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**AFRICAN DEVELOPMENT
BANK GROUP**

PROJECT: MULTINATIONAL: NACALA ROAD CORRIDOR
REHABILITATION PROJECT-PHASE I

COUNTRY: MOZAMBIQUE/MALAWI/ZAMBIA

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT SUMMARY

Date: January 29, 2009

ABBREVIATIONS

ANE	=	National Roads Administration/Administração Nacional de Estradas
ARP	=	Abbreviated Resettlement Plan
DEA	=	Department of Environmental Affairs
EMU	=	Environmental Management Unit
ESMP	=	Environmental and Social Management Plan
ESIA	=	Environmental and Social Impact Assessment
GAJUTRA	=	Cabinet for Legal and Cross Cutting Issues/Gabinete de Assuntos Jurídicos e Questões Transversais
MICOA	=	Ministry for Coordination of Environmental Affairs/Ministério para a Coordenação da Acção Ambiental
NDC	=	Nacala Development Corridor
NGO	=	Non Governmental Organization
RAP	=	Resettlement Action Plan
RP	=	Resettlement Plan
SADC	=	Southern Africa Development Community
SATCC	=	Southern Africa Transport and Communication Commission
STI	=	Sexually Transmitted Infection
UN	=	United Nations

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT SUMMARY

Project Name: Nacala Corridor Rehabilitation Project
Country: Mozambique and Malawi
Project Number: P-Z1-DBO-039

1. Introduction

The Government of Mozambique intends to improve access along the Nacala Development Corridor by rehabilitating and upgrading to bitumen approximately 350 km of the N13 highway from Nampula to Cuamba. The Nampula-Cuamba Road is an important component within the Nacala Development Corridor, an initiative that was jointly launched by the Governments of Mozambique, Malawi and Zambia in 2000, since it connects Niassa and Nampula Provinces, and in addition it serves to link landlocked Zambia and Malawi to the Mozambican coast. In line with the Mozambican EIA Regulations of 2004 (Article 3), the Ministry for Coordination of Environmental Affairs (MICOA) classified the road project as Category A, requiring a full environmental impact assessment. The scoping study was subsequently approved in January 2008. The objective of the ESIA Study was therefore to assess the positive and negative biophysical and socio-economic impacts resulting from the rehabilitation of the project road, to provide recommendations for mitigation and enhancement, and to present a detailed environmental management plan.

The city of Lilongwe falls within the Nacala Development Corridor, and the Government of Malawi intends to upgrade the bypass roads in Lilongwe in order to alleviate traffic congestion in certain localities of the city. For the purposes of this summary, the bypass under consideration is the section of the Western Bypass from Mchinji Road to Bunda Turn Off, a length of 13 km. In accordance with the Environmental Management Act of 1996, an ESIA study was conducted in order to assess the environmental and social effects of the bypass road construction.

2. Project Description and Justification

Mozambique: Nampula-Cuamba Road

The Nampula-Cuamba Road (N13) traverses five districts having high agricultural potential, namely Cuamba, Malema, Mecuburi, Ribaué and Rapale, linking them to markets, manufacturing industries and commercial institutions in Nampula, Mozambique's third most important city and the capital of Nampula Province. The project road also facilitates access to Lichinga, the capital of Niassa Province to Nampula.

The design concept is based on the rehabilitated road keeping to its existing alignment (except where minor realignment is required for rectifying bends) to accommodate a design speed of 80 km/h, on traffic forecasts as well as SATCC standards. The road will have a 7 m wide carriageway, with 3.0 m shoulders on either side in rural areas, and 2.5 m width shoulders in urban and semi-urban areas. The road will be elevated where necessitated by the terrain, and provision will be made for longitudinal and cross drainage (including culverts, drains and bridges), pedestrian and road safety. The right of way is 60 m. Construction works will involve the establishment of the Contractor's yard and camps, clearing of work areas, opening and excavation of materials sties, earthworks, establishing drainage systems and paving.

Recommendations have been made to ensure the implementation of environmental and social mitigation activities to control environmental pollution and degradation, and to address the issues of health, safety, and STI and HIV/AIDS.

Despite its regional importance, the road is unpaved. The terrain and soils along the road, poor road surface and lack of proper drainage structures make the road impassable during the rainy season, negatively affecting trade, commerce and the general movement of people. Although there is a railway line that runs roughly parallel to the road, scheduled passenger services only operate every two days, and freight services are unscheduled. The main objectives of the project are to create an efficient and primary road connection through securing smooth traffic throughout the year corresponding to future traffic demand and reducing the risk of accidents and the rate of injuries to pedestrians by motorised vehicles. Improved access and circulation of people and goods is expected to promote socio-economic activities and rural development along the road, as well as in the project districts, and the Provinces of Nampula and Niassa.

Malawi: Lilongwe Bypass

Lilongwe has experienced rapid traffic growth over the past decade, and as a result traffic congestion in the city has become problematic. Unplanned developments resulting in many access roads from the main arterial roads are contributing to the pressure on the roads. Eastern and Western Bypass routes have been proposed in order to ease congestion in the centre of Lilongwe, and also to facilitate through traffic. The proposed section of the Western Bypass under consideration here runs from Lilongwe – Blantyre Road (M1) at Bunda Turn-off through the southern side of the City and crossing the Lilongwe River and the Likuni Road to join the Kaunda Road Junction off the Lilongwe – Mchinji Road near the Malawi Revenue Authority Offices. The road will cover a total distance of 13 km and is categorized as a Class I bitumen standard road with a 30 metre road reserve on either side. The carriageway will be 6m wide with 1.5m shoulders designed for a maximum speed of 120 km/hour. Construction works will include construction of new road sections, existing road improvement in terms of widening and upgrading where necessary.

3. Policy, Legal and Administrative Framework

Mozambique

The Constitution of the Republic of Mozambique defines the right of all citizens to live in a balanced natural environment and their obligation to protect it. The National Environmental Policy (Resolution Nr 5/95, dated December 6th 1995) aims to maintain an acceptable balance between socio-economic development and environmental protection, while the Environment Law (Law Nr 20/97, dated October 1st 1997) provides the legal basis for sound use and management of the environment as a means to safeguard sustainable development in the country.

The EIA Regulations (Decree Nr 45/2004), the Regulation on Environmental Audit Process (Decree Nr 32/2003) and the Regulation on Environmental Inspections (Decree Nr 11/2006) are of particular relevance to the ESIA study. Some of the other legal instruments of importance are the Regulation on Standards of Environmental Quality and Emission of Effluents (Decree Nr 18/2004) which establishes standards for atmospheric emissions, air and water quality, and noise emissions, the Regulation on Waste Management which provides rules for disposal of waste, the Forest and Wildlife Law (Decree Nr 12/2002) as well as the Land Law (Law Nr 19/1997) define zones for the protection and conservation of

biodiversity, and the Cultural Heritage Law (Law Nr 10/88) protects material and non-material assets of the Mozambican cultural heritage.

In Mozambique, resettlement and compensation are governed by the National Land Policy and National Land Use Policy, as well the Land Law (Law Nr 19/1997) which defines land use rights, the Land Law Regulations (Decree Nr 66/1998) which regulates procedures to obtain land for rural and peri-urban areas, and procedures for compensation (the regulations imply that the approval of construction projects for public infrastructure, including roads, allow the automatic creation of a Partial Protection Reserve of 50 m right of way for main highways, 30 m for primary roads and 15 m for secondary and tertiary roads) and the Law of Land Use Planning (Law Nr 19/2007) which requires all land use planning to respect the use of natural resources.

Guidelines on the Criteria for Resettlement of Populations in Rural Areas were prepared by MICOA in 2000, and in June 2007 ANE published a Draft Framework for Resettlement Policy for the Road Sector.

