanzania. In Tanzania tourism accounts for 20 percent of the Regional GDP in the Arusha Region, which is the gateway to the national parks in northern Tanzania.

The Arusha region indeed receives 80 percent of all tourist visits into Tanzania, most of who arrive from Kenya using the Arusha-Namanga-Athi River Road. In addition, the road will help promote agricultural production by small farmers in the road corridor area thereby enhancing their incomes and contribute to a reduction of poverty in its area of influence.

**Existing Road Situation**

The existing Arusha Namanga road was constructed in early 1950s and has a carriageway width of 5.3 m to 5.7 m and has a bituminous surface treatment. The section was generally constructed at ground level with minimum earthworks. The existing pavement consists of 20-30 mm surfacing layer, on a 160 mm sub-base course. From km 70 onwards, there is no gravel sub-base and the base course rests directly on the sub-grade of local reddish soils. The existing surface, which has been resealed recently, is deteriorating rapidly.

Roughness measured in May 2004 using a vehicle-mounted bump integrator varied from 4.4 m/km to 5.6 m/km. The existing horizontal and vertical alignments are generally satisfactory for a 100km/h design speed. However, the road has poor drainage system and poor crest curves that limit visibility and pose a hazard. The serviceability level of the road is poor and to maintain passability, the road requires frequent maintenance activities. All existing 4 bridges and 13 box culverts are in a poor condition. The road is served with many 600mm diameter culverts, which are considered inadequate.

**Brief Description of Project Outputs**

The Arusha–Namanga – Athi River road development project will consist of the Civil Works, Services and a Social-Environmental Component scheduled below:
(a) **Civil Works** consists of construction of road works in 2 lots:
- Lot T: 104.255 km Arusha–Namanga section in Tanzania and

(b) **Consultancy Services** are planned as follows:
- Works Supervision consultancy (2 contracts, one for each lot of civil works).
- Project Audit consultancy services
- Feasibility study and detailed design consultancy services for the for (i) 170km Arusha- Moshi-Himo- Taita Taveta –Mwatate - Voi road and (ii) 160km Tanga - Horo Horo-Lunga Lunga – Mombasa Road.
- Technical Assistance consisting of individual consultants for EAC capacity building

(c) **Social-Environmental Component** – Implementation of ESMP.

**Project Cost**

The estimated economic cost (net of taxes) of the whole project is UA 93.667 million of which UA 76.992 million (83%) will be in foreign exchange and UA 16.755 million (17%) will be in local currency. The Kenya section will cost, net of taxes and duties, an estimated UA 55.037 million (60%) and the Tanzania section will cost UA 38.641 million (40%), including project supervision costs, capacity building, resettlement/compensation costs, project audit services and a component on study / design of 2 related multinational roads. In dollar terms and inclusive of taxes and duties, the total project cost is USD 175.313 million, the Kenyan section costing about USD 105.169 million and the Tanzanian section costing USD 70.144 million. The loan/grant will cover 70% of the total financial cost of the project.

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

The East African Community based in Arusha (Tanzania) is effectively the project developer and will be responsible for the coordination and monitoring of the project. It has its own environmental remit provided in the East African Treaty regarding shared ecosystems (Protocol of March 2006) and harmonisation of policies including the need to undertake environmental impact assessments (Article 112, 2a). The two countries of Tanzania and Kenya have a body of environmental legislation covering environmental impact assessment and road development.

In Tanzania the project proponent is the Ministry of Infrastructure with its road agency TANROADS. The Ministry has its own Road Sector– Environmental Sections (RS–ES) which are mandated to collaborate with TANROADS at each stage of the project cycle. The Tanzanian Ministry of Environment is responsible for implementation of environmental policy within the country and has its audit agency in NEMC (National Environmental Management Council). NEMC is responsible for approving ESIA documents.

In Kenya the project proponent is the Kenya Roads Department of Ministry of Roads and Public Works (MoRPW). The Ministry has its own Environmental and Social Unit (ESU) which is responsible for community consultation and road environmental management surveillance. The Kenyan Ministry of Environment is responsible for implementation of environmental policy within the country and has its audit agency in NEMA (National Environmental Management Authority) which is also responsible for public disclosure and managing the quality assurance and approval process for EIAs.
The project ESIA document was commissioned by the EAC and has been through a process of review and development, with particular emphasis on development of the Environmental and Social Management Plan (ESMP) because realignment and strategic alternatives which would have more substantial environmental implications are not being proposed. A finalised document has been submitted to NEMC in Tanzania and NEMA in Tanzania on 3rd July. The EIA approval process is ongoing but no issues of any significance are anticipated. The authorities were met and consulted at the Appraisal Mission together with representatives of RE-ES (Tanzania) and ESU (Kenya).

