

**Project Name: *Nacala Transport Corridor Phase III***

**Country: *Mozambique***

**Project Number: P-Z1-DB0-100**

**Environmental and Social Impact Assessment (ESIA) Study Executive Summary**

**1. Introduction**

The Government of Mozambique (GoM), acting through the national roads administration (ANE) has made requests to international financial institutions including the African Development Bank, for the improvement of transport infrastructure and for strengthening the institutional capacity of the roads sector.

ANE plans to apply a portion of these funds to the environmental and social impact assessment (ESIA) of the project for the rehabilitation of the N13, Cumanba-Mandimba-Lichinga (302 km). The road passes through many small towns and villages and is divided into three sections namely, Cuamba-Mandimba: 148 km (flat terrain), Mandimba-Lichinga 148 km: (winding terrain, with some mountainous areas reaching about 1,400m in Lichinga) and Mandimba-Malawi Border: 6 km (winding terrain). The N13 is part of two corridors: Nacala –N13/N1 and Lichinga – N14/N1 providing a strategic link with the border of Malawi in Mandimba, the ports of Nacala and Pemba in the provinces of Nampula and Cabo Delgado respectively. The road also has the potential to contribute towards poverty reduction and stimulate the development of the country. The road is in fair conditions during the dry season but deteriorates during the rainy season due to poor drainage system and soil erosion. The width of the road varies between 5 and more than 10m and is usually lower than the surrounding terrain.

AGEMA Consulting & Services Company Ltd. was selected through public tender and hired by ANE to undertake the Environmental and Social Impact Assessment (ESIA) of the N13 Road rehabilitation project, which connects Cuamba-Mandimba-Lichinga including the section between Mandimba and the border with Malawi.

**2. Process and Procedure for the ESIA study**

***General***

The road and intersections under investigation were visited over a period of two months following mobilisation. Visits were made intermittently until January 2011 to update data collected during our initial baseline studies, which included:

- desk study involving collection of basic documents and analyzing existing information on social and environmental concerns of the area of influence;
- assembling information from different sources, sociological, cultural, meteorological, hydrological, soils, topography, demographic etc.;

- holding public consultations regarding available sociological, biological and land use information as well as community cultural interests;
- conducting field investigations.

The desk study undertaken was a review of relevant literature including legislation, which governs development of ESIA in Mozambique, as well as the environmental and social policies, guidelines and procedures of the African Development Bank (AfDB), policies of the Japanese International Corporation Agency (JICA) and the World Bank (WB). Reports and literature from the following;

- ☐ the National Roads Administration (ANE),
- ☐ Ministry of Environmental Coordination (MICOA),
- ☐ Provincial offices of the following ministries: the environment; agriculture; planning, and public works.
- ☐ District administrations,
- ☐ Civil Society Organizations.

Consultations and information gathering were conducted with residents and other stakeholders in the locality of the project, in order to obtain a full understanding of community concerns and interests. A rapid appraisal technique using standard screening forms was employed. Imported factors considered in the study include:

- the scale of the project
- the location and sensitivity of the site
- the nature and magnitude of potential impacts.

Relevant issues were addressed in a manner, which provided a clear understanding of the actions and activities anticipated in the pursuance of the objectives of the project. Categories of influence within these have been listed covering, social, economic and ecological. The natural facets of each category have been addressed. The socio-economic impact study took into consideration zones of high commercial influences (growth points) such as Mandimba and the border with Malawi. Zones of low commercial influence like Ngauma where the volume of business is lower were also considered.

## **Socio-Cultural Situation in Communities**

### ***Study Sample***

Rehabilitation of the project road is expected to produce some effect on the economic and social activity in the surrounding area including changes in the demands on health service and education Data collection was carried to assess impacts which include the following:

**Social Changes:** The expected social consequences of the project are movement of people into the surrounding area with accompanying pressures on the health and education facilities.

(ii) Economic Changes: These are expected to take place as transportation improves access to previously isolated communities and towns.

(iii) Cultural Impact: A positive impact is expected as greater interaction is fostered between communities which will be brought closer together as long distances between settlements will no longer be an obstacle to movement of peoples

#### (iv) Road Safety

The increase of the population in the towns along the road may increase road accidents. It will require education and enforcement of traffic safety measures to minimize this impact. The road engineering safety measures has been taken into consideration in the design of the road, including road markings and traffic signs.

Data was collected as required, for the socio-cultural impact assessment in some of the communities in the vicinity of the project road. The data were collected using questionnaires. Sample households in the communities were visited by trained field workers and heads of households, local leaders etc. were asked to provide answers to questions in the questionnaire provided. Some of the relevant information obtained were:-

- Name of community
- Estimated number of houses
- Average household size
- Ethnic composition
- Access to health clinic
- Prevalence and types of common ailments
- access to education
- Service infrastructure available to the community
- Settlement linked with rehabilitated road by motor road
- Adequate transport service
- Road affecting cultural facilities
- Benefits/costs envisaged with newly rehabilitated road

In addition to the above, questions were also asked in order to assess poverty alleviation in accordance with the questionnaire provided. The important details requested were as follows:-

- Name, age, sex of the interviewee
- Education
- Employment status
- Level of income/year
- Type of dwelling he/she lives in
- Any extra vocational/income generating activity

- How can development of a newly refurbished road increase opportunities for added income.