Mozambique's Road Administration System (Administração Nacional de Estradas – ANE) was established through Decree No. 14/99, and this body regulates the legal, institutional and financial framework for road administration in Mozambique. The National Road Policy and Strategy establishes the need for a road network for the movement of cargo and passengers, and recognises its importance in promoting economic development. The Road Policy also acknowledges the need for environmental protection and mitigation of impacts and damage caused by road construction works. Environmental Guidelines for the Road Sector were prepared in January 2002, and these provide guidance with regard to procedures and requirements for the conduct of environmental studies for road sector projects. An Office for Legal and Cross Cutting Issues (GAJUTRA) was created within ANE to ensure that legal, environmental, social (including gender, resettlement, and poverty reduction) and security aspects are incorporated into road sector projects under ANE's jurisdiction.

In addition, international guidelines relevant to the ESIA are:

- Japanese Bank for International Cooperation, Environmental Guidelines (2002);
- Japanese International Cooperation Agency, Environmental and Social Guidelines (2004);
- Environmental and Social Assessment Procedures for the African Development Bank's Public Sector Operations (2001);
- African Development Bank Policy on the Environment (2004)
- African Development Bank's Policy on Involuntary Resettlement (2003)
- African Development Bank's Integrated Environmental and Social Impact Assessment Guidelines (2003).

The main environmental assessment and monitoring agencies for the road sector are ANE GAJUTRA and MICOA.

Malawi

The Constitution of Malawi (1995) lays a strong foundation for policy and legal reform in environmental governance. It stresses the need for managing environment responsibly in order to "prevent the degradation of the environment, provide a health living and working environment for the people of Malawi, accord full recognition to the rights of future

generations by means of environmental protection, and conserve and enhance the biological diversity of Malawi". The Environmental Management Policy elaborates the rights and responsibility of communities in the management of the environment, and the government's responsibilities in, among others, environmental planning, impact assessment, audit and monitoring. The Gender Policy promotes the participation of women, men, girls and boys in the sound management, conservation and utilization of natural resources. The Environment Management Act of 1996 provides for the protection and management of the environment, and the conservation and sustainable utilization of natural resources. It makes EIA mandatory for projects that may have adverse environmental impacts. Guidelines for EIA were published in 1997.

With regard to compensation and resettlement, the Constitution clearly states the processes for the acquisition of land, compensation and means for redress. The Land Act (Cap 57.01) governs customary, public and private land, and regulates the use of land. The Public Roads Act (Cap 69.02) deals with all matters relating to public roads, construction and maintenance, including compensation of land take for road construction, while the Town and Country Planning Act (Cap 23.01) controls development in urban and rural areas, the acquisition of land, and compensation due to use of land.

The National Roads Authority (NRA) was established by Roads Authority Act of 1997 and the Roads Authority was established through Roads Authority Act No. 3 of 2006.. Among its core values is to ensure compliance with environmental and road safety regulations. The Environmental Management Unit was established within the RA with the mandate of integrating environmental issues into road sector activities. To this end, the RA has produced Environmental and Social Management Guidelines in the Road Sector (2007), and Draft Environmental Review Guidelines and Best Practices in the Malawi Road Sector.

Under the Environment Management Act, the Department of Environmental Affairs (DEA) is responsible for the overall coordination of environmental issues in the country. The EMU of the RA must ensure that environmental and social impact assessments for road projects are adequately carried out, that mitigation is incorporated as appropriate, and that the construction process is environmentally and legally compliant. Furthermore, EMU is responsible for monitoring the environmental and social repercussions of the road project after its completion.

4. Description of the Project Environment

Mozambique: Nampula-Cuamba Road

The Nampula-Cuamba Road runs from east to west along the Mozambique Plateaux, and lies between the Lichinga Plateau to the west (at an elevation of over 1000m) and the coastal plain to the east (having an altitude of less than 100 m). The road itself has elevations of between 400 m and 600 m. The landscape along the project road is characterised by numerous inselbergs, and some very high mountains, such as Mt Namuli (2,419 m asl), Mt Inago (1,807 m asl) and Mt Ribáuè (1,777 m asl).

Climatically, the project area typically experiences two seasons: the dry cold season between April and October, and the hot rainy season from November to March. In some zones along the road, the climate is affected by altitude. Mean daily temperatures vary between 20°C and 26°C, and temperatures decrease from east to west. Annual precipitation varies between 1000 mm and 1600 mm, again increasing from Nampula to the west, although there are local variations due to the relief.

The **geology** of the project area originates from the Precambrian era and comprises the Lower Precambrian, and Higher Precambrian or Mozambique Belt which is tectonically very active. The rocks are made up of intrusive complex granite-gneisses, and some metamorphic and metasediments. Consequently the **soils** are predominantly loamy brown-reddish, sandy brown-reddish and light brown clayey sands, having very low to low fertility and prone to erosion, and low water retention capacity.

Minerals found in the project area include feldspar and kaolin in Ribáuè and garnets in Cuamba.

The **natural drainage** within the project area is influenced by numerous rivers and streams, the most important being the Monapo, Meluli, Mecuburi Rivers, and the Lúrio River and its tributaries. The basins for these rivers are large, ranging from 8,000 sq km to 61,000 sq km. More than half of the western section of the project road falls within the Lúrio River Basin. All the river basins drain towards the Indian Ocean. **Surface water** is therefore abundant in the project area, and more than 30 rivers and streams cross the project road. Water quality of these rivers is good, since there is little development in the region. Water supply coverage in the project area is poor, and only the cities of Nampula and Cuamba have formal supply systems. **Groundwater** resources in the project area are considered to be poor in terms of discharge due to the geological constitution, but can be found at depths of 20 m to 40 m and is of potable quality. The majority of the population therefore draws its water for domestic use from surface water sources, and occasionally groundwater (wells and boreholes).

The project area comprises a mosaic of different **land uses**: extensive agricultural areas (including old coffee plantations) with patches of natural vegetation punctuated by inselbergs, and mango and cashew nut trees in and around the settlements.

The **natural vegetation** is characterized by various types of *miombo* (*Brachystegia* sp) that are influenced by altitude and climate, namely tardily deciduous, semi-moist deciduous, high precipitation deciduous, dry deciduous. There are three **forest reserves** within the vicinity of the project road: the Mecuburi, Ribáuè and Mpalwé Forest Reserves. About 180 **faunal species** can be found in the project area, including elephant, buffalo, jackal, hyena, lion, leopard, sable antelope eland and duikers. One of the most important elephant migration corridors exists just north of the project road but does not necessarily cross the project road. The inselbergs and mountains have high biological value, harbouring unique floral and faunal species.

Preliminary **population** census data estimates that the population in Nampula and Niassa Provinces in 2007 was 4,076,642 and 1,178,117 respectively. The project districts have a combined population of 787,170 people. **Population densities** in the project districts range from 23.7 persons per sq km in Malema to 55.9 persons per sq km in Nampula/Rapale (cf. national average 25.68 persons per sq km). The population tends to be concentrated along the existing roads and social amenities. There are over 30 human settlements along the project road.

A household survey conducted during this ESIA study indicated that most of the population live in the rural areas. The average **household size** was 4.3, and 78% of the households

were male headed. Just under half the people in each household were less than 15 years of age. Emakwa is the main **language** spoken along the project road, and the predominant **religion** is Christianity.

About 95% of the population rely on **subsistence agriculture and fisheries**. The main food crops grown are cassava, maize, cowpeas, beans, groundnuts, sorghum and millet. Some households also grow vegetables for home consumption. **Cash crops** include maize, sorghum, groundnuts, cassava, cotton and cashews. Domestic livestock include oxen, pigs, goats, chickens, ducks and rabbits. Wild animals are also caught for food. Some 20% of households also had off-farm sources of income (businesses, sale of handicrafts and/or remittances).