4. Description of the Project Environment

Geographical Location and Physical Features

In Tanzania, the road commences in the urban fringes of Arusha, runs in a northerly direction passing through the villages of Oldonyo Sambu and Longido before reaching the Tanzania/Kenya border at Namanga. The topography is generally flat with a gentle climb from 1,450 m in Arusha to about 1,850 m above sea level (asl) in the area of Oldonyo Sambu from where the elevation drops to about 1,250 m in Longido area (lowest point on the road). The area between Arusha and Longido is generally of volcanic origin and has a number of hills containing volcanic ash and basalt gravel. Further on, the geology changes to metamorphic rock. The road is located on the central plateau of east Africa and runs along basement geologic system composed of gneisses, limestone and quartzite of sedimentary origin.

The average maximum/minimum temperatures range from 15ºC to 27ºC during the hottest months of December to February while the coldest months of June and July register average max/min temperatures of 21ºC to 12ºC, respectively. The main rainy period is March to May where the mean average rainfall varies between 1250mm and 450mm, decreasing from Arusha to Namanga.

On the Kenyan side, the road continues to run in a northerly direction cutting through three administrative divisions of Kajiado district, namely Namanga, Isenya and Kajiado Central. The road passes the turn-off to the Amboseli National Park and continues to the towns of Ibisil, Kajiado, and Kitengela to Athi River (35 km south of Nairobi). The district area is 21,105 sq km and is one of the 19 districts forming the Rift Valley province of Kenya. 65% of the district is categorized as Arid and Semi-Arid. Most of the land is used for ranching with very few smallholder farms in areas such as Ngong Hills, the slopes of Mt. Kilimanjaro, Ngoruman escarpment and around Chyulu hills.

Rainfall in the district is bi-modal, with precipitation generally occurring in the months of March to May and October to December. Parts of this area have rainfall of about 600 mm and having rich volcanic soils, the area is good for agriculture. Temperatures vary with altitude ranging between 30ºC at Magado and 16ºC at Olokitokot. The coolest months are November to April. The geology of the area comprises quaternary volcanic and basement rocks with gneiss and quartzite predominating.

Economic Growth and Poverty Context

Both Tanzania and Kenya have experienced reasonable economic growth over the recent past. Tanzania’s GDP has grown at 5.8% (2000–2004). Arusha is Tanzania’s second city and the headquarters of the EAC and its contribution to the economy was 7.7% (2002). Despite this
growth, over 50% of nationals in the two countries still live below the poverty line. The headcount index for Tanzania shows 30% of the population (2003) lived below the basic needs poverty line (39% in rural areas). Of these, 21% lived in Arusha Region (12.3% in Arusha Town, 23.9% Monduli and 18.1% Arumeru districts).

Kenya’s real Gross Domestic Product (GDP) grew by 4.3% in 2004 up from 2.8% in 2003. Much of the growth was attributed to the agriculture and tourism sectors (23% and 15.1% share of growth, respectively). According to the national estimates of 2002, 56% of the population lived below the poverty line of $1 a day.

Population and Quality of life

The people living along and around the project area will be some of the main beneficiaries. The population of Arusha is estimated at 1.3 million while that of Kajiado is estimated at 480,000. An estimated 47% of the rural population (2003) in Tanzania had no access to clean and safe water within 30 minutes of walking distance. Eighty-five per cent of the rural population is engaged in agriculture and livestock.

Infant mortality rate in Tanzania has dropped from 100 per 1000 live births to 68 according to the TDHS (2004), under-five mortality rate was 112 per 1000 live births, and maternal mortality was 529 per 100,000 respectively. According to TDHS, fertility rate is still high at 5.7, while 38% of under-fives were stunted, 3% wasted and 22% undernourished. In Kenya, infant mortality rate has improved to 77 per 1000 live births according to the KDHS (2003), under-five mortality rate has increased from 110 per 1000 live births in 1997 to 115 in 2003, and maternal mortality was at 414 per 100,000. On nutrition, 30% of under-fives were stunted, 6% wasted and 20% undernourished.

In Tanzania, literacy rate among adults was 71% in 2004 with 80% of men literate and 64% women literate, while in Kenya literacy rate was 84%. The Tanzanian education system has improved over time with primary school gross and net enrolment rates of 109.9% and 94.8% at national level and 108.2 and 93.6% for Arusha Region, respectively. Secondary school enrolment rates are, however, still quite low at 11.7% and 10.1% for gross and net enrolment at national level.