There are several primary **schools**, but few **health** centres. The most common illnesses are malaria, leprosy, HIV/AIDS (prevalence rates at 2005 were 11.1% and 9.2% for Niassa and Nampula Provinces, respectively) and diarrhoea. These are linked to poverty and lack of access to clean water and sanitation. Only Nampula, Cuamba, Ribáuè, Namigonha, and Iapala have electricity. Digital communication systems are found in Nampula, Ribáuè, Malema and Cuamba Districts.

The UN Human Development Report (2005) puts 61.2% and 68.1% of the people in Niassa and Nampula districts as living in absolute **poverty** (cf. national average of 62.86%). The survey conducted during this ESIA indicated that 78% of households lived on a per capita income of less than US\$1 a day. District profiles indicate that most rural households do not produce enough food to meet their needs throughout the year. The most vulnerable households are female headed ones.

Malawi: Lilongwe Bypass

The project area can be classified as **semi-urban**. **Topographically**, the bypass terrain is relatively flat. The **climate** in the project area can generally be described as warm and sub-humid. Annual rainfall is between 800 mm and 1000 mm, and the rainy season extends from November to April.

The bypass crosses a **number of streams and rivers**, the major river being the Lilongwe River within Katete Farm.

Vegetation along the section of the Western Bypass under consideration comprises mainly grasses and shrubs, and a few trees. Common tree and plant species found along the route are *Combretum* sp, *Strychnos spinosa*, *Steganotaenia* sp, *Terminalia stenostachya*, *Markhamia obtusifolia*, *Zahna africana*, *Piliostigma* sp, and *Acacia polyantha*. There were no reports of wild animal sightings along the project road, although a number of bird species are found.

In general **poverty** levels are high along the project road. Mud walled houses with grass thatch roofs are predominant. Most of the people in the rural and peri-urban areas rely on natural resources for their livelihood. Brick making is a common **economic activity**. The customary land through which the road will pass is primarily used for **smallholder farming** where maize, tobacco, groundnuts and soya beans are the main crops.

5. Project Alternatives

Mozambique: Nampula-Cuamba Road

In terms of project alternatives for the Nampula-Cuamba Road, the following options have been considered:

- i. “No project” scenario;
- ii. Alternative 1: based on a design speed of 80 km/h;
- iii. Alternative 2: based on a design speed of 100 km/h.

The “no project” option would lead to retraction by investors and delays in the implementation of other infrastructural projects such as water and energy supply. The road will have to be constantly maintained, incurring continual costs as the road has insufficient drainage and is not paved. Access for the maintenance of the railway and its drainage works would be hampered. Vehicle operating costs will remain high. Transportation costs for agricultural produce will also remain high, and agricultural output will be limited due to lack of access to markets. The population along the project road and its area of influence will be deprived of access to other parts of the country, including airports and other social amenities. As evidence of project inaction continues, encroachment on to the road reserve is likely to occur, which will in the long term necessitate high costs for resettlement and compensation as temporary structures lining the road will become permanent.

Alternative 1 follows the existing alignment with only minor modifications in longitudinal and horizontal profiles. No settlements along the road would be bypassed. However there is an increased risk resulting from higher and faster traffic, and elements of noise and air pollution.

Alternative 2 involves bypassing a number of villages that are currently served by the project road, and may require substantial modification to bends in order to accommodate a higher design speed. This alternative would mean that the villages will not be impacted by noise or pollution resulting from the road construction and operation, and the risk of traffic accidents would reduce. But the design would necessitate greater agricultural and natural land take and about 5000 houses would be affected.

Due to economic considerations, Alternative 1 has been selected for detailed design.

Malawi: Lilongwe Bypass

Alternatives considered for the Lilongwe Bypass were:

- i. “No project” scenario;
- ii. “With project” scenario.

In general the analysis concluded that the project would have marginal negative impacts on the environment if the project was not implemented, since the problems of congestion and dust would still persist. Postponing the project would increase social suffering and ultimately increase the costs to the government. On the other hand, there would be substantial positive benefits both socially and environmentally resulting from improved access if the project is implemented with the recommended mitigation measures.

6. Potential Impacts and Mitigation/Enhancement Measures

A number of positive impacts will be derived from both the upgrading and rehabilitation of the Nampula-Cuamba Road and the Lilongwe Bypass. During construction, **employment opportunities** for members of the local communities will supplement family incomes, particularly for women headed households; businesses will benefit from providing services such as the provision of construction materials, transport services, food and drink for the workforce. After construction, the **transport system** in the region will be greatly enhanced: for

the Nampula-Cuamba Road, the road will link Niassa and Nampula Provinces, as well as provide easy access to Malawi and Zambia, while the Lilongwe Bypass will serve to alleviate the traffic congestion problems within the city of Lilongwe. In both cases, transportation of people and goods will become more efficient, travel times will decrease, travel will be more comfortable, and vehicle operating costs will decrease. Social services will be more easily accessible. With regard to the Nampula-Cuamba Road in particular, agriculture productivity will be boosted through ease of access to markets, thereby increasing farming revenues, and other commercial activities will also be stimulated, leading to more agro-industries being set up in the area, and consequently more social infrastructure will be established.

For both the roads, construction activities such as earthworks, movement of heavy vehicles, clearing activities, and operation of concrete and asphalt plants will result in **emissions of dust, particulate matter and volatile organic compounds**. This can be mitigated by locating the contractor's site installations away from residential areas, schools and health centres; spraying the work areas with water; exercising care whilst loading soil; installing dust retention devices on the concrete plant, maintenance of plant and equipment; training the contractor's workforce in air quality management techniques and avoiding the burning of vegetation and other waste. During operation, **dust levels** along the roads will decrease as a result of the paved surface. **Noise** during construction will be generated by construction plant and equipment and during operation by the road traffic. Impacts of noise can be mitigated by having a porous road pavement, controlling vehicle speeds, and by having natural acoustic barriers, for example by planting trees. In the case of the Nampula-Cuamba Road, the road design requires a small amount of cut and fill. Similarly rock may have to be blasted for road widening. These may lead to **subsidence, rock falls, and landslides**.

Potential Impacts on **climate change** will be caused by vehicular exhaust emissions especially during operation. **Air pollution** will increase due to increase in traffic brought by improvements in the road condition. In the case of Mozambique, the analyses conducted estimated that **Green House Gases** will increase in volume from 77 tons/day to 136 tons/day in the 'without project' scenario while the same will increase to 264 tons/day with the project. While the absolute volumes will potentially go up, the impact is considered of low to medium magnitude. Never-the-less mitigation measures are being considered which will include control over the age of vehicles and building restrictions to ensure minimum distance from the road. Similar measures are contemplated in the case of Malawi where control shall be imposed on quality of machines to be deployed even for concrete and asphalt mixers during construction. In addition, there will be need to build capacity and ensure that air quality tests are regularly carried out and reported upon.

For both roads, construction activities, such as excavation of materials sources and earthworks may cause **soil erosion**. Eroded soils may enter water courses, causing increased sediment loading. Inadequate provision for drainage of water may also contribute to erosion. Mitigation measures include employing good practices during excavation, proper stockpiling, slope protection, ensuring proper drainage and maintenance during operation. Excavation of gravel pits and hard-stone quarries **alters the landscape** leading to loss in scenic value. Along the Nampula-Cuamba Road, this may lead to loss in biodiversity as well as mineral deposits, particularly if inselbergs are destroyed. Inselbergs should therefore not be used as hard-stone sources, and all materials sites should be rehabilitated and revegetated. **Ecological impacts** will also result from **clearing of vegetation** for road widening, materials sites and contractor's / worker's camps. The natural vegetation along the Lilongwe Bypass has little conservation value; however along the Nampala-Cuamba road, the vegetation around the inselbergs is considered to be special. Clearing should be done carefully and selectively, and revegetation undertaken where required. The contractor's site installations and camps should be located where the vegetation is already altered.

Contamination of soil, as well as of surface and ground water sources, may result from oil spills from plant and equipment, and from leaching from the contractor's waste disposal sites. Proper handling and management of oil and lubricants (including having a spill contingency plan), and proper disposal solid and liquid waste will mitigate these impacts. The contractor must obtain permission from the authorities regulating water use to draw water from any sources that are required for construction purposes. The case is even more relevant to the Lilongwe Bypass which will necessitate construction of a large bridge over the Lilongwe River just a few meters top of the main water intake spot for the Lilongwe Water Board. Both water quality and quantity may be affected if mitigation measures are not adequately adhered to.

Due to its rural nature, the Nampala-Cuamba Road will be subject to specific impacts that are not applicable to the Lilongwe Bypass. The workforce will put **pressure on natural resources such as fuel-wood, forest products and fauna**, and therefore the collection of firewood, forest products, hunting and fishing by the workforce should not be allowed. Once the road is operational, increased ease of access will lead to **increased exploitation of natural resources**, and in particular forests and the virgin miombo woodland that still exists in the project area. The area of influence of the Nampala-Cuamba Road has high agricultural potential, and it is likely that the area will attract **large scale monoculture plantations** which will necessitate the clearing of virgin forest and woodland – indeed there are already plans for the production of agro-fuels from sugarcane. **In-migration** of people settling along the road in search of employment will also put pressure on forests as the demand for fuel-wood increases, and it is likely that the vegetation around the inselbergs will then be threatened. **Illegal logging** is likely to occur. There is an increased risk of **forest fires**, which would lead to a change in the ecological composition of the forests/woodlands. Although faunal diversity is generally low in the project area (apart from in and around the inselbergs), the **elephant migration route** to the north may be disrupted as a result of the development that may be stimulated in the region. **Wild animal road kills** may also occur, although the density of wildlife in the immediate environs of the road is low. Transportation of domestic animals, animal products, plants and vegetables may lead to the **dissemination of diseases** across the region. In order to protect the forests and wildlife, the Mozambican Provincial Forest and Wildlife Services must develop mechanisms to protect forests, virgin miombo stands, and inselbergs, including awareness campaigns. These authorities will have to be strengthened to control illegal hunting and harvesting of forest products. The Mozambican regional planning authorities must ensure that agro-fuel projects do not negatively impact on virgin forests and miombo woodland.

In both cases, the most significant social impact will be due to the loss of assets and property, as well as social infrastructure. Along the Nampala-Cuamba Road, it is estimated that potentially **469 houses and other structures** belonging to **400 households** will be lost to the project, as well as approximately **200 hectares (500 acres) of agricultural land, crops and trees**. All the households are located within existing settlements. It is probable that **5 primary schools, 3 health centres, 5 market centres, a water supply system, 3 cemeteries and a tomb** will be affected by the project. Along the Lilongwe Bypass, it is estimated that **27 houses** belonging to **15 families**, as well as about **78 hectares (193 acres) of cultivated land** and **7 hectares (17 acres) of private land**, and about **7 trees** will be affected. In addition, **a church, a borehole, 12 electric poles and a water pipe** will be affected.

The number of affected assets, properties, structures, institutions and graves can be minimised by reconsidering the road alignment so as to avoid them. To address these issues, a Preliminary Resettlement Plan has been prepared for the Nampala-Cuamba Road and an Abbreviated Resettlement Plan for the Lilongwe Bypass. In addition there will be **disruption of economic activities** due to the relocation process, but also due to construction activities.

During construction **access to property** may be hindered, but this will be temporary. Conflicts may arise between members of the community and the local leaders if **recruitment** for road work is not done fairly. **Workers safety** can be assured through the provision of PPE and having First Aid Kits on site and provision for medical assistance if necessary. **Traffic accidents** will occur during both construction and operation; although the designs for both roads have provided for pedestrian and traffic safety, and road safety awareness campaigns must be undertaken along the project road. There is a risk of the spread of **STDs/HIV/AIDS** due to the interaction of the local communities with the workforce, and also after construction with truck drivers and/or newcomers who will migrate to the project areas in search of livelihood and employment opportunities. Existing HIV/AIDS awareness and prevention programmes should therefore be extended to cover both project areas. The increased population will also lead to **pressure on the existing infrastructure** within the towns and settlements, e.g. on water supply and power, and the planning authorities will need to consider this for future development. In order to address risks to public health and safety due to **spillage of dangerous substances**, the relevant authorities must prepare a Spill Contingency Plan.

7. Environmental and Social Management Planning

Mozambique: Nampula-Cuamba Road

The Nampula-Cuamba Road Environmental Impact Assessment Study includes an Environmental and Social Management Plan, together with the Preliminary Resettlement Plan. These describe the proposed implementation arrangements for mitigation measures, environmental and social monitoring and reporting. There are also various complementary initiatives which will contribute to mitigation as described in Section 10 below, including an HIV/AIDS Awareness and Prevention campaign and a Road Safety campaign. The implementation of the ESMP will ensure that the project is led and managed in an environmentally reasonable and responsible manner, and that it complies with Mozambican legislation, provides start up mechanisms and an action plan for implementation of the mitigation measures.

ANE, specifically GAJUTRA, will review and approve the integration of recommended mitigation measures into the final design of the project, and will have the overall responsibility of ensuring that the project is undertaken in an environmentally sustainable manner and that the mitigation measures are implemented. The provincial delegations of ANE will coordinate with other relevant provincial authorities in matters relating to, for example, land management, removal of graves/cemeteries, water and sanitation, security, recruitment of the workforce, and will ensure that construction works are compliant with the national and municipal laws and regulations. It will also coordinate road safety and HIV/AIDS awareness campaigns. The Supervisor will hire an Environmental Officer and a Social Officer to monitor, review and verify the implementation of the environmental and social mitigation plan. The Contractor will also have to set up his/her own environmental management system to ensure that the ESMP and the relevant environmental specifications in the contract documents are implemented.

The total project cost for environmental mitigation and monitoring, the HIV/AIDS and Road Safety awareness campaigns and compensation and displacement is estimated at **US\$ 6.70 million or US\$8.85 million** over a period of 3 years, depending on whether the affected persons and institutions are given cash compensation and provided with construction materials or whether the State will build private structures for them. The breakdown is as follows:

	US\$
Resettlement Plan	
Option 1: cash compensation, provision of construction materials	3,090,950
Option 2: private structures built by contractors contracted by State	5,247,786
Environmental & Social Management Plan	
HIV/AIDS Campaign	44,000
Road Safety	12,600
Cultural Heritage Supervision	6,000
Environmental Management and Monitoring	93,200
Environmental & Social Officers	3,456,000
Total ESMP Mitigation (excluding RP costs) for 3 years	3,611,800

Malawi: Lilongwe Bypass

An Environmental Management Plan and an Abbreviated Resettlement Plan have been prepared outlining impact and conflict management. The plan involves the identification of stakeholders, establishment of facts, development strategies for the implementation of the recommended mitigation measures. Again, the complementary initiatives described below will augment mitigation efforts.