Incidence of HIV/AIDS

HIV/AIDS prevalence rate for the 15–49 year old in Tanzania was 7% (2004) of which 7.7% was the rate for women and 6.3% men. Prevalence rate for Arusha region was 5.3%; 47% of the women had comprehensive knowledge about the intricacies of the disease as compared to 44% of men in Tanzania. The prevalence rate in Kenya was 6.4% (2005) down from 12.8% in 1997. The incidence is higher in rural areas (8.7%) as compared to urban (4.6%), and in the Rift Valley the prevalence is 5.3% and Kajiado district it is estimated to be 2.8% among adult population (2004) of which 1.9% was men and 3.6% women. Macroeconomic study on impact of AIDS in Kenya (2005) had shown a reduction of 14.5% of GDP was being experienced due to HIV/AIDS.

Gender and Employment

Gender roles and customs and status in the household affect women’s livelihoods and welfare. Overall 23% of households in Tanzania are female headed households and 31.7% in Kenya (2003), and 79.5% of these Kenyan households live below the poverty line. The adverse conditions for women tend to result from, among other things, low educational opportunity;
64% of women were literate compared to 80% among men in Tanzania (2004), while in Kenya 86% of women were reported as functionally literate (2003) compared to 90% men.

In Tanzania, 78% of women were actively engaged with agricultural activities including subsistence farming. Of these only 24% had a wage income, 13.4% were paid either in kind or a combination of cash and kind. Only 2% of the working women were in managerial, professional or technical jobs compared to 4% men. Although wage employment in modern sector Kenya has increased over the years, women represented only 29.6% of the wage earning work force (2004). Here only 7% of women were in professional, technical and managerial positions.

Economic Activities of the Project Zone

The main activities in the zone of influence are agriculture (both subsistence and commercial farming), pastoralism and livestock production (including chickens, eggs and dairy cows), small scale industries, tourism, cement production and activities within the export processing zone. Agricultural crops produced in the Arusha Region include coffee, bananas, cut-flowers, maize, wheat, barley and legumes. The area around Kajiado produces cut-flowers for export through Jomo Kenyatta International Airport, Nairobi (JKIA), also food cash crops for sale around Nairobi, such as tomatoes, okra, bulb onion, maize and beans. Most industrial investments on the Kenyan side have been in and around Isinya, where there are now five big farms with a total land area of around 50 hectares under horticultural production and cut flowers.

The East African Portland Cement Company and Bamburi are the major cement suppliers in the country. The Export Processing Zone (EPZ) is also in the zone of influence and occupies a 339 hectare site with 20 enterprises operating. Kenchic, the major producer of poultry products in Kenya, has four farms along the project road with a capacity of 120,000 chickens. In addition to supplying these to Nairobi, Kenchic exports chickens and eggs to Tanzania.

Tourism

The major and growing economic activity in the area is tourism. Arusha serves as an international tourist hub with leading national parks in its vicinity; the project road links Kilimanjaro Airport and JKIA in Nairobi. Arusha has 11 tourist hotels and 84 registered tour operators. Tourist attractions include Mt. Kilimanjaro, Arusha National Park, Lake Manyara National Park, Tarangine National Park, Ngorongoro Crater, Olduvai Gorge and the Serengeti National Park. Likewise Kajiado on the Kenyan side has potential for developing its tourist attractions further. Significant features include the Amboseli National Park, Chyulu Game Researve, Nguruman Escarpment and the Olorgessaile pre-historic museum. In both countries, the Maasai population and culture forms a central theme, with the local attire and homes (manyattas), and handcrafts a major attraction to international guests.

5. Project Alternatives

As for many road development projects there are no meaningful alternatives other than the “do nothing” alternative. As a strategic road improvement project prioritised by the East African Community and NEPAD the question of alternatives arises even less. The project does not envisage any significant new alignments with any related environmental implications. The plan is to widen and make safer the current roadway and bridges.
The “do nothing” or projection of the existing situation is more hazardous for road users because of the current dangers of overtaking on a narrow road with eroding edges. This existing situation can only get more hazardous for pedestrians at bridges without walkways and along blind curves, or where trucks and lorries pull out to avoid poorly maintained and deteriorating road sections.