The Roads Authority, through the Environmental Management Unit, will have the overall responsibility to ensure that the various stakeholders undertake the specific mitigation measures and tasks for which they are responsible. The City/District Assembly will also have a role in limiting environmental degradation, road degeneration and infrastructure development. They will work closely with the local chiefs to ensure that any conflicts that arise in relation to land and compensation are resolved amicably. Other agencies that are key players in environmental and social mitigation are the Ministry of Agriculture and Food Security, the Ministry of Local Government and Rural Development, Ministry of Lands and Natural Resources and Environmental Affairs and the local Natural Resources Management Committees.

The cost for environmental management and monitoring, including the HIV/AIDS Awareness/Prevention and Road Safety campaigns is **US\$35,000**, while the cost of resettlement and compensation (excluding implementation and monitoring) will be **US\$ 295,000**.

8. Monitoring Program

Mozambique: Nampula-Cuamba Road

In the environmental and social monitoring program that has been prepared for this road, aspects to be monitored during construction include:

- Forest / vegetation clearance
- Dust emissions
- Noise emissions
- Oil spills
- Soil contamination
- Contamination of surface and groundwater/water quality
- Solid waste disposal
- Soil erosion

- Inundations/efficiency of drainage works
- Traffic accidents
- Risks to public health
- Demolition of structures and infrastructure
- Landscape deterioration
- HIV/AIDS
- Cultural heritage

Baselines for noise and surface water quality have been taken and are presented in the ESIA for the Nampula-Cuamba Road.

The monitoring of mitigation measures during construction will be carried out by the Environmental and Social Officers, who will provide regular reports to the Resident Engineer. After construction, the responsibility for monitoring will lie with the ANE's GAJUTRA.

Malawi: Lilongwe Bypass

The environmental monitoring plan for the Lilongwe Bypass recommends that aspects to be monitored should include:

- Relocation and compensation of people
- Gravel pits
- Air quality
- Noise
- Traffic accidents
- STI/HIV/AIDS prevalence, condom use
- Solid and liquid waste disposal
- Road signs.

The Environmental Affairs Department, the Road Authority, the contractor, local people, other relevant government authorities (such as the Forestry Department, the Ministry of Agriculture, Bunda College, the District Lands and Valuation Department, and the local clinics will all be involved in various aspects of monitoring.

9. Public Consultations and Public Disclosure

Mozambique: Nampula-Cuamba Road

Public consultation was carried out through holding a public meeting in Nampula city, meetings with several key institutions, interviews with key stakeholders and local authorities, and through a survey of a sample of households residing along the project road.

Benefits associated with the rehabilitation of the road were cited as:

- The road would facilitate the district government institutions and development assistance organizations to carry out activities in the project area, leading to expansion and improvement of social services.
- Easier and safer movement within the project area will encourage commerce.
- Agricultural production will be stimulated, as produce will be able to easily reach markets, resulting in higher demand for agricultural goods and services.
- Business operators in towns and settlements along the road will benefit as they will be better able to provide supplies such as fuel, agricultural tools, and agricultural inputs.

- The road will open up opportunities for diversification of businesses, for example into tourism (especially around Cuamba and Ribáuè).
- Temporary employment opportunities will arise from construction and maintenance works, as well as from the provision of goods and services to the workforce.

Concerns raised by the participants included:

- Outsiders, as opposed to the local people, will benefit from employment opportunities, because the locals may not have the skills or knowledge required for those jobs. This may cause conflicts between the local residents and the newcomers. Therefore steps have to be taken to ensure that the local people are not excluded. Organizations such as the Associação dos Transportadores Rodoviários do Niassa and other NGOs should be consulted for guidance.
- There will likely be loss of land and property, particularly structures that have come up within the right of way, and also damage/loss to a few schools, health units and water supply points could potentially happen (although the selected alternative has ensured no school nor health facilities are destroyed). Farms and grazing land may also be affected. Therefore the resettlement process should have information campaign to inform the communities about the use of the right of way and to avoid putting up structures or cultivating within the right of way.
- The presence of workers, uncommon assets and other opportunities could encourage criminal activities and encourage social activities such as prostitution, with the associated risks of spreading STI/HIV/AIDS;
- As road traffic increases the risk of traffic accidents will increase. It is therefore important to have an education campaign, combined with proper supervision and law enforcement.
- There is a possibility that some sections along the project road have not been cleared of mines, particularly in Malema District (Nacata locality).
- The disruption of infrastructure and services such as water pipes, electricity cables, telephone cables, drains and access roads.
- Dust emissions and increased noise levels were considered minor risks.

Malawi: Lilongwe Bypass

Informal consultations were held with road users. Benefits of the project were cited as being:

- There will be easy access to people along the proposed bypass roads.
- Traders supplying goods to project workers will benefit monetarily
- There will be increased efficiency of services in the city, and less time spent traveling.
- The project would “uplift” the area

The following concerns were raised:

- People were not aware of the project and its details, or who would be affected by it. The city assemblies/district authorities had not informed them about the project. They must therefore convene meetings with the people likely to be directly affected by the project. (As a remedy to the lack of systematic consultations, a series of comprehensive consultations were undertaken commencing 28 January 2009 to last until 6 February 2009.)
- There was concern that affected persons would not receive adequate / appropriate compensation.

10. Complementary Initiatives

Spatial Development Initiative

The concept of the Nacala Development Corridor (NDC) has been derived jointly by the governments of Mozambique, Malawi and Zambia to upgrade the historic transport route linking the port of Nacala to Blantyre, Lilongwe and the eastern and northern provinces of Zambia so that it renders an efficient, reliable, and seamless flow of goods and services.

The corridor in all three countries is characterized by high unemployment rates, low levels of literacy, a need for the establishment of social programs (HIV/AIDS), basic health etc. and an urgent need for increased economic activity. The potential for agriculture (including forestry and fisheries), mining, tourism, and industrial development is very good, but the inadequacies of the infrastructure networks have hampered the utilization of this development potential. The most important strategies for facilitating economic growth in the region include the identification and implementation of environmentally sustainable economic development projects that will become viable because of improvements to infrastructure networks and services.

Relocation/Compensation

A Preliminary Resettlement Plan has been prepared, details of which have been provided in the Summary Annex. It is estimated that potentially 469 houses and other structures belonging to 400 households will be lost to the project, as well as approximately 500 acres of agricultural land, crops and trees. In addition, 5 primary schools, 3 health centres, 5 market centres, a water supply system and 3 cemeteries, and 1 tomb are expected to be affected by the project. The total cost for the implementation of the resettlement plan is estimated at US\$ 3,090,950 if cash compensation and construction materials are provided to the affected households and US\$ 5,247,786 if the structures are built by contractors contracted by State.

A Preliminary Abbreviated Resettlement Plan has also been prepared for the Lilongwe Bypass. Here it is estimated that 27 houses, about 78 hectares (193 acres) of cultivated land, 7 hectares (17 acres) of private land, and about 7 trees will be affected. In addition, a church, a borehole, 12 electric poles and a water pipe will be affected. The basic compensation cost for the affected structures and land is estimated at US\$ 295,000, exclusive of implementation, administration and monitoring costs.

Road Safety Awareness Campaign

Public consultations for both the project roads indicated the concern over traffic accidents which they felt would increase with the upgraded roads. In order to mitigate this impact, various design considerations have been proposed in the ESIA's. In addition, it is recommended that ANE, together with the relevant authorities such as the Provincial Directorates of Transport and Communications, Traffic Police, Municipal Councils, District Administrations and local leaders will carry out road safety awareness campaigns targeting motorists, cyclists and pedestrians.

HIV/AIDS Awareness and Prevention

For both the roads, the contractor will carry out an STI/HIV/AIDS awareness raising campaigns, which will target both the workforce as well as the local communities. Along the Nampula-Cuamba Road, this will be with the support of ANE, the national health authorities, the Fight Against AIDS Provincial Committees and other organisations in the project area that are working on HIV/AIDS awareness and prevention. Along the Lilongwe Bypass, the STI/HIV/AIDS campaigns should enlist the help of the local leadership, churches, schools, district and city assembly health units, and the Ministry of Health.