6. Potential Impacts and Mitigation/Enhancement Measures

Strategic Conservation and Wildlife Issues

Adjacent to the road, on the Tanzania side, are dry montane forest ecosystems. Moduli District has 95% of its area designated as a game control area and has very low population density of 6.7 persons per sq km. Arumeru District has three hunting blocks. These are already under some pressure from local populations leading to erosion and loss of vegetation. However, there is no reason to think the road development in the project will bring greater pressure on natural resources. Indeed the increased tourism should create employment opportunities and perhaps relieve pressure on the natural environment it will also create incentives indirectly for conservation. The project will not create a significant barrier to animal migration patterns or gene pools.

On the Kenya side of the border are the important wildlife areas of the Chyulu Hills and Amboseli. Such areas are accessed from the project road. There are important populations of elephants, buffalo, lions, leopards, cheetah, ungulates and even rhino reported. There are indeed conflicts between Masai herders and wildlife in the project zone and also pressures on water catchments form unsustainable land husbandry practices. These should not be aggravated indirectly by the increased traffic from the road development, on an existing alignment along the savannah ecosystem of the Athi Plains. Water is in very limited supply hence the extensive pastoral nature of subsistence modes. The project will not significantly affect water supplies or water flows neither post-construction, nor animal migrations.

Potential Local Environmental and Health Impacts

The design consultants have confirmed that materials for construction will be available within reasonable distances. Clearly there are all the traditional potential construction impacts on soil, water and air quality as a result of poor environmental supervision. During construction there will be exposure of temporarily cleared areas to erosion in seasons of high precipitation. Therefore the contractor will be required to manage exposure of such prone surfaces in regard to slope gradients of soil stock piles and within borrow pits, and areas around river banks and bridge approaches; he will be required to reseed and foster vegetation re-growth. Water resources are restricted in the area but there will not be any necessary impact on this resource during operation.

In the Kenya section there is only one perennial river. The Ministry of Water & Irrigation in Nairobi has confirmed that the Isinya area has an underground aquifer with sufficient water to cater for construction needs. The Ministry will allow the contractor to sink bore holes as necessary and has requested that for each project borehole the contractor sinks another should be sunk for the community. All boreholes after construction are to revert to the Athi River Water Services Board who will sustain them.

For water abstraction during construction the Tanzania Ministry of Water Development confirmed that the Pangani Water Basin (includes Arusha) has enough underground water
resources and will allow the contractor to sink bore holes for his purposes. Project management will ensure that there will be no impact of contractor abstraction on existing users. Control in this and other environmental management matters will be exerted through supervision and monitoring by the project under the responsibility of the Engineer’s Representative.

Impacts of air pollution on local populations are negligible in rural areas where there is low traffic density and limited roadside communities and no potential cumulative impact issues. During construction dust will be controlled around settlements and noise nuisance reasonably restricted. Such elements will be mitigated by strict application of the designed environmental management requirements for contractors. Likewise, there are controls designed for potential localized impacts on water, soils and air from a) work sites, b) workshops and c) construction camps. Environmental health and safety will also be managed through appropriate planning, supervision and monitoring.

Positive Economic Sector Impacts

Agriculture and Livestock

Agriculture and livestock production and marketing will be facilitated by road improvement. An efficient road transport link with JKIA is essential for export of cut-flowers grown in the area. Most of these are grown under irrigation in Kenya and fetched as much as USD 46 million in 2005. Similarly, the zone of influence is a major source of meat products. In 2003, Arusha raised approximately 1.6 million head of cattle, 1.7 million goats and 1.0 million sheep.

Likewise, Kajiado district has recorded in April 2005 livestock population of 453,578 cattle, 652,328 sheep, 667,391 goats, 956 camels, and 252,087 poultry. Reduced vehicle operating costs and enhanced competition among transport operators will lead to lower transport fares. Improved road conditions, therefore, will allow these products to reach markets at lower costs. Development of the road will not of itself necessarily affect the ecological sustainability of development. There is clear potential for supply to hotels from within the region as tourism development is facilitated through improved road network developed through the project.

Tourism and Hotel Industry

Tourism industry contributes significantly to the economic growth of the two countries. In 2003/04, tourism contributed 12% to Kenya’s GDP and 16% to Tanzania’s GDP, respectively. In Kenya, tourism earnings grew by 52% from USD 370 million in 2003 to USD 560 million in 2004. Approximately 75% of Kenya tourism depends on road transport, and in 2005 as many as 94,104 of the holiday visitors entered Tanzania from Kenya through the Namanga border. Records show that a major proportion of tourists are repeat-tourists and road condition is a major deciding factor. The road will also stimulate en route and culture tourism that will boost direct incomes through sale of handcrafts and souvenirs.