11. Conclusion

The rehabilitation of the Nampula-Cuamba Road will facilitate integration of Mozambique into SADC, providing essential access for Malawi and Zambia to the port of Nacala. The improved road is expected to boost economic development within the entire region. Local communities will have better access to social infrastructure within the region, including health facilities, schools and markets, and journey times for transportation of goods and passengers will reduce. Agricultural production is expected to be stimulated in the project's area of influence as markets for produce will be more easily reached.

The Lilongwe Bypass will serve to alleviate the traffic congestion problems within the city of Lilongwe, and in addition it provides a critical road link within the Nacala Development Corridor. Transportation of people and goods will also become more efficient.

A number of negative environmental impacts have been identified which will arise from construction and operational activities of the project road; all can be mitigated through adjusting the design, incorporating appropriate measures and commitment from relevant agencies. Mitigation and monitoring activities will require participation by the ANE GAJUTRA, MICOA and provincial and district authorities in the case of the Nampula-Cuamba Road, and by the RA's Environmental Management Unit and the City/District Assemblies for the Lilongwe Bypass.

The most significant social impact on both roads will be due to loss of property and assets, land, and social infrastructure that will be affected by road construction. To address this Preliminary Resettlement Plans have been prepared and are summarised in Annexes 1 and 2 of this report.

References

Consultec; Environmental Impact Assessment for Nampula-Cuamba Road Rehabilitation Project - Environmental Impact Assessment Study Report, Volume I; October 2008.

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EMC Jatula Associates; Consultancy Services for the Detailed Design of Bypasses for Lilongwe and Blantyre Cities, Environmental Impact Assessment, Volume IV, Final Report; May 2008.

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ESIA SUMMARY ANNEX 1
SUMMARY RESETTLEMENT PLAN

Project Name: Nacala Corridor Rehabilitation Project
Country: Mozambique
Project Number: P-Z1-DBO-039

NAMPULA – CUAMBA ROAD

Description of the Project Area

The Nampula-Cuamba Road (N13) is approximately 350 km long and traverses five districts having high agricultural potential, namely Cuamba, Malema, Mecuburi, Ribaué and Rapale, linking them as well as Lichinga (the capital of Niassa Province) to markets, manufacturing industries and commercial institutions in Nampula, Mozambique's third most important city and the capital of Nampula Province. As a component of the Nacala Development Corridor, it serves to link landlocked Zambia and Malawi to the Mozambican coast.

The Nampula-Cuamba Road runs from east to west along the Mozambique Plateaux, and lies between the Lichinga Plateau to the west (at an elevation of over 1000m) and the coastal plain to the east (having an altitude of less than 100 m). The road itself has elevations of between 400 m and 600 m. The landscape along the project road is characterised by numerous inselbergs.

The design concept is based on upgrading the existing road to bitumen standard (except where minor realignment is required for rectifying bends) to accommodate a design speed of 80 km/h, on traffic forecasts as well as SATCC standards. The road will have a 7 m wide carriageway, with 3.0 m shoulders on either side in rural areas, and 2.5 m width shoulders in urban and semi-urban areas. The right of way is 60 m.

Potential Impacts

Benefits derived from the Nampula-Cuamba Road Project include employment opportunities during construction and therefore higher incomes (albeit temporarily) for members of the local communities and local businesses that provide services to the workforce, such as sale of goods and provisions, transport services, food and drink. Women headed households in particular are likely to take advantage of these opportunities. On a regional scale, the transport system will be greatly enhanced after construction, as the road will link Niassa and Nampula Provinces, travel will be more comfortable, vehicle operating costs will decrease, and social and extension services will be more easily accessible. As the road will be tarred, dust emissions will reduce. Indirectly, agriculture will be stimulated through ease of access to markets and inputs, thereby increasing farming revenues. Other commercial activities will also be stimulated, leading to more agro-industries being set up in the area, and consequently more social infrastructure will be established.

However, the upgrading of the road will necessitate the acquisition of land and properties to accommodate widening and smoothing of alignments. It is estimated that potentially 469 houses and other structures belonging to approximately 400 households will be lost to the project, as well as about 200 hectares (500 acres) of agricultural land, crops and trees. All the households are located within existing settlements. In addition, 5 primary schools, 3 health centres, 5 market centres, a water supply system, 3 cemeteries and a tomb could be affected by the project. The alternative alignment selected, however, has, in as much as possible avoided destruction of schools and health facilities.

Table 1: Social Infrastructure potentially affected by the Project Road

District	Structures	Schools	Health Centres	Markets	Cemeteries / tomb	Water Supply
City of Nampula	6					
Rapale	69	1		2		1
Ribaue	217	2	1	3		
Malema	128	1			1	
Cuamba	49	1	2		3	
TOTAL	469	5	3	5	4	1

Legal and Institutional Framework

The resettlement and compensation process will be guided by the Road Administration System's (Administração Nacional de Estradas – ANE) draft Resettlement Policy Framework and the African Development Bank's Policy on Involuntary Resettlement, among others. Several national laws also govern resettlement and compensation. The Constitution of Mozambique guarantees the safety of the access and use of land by the population and investors, and recognises the rights of customary access and administration of the land by the rural resident populations. The Land Law (Law Nr 19/1997) provides details of rights based on customary claims and the procedures for acquisition of titles for use and benefits by communities and individuals. The Land Law Regulation (Decree Nr 66/1998) regulates procedures to obtain land for rural and peri-urban areas, and procedures for compensation. The Regulation implies that the approval of road construction projects allow the automatic creation of a Partial Protection Reserve of 50 m right of way in the case of main highways. The Regulation provides guidelines for calculating compensation payments. The Ministerial Diploma Nr 119/94 describes the norms for valuation of rural commercial establishments.

Organisational Responsibility and Implementation of RP

ANE's GAJUTRA in Maputo will be overall responsible for overseeing the resettlement and compensation process with regard to application of policies, operational planning, coordination and supervision. At the field level, ANE's representative will supervise the implementation of the RP, and will participate in public meetings and ensure resolution of any grievances.

The implementation of the RP will be done by an NGO or similar institution with experience in resettlement and compensation processes. This organisation will be required to work closely with the local authorities at all levels. It will facilitate consultations, convene meetings to raise awareness, organise and supervise the process of identifying and allocating alternative sites for housing and agricultural plots, supervise the clearing of land and building of houses (whether it is done by contracted firms or by the affected people themselves), facilitate payment of compensation prior to relocation, facilitate the actual resettling of affected families (in particular vulnerable groups), monitor the resettlement process and the grievance redress process.

A Resettlement Stakeholders Group will be established, headed by a representative from the District Administration and including representation from local authorities such as ANE, the Provincial Directorates of Environmental Affairs, Public Works, Education, Agriculture and Social Action. Local and religious leaders will be included in this group. This group will assist in defining eligibility criteria, methods of valuation and monitoring the resettlement activities. In addition they will provide support to affected families, for example in identifying alternative

livelihoods if need be, or in terms of grievances. A Resettlement Committee comprising representatives from the affected communities, religious and community leaders will be set up to ensure that the resettlement process is just and equitable, and that payments are made fairly and promptly.

Consultations with the Public and Local Authorities

Consultations with the public and the local authorities will take place from the very beginning of the RP process and continue throughout its implementation, and also after completion of the resettlement and compensation exercise. In addition, consultations will be held with host communities so that they are informed about the resettlement programme, and that any concerns and issues may be resolved beforehand.