Positive Social Impacts

Employment and Gender Equity

During construction approximately 800 people will be directly employed over three years and there will subsequently be jobs in road maintenance. Further employment opportunities, especially for women, will come from provision of services such as in sales of food items and domestic work, and in particular growth in hotel and resort development. For both men and
women there will be enhanced opportunities in agro-based industries, ranching and the cement production. Furthermore, the increased activities in Kenya EPZ and the growth of light industries around Arusha will create more job opportunities and increased incomes for the communities around the zone of influence.

The two countries have gender policies, for example Kenya’s Employment Act re-enforces equal treatment of men and women at the work place. In Tanzania, TANROADS has a clear policy of allocating 25% of maintenance contracts to women; it also conducts sensitization programmes to encourage women to participate in road construction works and win contracts. The project will ensure compliance with such policies and promote women’s employment by the contractor through stipulations on employment ratios.

Access to Social Services

The improvement of the road will provide better access to health facilities and for schools, also extension of agricultural services and social support programmes will be facilitated by the new road. According to the Tanzania PHDR (2005), among the major obstacles to accessing health care are long distances, inadequate and unaffordable transport systems. According to the TDHS, 38% of women expressed long distance as an obstacle, 40% lacked money and 37% had to take transport to access a health facility. Reciprocally, ease of access by health and social workers to remote areas assists rapid dissemination of health and HIV/AIDS messages.

Potential Negative Social Impacts

Spread of HIV/AIDS

Although HIV/AIDS prevalence rates for the area of influence are lower than most averages in the two countries and in the sub-region, there will nevertheless be a potential risk in the spread of HIV/AIDS. Since improved transportation tends to expedite the spread of the virus, the project must be mindful of the dangers in this particular road project. Construction workers will be away from families for extended periods, and since workers will have ready cash they may indulge in drinking and liaisons as a means of recreation. The young and poor may be lured into unplanned sexual interactions with truck divers.

The three main risk elements for concern are: (i) spread among construction workers, (ii) transmission to the communities around the road site camps, and (iii) spread among travellers and mobile communities at nodal transport points (Namanga border) and markets. Measures to mitigate such risks are catered for in design of environmental measures (see below).

In recognition that tourism could have serious socio-cultural, child exploitation and health (HIV/AIDS inclusive) repercussions, the two governments have taken initiatives to prevent such occurrences, and these include Tourism Policing in Kenya, and dissemination of warning messages at all holiday and tourist resorts in Tanzania.

Road Safety

The existing road is narrow, with broken road edges, which create a serious hazard for overtaking traffic. The lack of a separate pedestrian walkway on the Athi River Bridge to be reconstructed has resulted in three incidents of fatalities within the last year. The road serves as a major road link with most local buses traveling from Dar-es-Salaam to Arusha and through to Nairobi, and Mwanza and Moyale. There is potential, therefore, for increased
accidents once the road is improved due to over-speeding, increase in vehicle numbers and the large number of livestock in the area.

*Loss of Property and Disturbance*

The census and survey of project affected persons (PAPs) was conducted by the Consultant. There are minor compensation issues involving mainly roadside stalls and fence structures requiring legal settlement especially on the Kenya side of the road, and no dwelling homes are involved. In some cases, crops and farm fences will have to be removed. The survey has established individuals and other owners and an estimate has been made of potential losses. There are estimated 10 PAPs on the Tanzania side and 7 PAPs on the Kenyan side (A summary Abbreviated Resettlement Plan is attached).

7. Environment and Risk Management

Best practice in construction environmental management will be achieved through implementation of a detailed Environmental and Social Management Plan (ESMP). The Consulting Engineer for the project will be responsible for environmental management and related social components. The construction period is estimated to be three years during which time potential environmental aspects to be managed include: sound contouring and profiling of the road, adequate drainage and grassed verges; management of borrow pits and borehole water points for construction (and community use); work camp siting and decommissioning; construction site management and workshop health and safety.

The ESMP covers all necessary steps to mitigate negative impacts. These include measures during construction to: a) mitigate risks of erosion and sedimentation around watercourses; b) restrict water and soil contamination on work sites and around work camps (including littering and waste disposal); c) restrict generation of dust during construction; d) reduce risk of fire, cutting of trees for firewood, hunting and trapping by construction workers; e) implement HIV/AIDS awareness programs for construction workers; and, f) minimize risk of accidents and ensure occupational safety of workers on construction sites.