Compensation Characteristics

The cut-off date will be determined by ANE in close consultation with the local authorities and agencies responsible for land administration, together with the traditional and community leaders, in order to establish eligibility and prevent false claims to compensation. A census of the affected people will be carried out, and photographic records taken to verify individuals/families, land use, livelihoods at the time of compensation. After the census and the detailed inventory of assets, impacted persons can be categorised into three groups: individuals, households and vulnerable groups (including HIV/AIDS affected persons, orphans, elderly, widows or single mothers).

Although the practice has been to compensate by cash, other options including reconstruction of affected structures (this includes affected schools, markets, health centres, etc). Fruit trees and crops will be compensated through cash, while land compensated for land.

Valuation of Assets and Losses

While the norms for valuation of rural establishments are presented in Ministerial Diploma Nr 119/94, in this case the final assessment value has been made at full undepreciated replacement cost, so that cash compensation for a house will be the full undepreciated value of replacing that house. An inventory will be made of assets lost including physical structures, land under cultivation, fallow land, pasture, trees and crops, livestock and access restrictions to, for example, fishing or other off farm activities. The value of annual and perennial crops and trees are determined by the Provincial Directorates of Agriculture and Rural Development, while valuation guidelines for structures are produced by the Provincial Directorate of Public Works and Housing. The Provincial Directorates for Women and Coordination of Social Action is responsible for subsidising the most vulnerable groups subjected to resettlement. Income stream data will be collected.

The procedures for calculation of compensation will involve:

- Identification of all shelter assets with the objective of the project developer replacing these with buildings of better quality in locations chosen by the resettling families;
- Attribution of monetary values or materials for shelter assets owned by families who already have a second house;
- Attribution of monetary values to the non-perennial crop assets affected by the project according to rates per crop, calculated by the government agricultural sector and agreed on by the affected families.
- Attribution of monetary values to the fruit trees affected by the project according to rates per tree calculated by the government agricultural sector and agreed on by the affected

families. The value takes into consideration the following factors: type of tree, age of tree, general health of the tree, annual production and estimated market value.

- Land areas provided under the land-for land compensation policy will have equivalent or better productivity in relation to the original land cultivated, and should be in areas selected by the affected families.

Grievance Redress Mechanism

Grievances can be communicated and complaints lodged at various levels. The first point of contact for the affected persons will be the Resettlement Committee. If this committee is unable to resolve the issue, then the grievance will be directed to the Resettlement Stakeholders Group. All grievances heard at the Resettlement Stakeholders Group meetings will be documented, and responses communicated in writing to the complainant. If the grievance is serious, it may require intervention from the Project Authority. Grievances may also be directly communicated to the NGO or organisation that is implementing the RP, or through the Provincial Directorate of Social Action.

All grievances and responses must be communicated to all levels and structures for the purposes of coordination and awareness. Responses to all grievances must be communicated within a specified time limit. Grievances should be submitted in writing, but if this is not possible, the implementing organisation must ensure that a written record of the grievance is presented to the Stakeholders Group.

If the complainant is still not satisfied, he/she may approach the District Administrator, ANE Headquarters in Maputo, or the Provincial Governor.

Cost and Budget

Two preliminary budget options have been put forward, both of which include the cost of preparing a detailed RP, actual compensation and relocation costs, costs for reconstruction of social infrastructure, costs of basic services in resettlement areas, administrative costs and contingencies. However the first option considers cash compensation or the provision of materials for construction of replacing assets and is estimated at US\$ 3,090,950, while the second considers hiring contractors to construct new replacement structures and is estimated at US\$ 5,247,786.

Monitoring and Evaluation

Monitoring will be carried out to assess the physical progress of resettlement and rehabilitation activities, and compensation payments. Monitoring will be carried out throughout the RP process. The Resettlement Stakeholders Group will do this.

Impact monitoring will be carried out internally throughout the RP process, and will be done by the Resettlement Programme Manager. It will assess effectiveness of public consultation and participation activities, the use of compensation payments and the sustainability of income restoration and development efforts.

A final evaluation will be carried out by ANE GAJUTRA in collaboration with the financing agency, to assess the success of the RP. This will involve group discussions to assess the qualitative aspects of the resettlement and development support programme.

ESIA SUMMARY ANNEX 2
SUMMARY ABBREVIATED RESETTLEMENT PLAN
FOR COMPENSATION AND RESETTLEMENT

Project Name: Nacala Corridor Rehabilitation Project
Country: Malawi
Project Number: P-Z1-DBO-039

LILONGWE BYPASS ROAD

Description of the Project and the Project Area

The Government of Malawi is proposing to construct a bypass road in the South Western side of the Lilongwe City as part of its efforts to expand road infrastructure in its major towns and cities to reduce traffic congestion and air pollution problems currently being experienced in these areas.

The proposed section of the Lilongwe Western Bypass runs from Lilongwe – Blantyre Road (M1) at Bunda Turn-off through the southern side of the city and crossing the Lilongwe River and the Likuni Road to join the Kaunda Road Junction off the Lilongwe – Mchinji Road near the Malawi Revenue Authority Offices. The road will cover a total distance of 13 km and is categorized as a Class I bitumen standard road with a 30 metre road reserve on either side. The carriageway will be 6m wide with 1.5m shoulders designed for a maximum speed of 120 km/hour. The project components and activities will comprise detailed road designs, environmental and socio-economic feasibility studies, civil works, and implementation of the Environmental and Social Management Plans and Resettlement Action Plan which would also include STI/HIV/AIDS awareness campaigns and road safety sensitization programmes.

Potential Impacts

The new road will pass through a rural area which is mostly outside the designated planning area and very sparsely populated although falling within the fringes of the Lilongwe City. Most of the areas are under customary land tenure system except in a few places where the land belongs to private institutions or government. It is estimated that the road will affect 27 houses belonging to 15 families, as well as about 78 hectares (193 acres) of cultivated land and 7 hectares (17 acres) of private land, and about 7 (exotic and natural) trees. In addition, a church, a borehole, 12 electric poles and a water pipe will be affected. In accordance with ADB guidelines, the project therefore requires an abbreviated resettlement plan (ARP) to be prepared.

The proposed road will however yield a lot of benefits to the local communities in form of employment, access to markets and public transport, increase in volume of tradable goods, easy access to public services such as health and education by locals, reduction in air pollution and traffic congestion in the City of Lilongwe, and enhancement of the general standard of living and socio-economic welfare of the people living within the new road zone of influence. The environmental and social management plan prepared as part of the Environmental and Social Impact Assessment Report and this ARP will serve to safeguard the existing life patterns and expected benefits within the entire zone of influence.

Legal Framework

The Constitution of the Republic of Malawi provides the basis for and against land acquisition. Section 28 (2) states that “No person shall be arbitrarily deprived of property” and

section 44 (4) states that “Expropriation of property shall be permissible only when done for public utility and only when there has been adequate notification and appropriate compensation, provided that there shall always be a right to appeal to a court of law for redress. The National Land Policy specifies the need for having provisions in the land law that allows Government to acquire any piece of land required for public services by: clearly specifying the purposes for which Government may acquire land; revocation of leasehold rights granted on Government land; payment of compensation in the event of the repossession of a leasehold interest on Government land; and no compensation to be paid for the land when the private user rights granted as a result of the lease is terminated. The policy further states that compensation valuation for customary land, at the time of acquisition by the Government, should be based on the open market value of the land and all improvements on the land. The policy points out two main reasons for under-compensation which should be avoided including exclusion of certain items or qualities during property valuation and delays in payment of compensation resulting in depreciation of monetary values.