As a measure to restrict the spread of the HIV/AIDS virus a component is designed and costed for awareness and mitigation activities for workers and for the largely scattered and transient communities along the project route. Specific provisions will be included in contracts and a sum of US$ 120,000 has been allocated for HIV/AIDS interventions. In collaboration with NACC and TACAIDS the project shall ensure that prevention and mitigation activities are undertaken with truckers, transporter associations, school children and students and other vulnerable persons, with actions aimed at behavioural change implemented.

There are existing HIV/AIDSs activities coordinated by local authorities, NGOs and CBOs in Kenya and Tanzania. Bill boards carrying HIV/AIDS awareness messages will be erected along the road but there will be emphasis on street theatre ad active involvement of service providers such as NGOs in such activities. The one-stop-border post at Namanga which is a part of the EAC’s project concept will reduce the time truckers spend at the border and hence inherently reduce possible risk from dalliances there. In addition, the two governments have taken initiatives including establishing Tourist Policing in Kenya and dissemination of warning messages against child exploitation.
In addition to the road safety awareness programmes and training implemented in the two countries, the road design and new road conditions will play a major role in reducing road accidents. These include improved parking bays on busy and populated areas, safer turn-offs with separate lanes as appropriate alongside the main road, widening of the road in some places to allow for bicycle paths and pedestrian side walks, and inclusion of lay-bys for parking and bus stops, with side-roads through settlements for non-motorized traffic. In terms of supplementary measures it should be noted that detailed design will require that crossing points of wildlife and cattle will be signed as deemed appropriate to reduce accident risk, while facilities such as schools will also have necessary signage to slow traffic and mitigate risks.

8. Environmental Supervision and Monitoring Program

The Consulting Engineer appointed by the EAC will supervise the contractor with assistance from an Environmental/Social Officer (ESO) who will help facilitate and manage the implementation of the various components of the ESMP.

A monitoring tool has been designed to cover all aspects of construction, including borrow pits and site management to mitigate erosion and siltation, as well as control of pollution and wastes at work sites and camps. There will be day-to-day supervision of earthmoving and construction works to ensure there is sound environmental practice employed during the contract period. Regular project reports shall simultaneously be shared with environmental units of the Ministry of Roads and Public Works (Kenya) and to TANROADS; also with NEMA and NEMC who will have an auditing function.

All such environmental and social measures will be monitored and enforced, together with health and safety measures (accident prevention, etc.) applied by the contractor for his workforce. It is a part of the ESMP that the ESO conduct a quarterly project audit of the ESMP to: a) ensure it is up to date and relevant to the situation on the ground; b) to ensure that non-compliance and corrective actions are appropriately documented; c) to review training inputs; d) to review emergency procedures and implementation status; and, e) to evaluate corrective responses of the contractor.


Stakeholder participation was built into the project from feasibility study stage to project conception. The negative and positive impacts were discussed with the local authorities, village leaders, the local community and independent organisations operating in the zone of influence of the project. The approach used comprised interviews, group discussions and observations during project site visits. The outcome was that the stakeholders showed strong support for the project and that overall the road when completed will result in positive benefits.

The design Consultant used a participatory approach during the study and took into account stakeholder suggestions for consideration and inclusion in the study. Working closely with EAC, the Consultant interviewed stakeholder NGOs, donors, transport operators and the local communities at different stages of the study. The Bank also consulted widely and took further recommendation into consideration during the preparation of the project.

Consultations were undertaken along the route with individual stakeholders including transport operators, min-bus operators (matatus), traders at market places, government
officials, and tourism companies. Routine consultations are planned for at further stages of the project (detailed design prior to commencement of construction and during construction. There will also be community participation in establishing parallel use of boreholes drilled in the project, and borrow pits that would serve as water pans for livestock after road works.

There is universal acceptance and approbation for the road improvement as designed. Not least is the accompanying improvement in transport facilitation resulting from the planned “one-stop” border post at Namanga.

10. Complementary Initiatives

Specific Programme Components

As stated above construction impacts will be mitigated by best practice environmental management measures. These are addressed in the environmental management plan and include HIV/AIDS awareness campaigns during the construction period when there will be a significant risk from the influx of waged construction labour. The contractor will be required to conduct the campaign among his staff and in the villages on the line of the construction works and make available to his staff devices to restrict STD transmission in the host population.

There will be a Road Accident Mitigation Component which has been separately budgeted for and, in addition, measures to enforce labour law and contract gender employment ratios and stipulations are to be incorporated and monitored.