The other main pieces of legislation that guide the resettlement and compensation process are:

- Town and Country Planning Act, cap. 23:01, controls development in urban and rural areas, the acquisition of land, and compensation due to use of land. It states that no general right to compensation shall accrue in respect of any action, decision or plan taken or made under the Act that does not involve or amount to a taking or deprivation of property. It also states that compensation shall be assessed by the Minister in accordance with the Second Schedule 1 to the Act, and that an assessment of compensation by the Minister shall be final and shall not be subject to any appeal or review by any court. Sections of this law are currently under review by the Special Law Commission.
- Land Act Cap. 57:01 governs customary, public and private land, and regulates the use of land. It provides that lessees are entitled to compensation in respect of the improvements effected upon the premises. The act gives the Minister power to convert customary land into public land by a declaration in the Gazette where the land is needed for public purpose. The Act provides that any person who suffers any disturbance of, or loss or damage to any interest which he/she had shall be paid compensation for such disturbance, loss or damage reasonably.
- Public Roads Act Cap. 69:02 contains a detailed compensation scheme, and provides for the assessment of compensation payable under the Act regarding the land or surface rights of an owner or occupier, outlines matters to be taken into consideration or to be disregarded in assessing compensation, and provides procedures to be followed when pursuing claims for compensation, as well as for appeals to the compensation boards and to the High Court.
- Lands Acquisition Act, Cap. 58:04 deals generally with matters relating to acquisition of land, and gives the Minister wide powers to acquire land, compulsorily or by agreement. The Act also makes provision for preliminary investigations, and for serving notices to yield up possession of within a specified period which should not be less than two months from date of service of the notice. The Act also outlines the process for payment of compensation and assessment of compensation, and matters relating to the effect of payment of compensation.

The ARP is also guided by the African Development Bank’s Involuntary Resettlement Policy, 2003.

Organisational Responsibility and Implementation of the RAP

The final ARP will be prepared by the consultants under the roads authority with guidance from key stakeholders listed below and taking into consideration the outcomes of consultations with local communities and other district stakeholders. The actual property valuation, relocation, compensations and official communications with the PAPs will be handled by the office of the Lilongwe District Commissioner in accordance with the provisions of the Land related Acts.

However, the overall responsibility for the implementation of the final ARP shall reside with the Roads Authority. The Authority will be assisted by Lilongwe City and District Assemblies, the Ministry of Local Government and Rural Development, Ministry of Lands and Natural Resources, the Office of President and Cabinet and the Ministry of Finance in various matters of compensation ranging from reviews to authorization of funding. The District Commissioner for Lilongwe shall take primary responsibility for implementation and monitoring of the ARP at District Level with assistance from above listed Ministries.

Consultations with the Public and Local Authorities

Partial consultations were held with a few selected members of the local community and the Lilongwe District Assembly. The focus of the consultations was to screen preliminary requirements for resettlement and compensation issues as well as to assess initial acceptability of the project and willingness to relocate by the local community. The selected community members indicated that they are willing to give up their land and property for a good project if they are fully compensated. Formal public consultations will be organized later (planned for 28 January to 6 February 2009) to cover all the key stakeholders and communities. Some of the key stakeholders include the local communities along the project zone of influence, Lilongwe Water Board, the district and city assemblies, the Ministry of Local Government and Rural Development, Ministry of Lands and Natural Resources, the Office of President and Cabinet and the Ministry of Finance and other Project Affected Parties such as owners of the private (leased) land.

Compensation Characteristics

The implementation of ARP will follow appropriate procedures, in accordance with the laws of Malawi for:

- Determination of eligibility for compensation and resettlement;
- Acquisition of land;
- Notification to the public through media of the Government's intention to acquire the affected land;
- Payment of compensation.

The procedures, for determining eligibility to compensation, resettlement assistance and rehabilitation assistance measures, and the actual displaced persons shall consider the following factors:

- Those that have formal legal rights to land, including customary and traditional rights recognized under the laws of Malawi. This class of people includes those holding leasehold land, freehold land and land held within the family or passed through generations (Ndunda System).
- Those who have no formal legal rights to land at the time the census begins but have a claim to such land or assets provided that such claims are recognized under the laws of

Malawi. This class of people includes those that come from outside and given land by the local chief to settle.

- Those who have no legal right or claim to the land they are occupying. This class of people includes those that settle at a place on semi-permanent basis, or those settling at a place without any formal grant or authority.
- Vulnerable groups

Displaced Persons who encroach on the project area after the cut-off date shall not be entitled to compensation, or any resettlement assistance or any other form of rehabilitation assistance.

Entitlements for compensation shall be based on ownership and the various categories of losses identified during the field consultations. Due to the continued fluctuation of the Malawi Kwacha, the calculated values of assets will be implemented as soon as possible. The period for compensating PAPs will not exceed six months from date of valuation.

Valuation of Assets and Losses

The existing methods of valuation for compensation are based on the Malawi Legislation. The Public Roads Act is the most comprehensive of all the acts that deal with the compensation for assets such as physical buildings, bare land, crops, vegetables, fruit/plantation, trees and forest trees. For cash payments, compensation will be calculated in Malawi Kwacha adjusted for inflation. For compensation in kind, items such as land, houses, other structures, building materials, seedlings, agricultural inputs and financial credits for equipment will be included. Assistance will include allowances for transfer, transportation and labour.

Currently compensation schedules based on the following types of affected assets:

- i) Physical assets (buildings, fences, other structures);
- ii) Crops, fruit/plantation crops;
- iii) Indigenous and exotic forest trees;
- iv) Income earning activities.

Grievance Redress Mechanism

The Constitution and various other pieces of legislation provide for grievance redress mechanism through the formal court system. The grievance redress mechanisms is designed with the objective of solving disputes at the earliest possible time, which will be in the interest of all parties concerned and therefore, it implicitly discourages referring such matters to the court for resolution.

All grievances concerning non-fulfilment of contracts, levels of compensation, or seizure of assets without compensation should be addressed to a local grievance redress committee comprising traditional leaders of the affected area and representatives of the District Assembly. The local grievance redress committee will inform and consult with the implementing agency and the District Commissioner to determine validity of claims. If valid, the local committee will notify the complainant who will be assisted as appropriate. If the complainant's claim is rejected, the matter shall be brought before the Roads Authority. Should grievances still remain unresolved, then the complaint can be referred to a court of law.

Compensation and resettlement plans will be legally binding, and will recognize that customary law is the law that governs land administration and tenure in the rural/village

areas. This is the law that most Malawians living in these areas, are used to and understand. All objections to land acquisition shall be made in writing, to the implementing agency with copies to the Ministry of Lands and Natural Resources within 20 days after the public notice; or through a formal complaint lodged via the Traditional Authority and District Assembly. The traditional leaders and the local grievance redress committee shall maintain records where grievances and complaints, including minutes of discussions, recommendations and resolutions made.

Cost and Budget

All compensation activities and those related to other forms of assistance including disturbance allowance, and any other associated activities that may be necessary will be appropriately costed in accordance with government procedures and requirements. Funds for implementing inventory assessments as well as land acquisition and resettlement action plans will be provided by the Implementing Agency. Preliminary valuation of compensation costs (excluding supervision and monitoring costs) are estimated at US\$ 295,000.

Monitoring and Evaluation

A monitoring mechanism will be put in place to assess whether the goals of the resettlement and compensation plan are met, covering issues such as physical resettlement, disbursement of compensation, effectiveness of public consultation, and grievance redress processes. This monitoring plan will have objectively verifiable indicators and milestones, and will also indicate the required resources including responsible persons or institutions, necessary to carry out the monitoring activities. These indicators will be targeted at measuring the physical and socio-economic status of the project affected persons, to determine and guide improvement in their social wellbeing.