Property Compensation

In accordance with Bank policy all project affected persons will be compensated by the project. The survey conducted has established detailed costs of all individuals and properties. An amount of US$ 123,000 (US$ 78,000 for Tanzania and US$ 45,000 for Kenya) has been set aside for this requirement.

Identified for compensation on the Tanzania side are two abandoned commercial structures, four kiosks and certain walls/gates and boundary structures. A petrol station not liable to compensation may need to replan its forecourt. On the Kenya section there is an abandoned bakery, a construction materials storeroom, a hotel accommodation outhouse, and again two petrol stations with frontage not respecting the ROW of the road.

In establishing the list of people and businesses to be compensated -- types of property and amounts to be paid -- all the affected parties have been consulted, as were the local authorities. EAC in collaboration with the government authorities of both beneficiary countries will ensure that all matters of compensation are finalized before the contractor mobilizes onto the project site.

ESMP Cost Elements

Much of the managed environmental elements will be internalised into the contractor’s costs since he will be required to operate in an environmentally sound and socially responsible manner, as circumscribed by national legislation and contractual environmental requirements.
The cost of the **ESMP** programme elements are provisionally estimated as follows:

- HIV/AIDS Programme: 120,000 USD
- Compensation Programme: 123,000 USD
- Road Accident Mitigation: 20,000 USD
- Environmental Contingencies: 100,000 USD
- ESO staffing: 32,000 USD

Environmental authority licensing fees are levied off private and public projects but the project will seek a relief from such levies from the respective governments.

11. **Conclusion**

The project road will serve to stimulate economic growth through trade and particularly from tourism development. In Kenya tourism contributes about 10 per cent of GDP, and many of the tourists continue to Tanzania along the project road which leads to the important Arusha wildlife and recreational areas. The Arusha region receives 80 percent of all tourist visits into Tanzania, most of who arrive from Kenya using the Arusha-Namanga-Athi River Road.

The project road will deepen economic integration between Kenya and Tanzania and help to promote tourism and other cross-border trade flows. Indirectly there will be a greater demand for agricultural produce which will benefit small farmers along the road corridor and in the wider zone of tourism development. Likewise employment creation in the hotel and tourism industry will be of major benefit to families in the project area.

The project does not involve any new alternative road alignments so no special environmental analysis has been called for, nor are there significant minor deviations. A significant improvement as a result of the project is in driver and pedestrian safety. The current road is narrow and numerous accidents are reported on the route through overtaking and more generally as a result of the poor condition of the road, not least at bridges where pedestrians have no separate walkways.

All activities of compensation and assistance to re-establish affected persons will be completed before works commence. Payments will be made under established compensation practice for each of the beneficiary countries before the commencement of works. Environmental supervision and monitoring will be integrated into the project management and reporting system. Government agencies will be involved in auditing project performance and will receive copies of monitoring reports.

The investment will have many positive impacts on local livelihoods and in the potential economic development of the East African Community and neighbouring countries. There are no significant environmental risks or projected negative social impacts which will not be accounted for through implementation of the ESMP.

Considering that the conclusions of the ESIA report and the resettlement action plan are most likely to be adequate, it is recommended the processing of the project proceeds.
12. References and Contacts

Project Document:


Tanzania Legislation
National Environmental Policy 1997
Environmental Management Act 2004

Kenya Legislation
Environmental Management and Coordination Act (EMCA) 1999
EIA and Audit Regulation 2003

Tanzania Reports
2. Poverty and Human Development Report 2005, United Republic of Tanzania

Kenya Reports

Key Contacts

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**Annex**

**Summary Abbreviated Resettlement Plan**  
**Athi River - Namanga – Arusha Road**

**Census of Project Affected Persons (PAP) and Valuation of Assets**

The consultants conducted a census of the Project Affected Persons (PAP) falling within the Right of Way on each of the two countries. As mentioned in the Summary, there are 10 PAP on the Tanzania section of the road and 7 on the Kenyan section of the road. The table below gives details about the locality of the PAP, socio-economic status, cost estimate and the type of structure.

**Arusha – Namanga Section (Tanzania)**

<table>
<thead>
<tr>
<th>Town/Village</th>
<th>Socio-economic status/occupation</th>
<th>Cost estimate TShs</th>
<th>Type of structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arusha</td>
<td>Trades in gold, own bar and restaurant</td>
<td>5,000,000</td>
<td>Abandoned Makuti structure, brick and concrete finish, grass thatch roof</td>
</tr>
<tr>
<td>Ngaramtoni</td>
<td>Businesswoman, housewife</td>
<td>170,000</td>
<td>Wooden kiosk</td>
</tr>
<tr>
<td>Ngaramtoni</td>
<td>Businessman</td>
<td>500,000</td>
<td>Abandoned commercial structure</td>
</tr>
<tr>
<td>Ngaramtoni</td>
<td>Physician, Mt. Meru Hospital</td>
<td>340,000</td>
<td>Gate with adjoining concrete wall</td>
</tr>
<tr>
<td>Ngaramtoni</td>
<td>Petrol dealer and transporter</td>
<td>20,000,000</td>
<td>Petrol station</td>
</tr>
<tr>
<td>Ngaramtoni</td>
<td>Police woman and businesswoman</td>
<td>1,000,000</td>
<td>Timber structure with GCI roof (bar)</td>
</tr>
<tr>
<td>Ngaramtoni</td>
<td>Government property</td>
<td>3,000,000</td>
<td>Concrete water tank</td>
</tr>
<tr>
<td>Lengijave</td>
<td>Businesswoman, waiter</td>
<td>200,000</td>
<td>Timber structure kiosk</td>
</tr>
<tr>
<td>Oldonyo Sambu</td>
<td>Businessman</td>
<td>1,300,000</td>
<td>Plastered mud walls with GCI roof (Celtel painted Kiosk)</td>
</tr>
<tr>
<td>Longido</td>
<td>Longido secondary school</td>
<td>255,000</td>
<td>1.5m high concrete signboard</td>
</tr>
<tr>
<td><strong>Total in TShs</strong></td>
<td></td>
<td><strong>31,765,000</strong></td>
<td></td>
</tr>
</tbody>
</table>
**Namanga – Athi River Section (Kenya)**

<table>
<thead>
<tr>
<th>Town/Village</th>
<th>Socio-economic status/occupation</th>
<th>Cost estimate KShs</th>
<th>Type of structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kitengela</td>
<td>Baker</td>
<td>400,000</td>
<td>Delux (abandoned), roof-iron sheet, wall-bricks</td>
</tr>
<tr>
<td>Kitengela</td>
<td>Businessman</td>
<td>2,000,000</td>
<td>Tosha petrol station – operational</td>
</tr>
<tr>
<td>Kitengela</td>
<td>Businessman</td>
<td>100,000</td>
<td>Store-room for construction materials, wall-blocks, roofing iron-sheets</td>
</tr>
<tr>
<td>Kitengela</td>
<td>Hotelier</td>
<td>400,000</td>
<td>Administration block, Africana Hotel, wooden wall, roofing grass and iron sheets.</td>
</tr>
<tr>
<td>Kitengela</td>
<td>Hotelier</td>
<td>300,000</td>
<td>Saloon-Africana Hotel, wall block, roof-iron sheet.</td>
</tr>
<tr>
<td>Kitengela</td>
<td>Hotelier</td>
<td>350,000</td>
<td>House – Africana Hotel, wall-blocks, iron roofing- sheet.</td>
</tr>
<tr>
<td>Kitengela</td>
<td>Businessman</td>
<td>2,000,000</td>
<td>Petrol station</td>
</tr>
<tr>
<td><strong>Total in KShs</strong></td>
<td></td>
<td><strong>5,550,000</strong></td>
<td></td>
</tr>
</tbody>
</table>

**PAP Consultations**

During the census, which was conducted in June 2006, all affected persons were consulted and informed about the impeding action. In establishing the list of people and businesses to be compensated and determining the form of compensation, and amounts, all affected people were involved and so were local authorities. In all cases the agreed upon method for compensation was financial payment where the responsibility shall lie with the affected persons themselves to rebuild their livelihoods. Since most of the PAP live close to the road boundary, the likelihood will be for them to shift to the legal limits and reconstruct their business assets. It is important to note that the affected persons fall in two categories. There are those who established the assets with full knowledge that they were violating the right of way. This is mostly the case for the formal business operations that require municipal or town council licensing to operate. Not-withstanding this, the two governments have made budgetary provisions for appropriate compensation. A total of USD123,000.00 is budgeted implying USD78,000 for the Tanzania side of the road, and USD45,000 for the Kenyan section of the road.

**Institutional Responsibility and Monitoring**

Institutional responsibilities for implementing and monitoring the compensation plan will rest with the Ministry of Public Works in Kenya and the TANROADS in Tanzania. Local authorities will liaise with the contractors who will ensure complete execution of the plan. The East African Community (EAC) Secretariat will coordinate and monitor that all compensation is completed before the contractors move in with the road works.