The study of settlements along the project road shows how improvement on the N13 road will have a positive impact on economic activities and overall development of settlements in the surrounding areas served by this road. Information on the resettlements are contained in a separate report, the RAP.

### **Preparation of the ESIA Report.**

The preparation of this report was based on field investigations, public consultations and interviews with representatives from key institutions. The approach included a review of relevant literature, reference to the relevant legislation, which governs development of ESIA in the country, as well as the policies of the African Development Bank's (AfDB) ESAP, the Japanese International Corporation Agency (JICA) and the World Bank (WB).

The total score of the severity of the global impact was comprised of factoring in the magnitude or extent, significance, likelihood and duration the impact would have on the project. In summary, the study involved the following stages:

- Preliminary field visits
- Scoping exercise
- Review of Mozambican legislation and International guidelines
- Consultations held with local communities in the four target districts
- Gathering of data
- Assessment of potential environmental and socio-economic impacts
- Development of appropriate mitigation measures
- Development of an Environmental and Social Management Plan

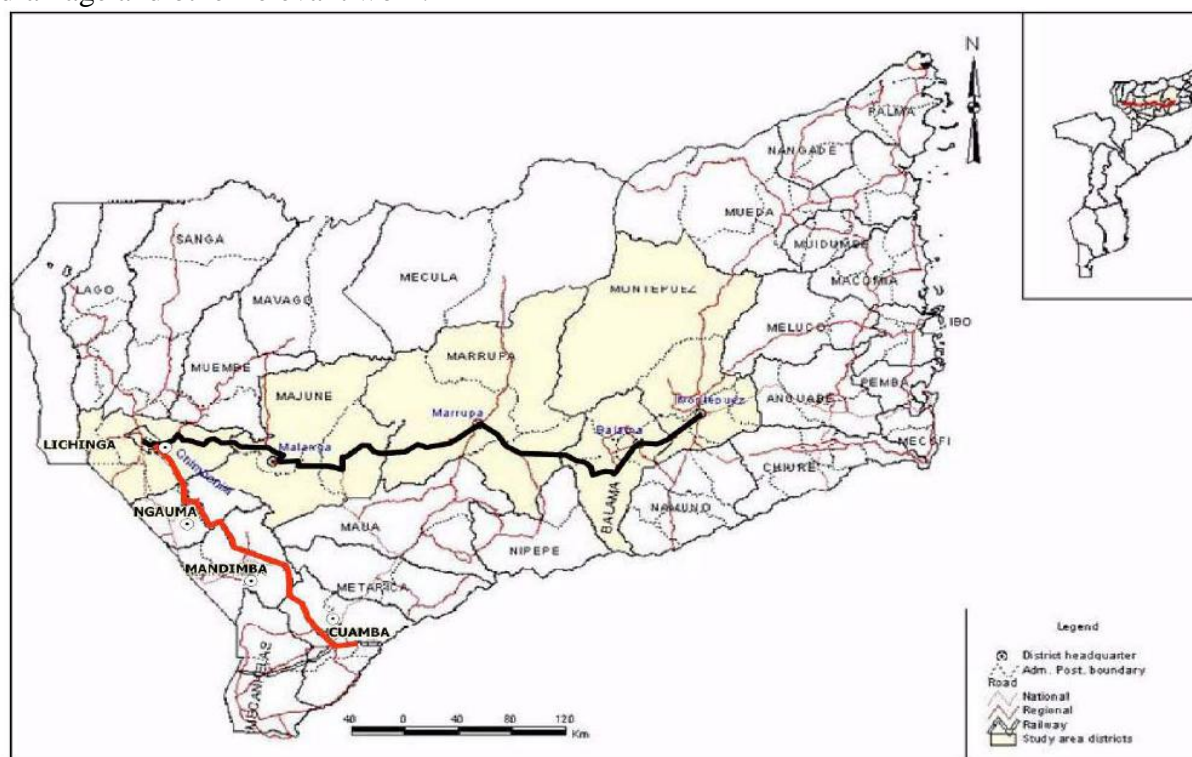
### **3. Project Description and Justification**

The main components of the project include:

- a) Asphalt paving and sealing of the N13 road sections connecting the Lichinga –Ngauma – Mandimba – Cuamba districts and the road section from Mandimba to the Malawi Boarder. The total length of road, proposed for improvement is 302km (presented in Table 1.1 and shown on Fig. 1.1 as road sections marked in red ).
- b) Improvement of road structures comprising of 14 bridges and box culverts
- c) Construction of drainage; and
- d) Ancillary road works comprising installation of road signs, kilometre posts, guard rails; and road marking as well as grassing embankment slopes.

The main objective of the Government is to develop and improve transport infrastructure in the Nacala corridor (Cuamba-Mandimba-Lichinga). The improvement of the road will comprise of sealing and applying asphalt on the N13, improving the 14 bridges and box culverts, construction of drainage, improving connecting roads, placing traffic signs, guardrails, speed limit signs and planting grass on the slopes. Other associated works include removal of corrugated pipes, removal and reinstallation of level crossings, demolition of existing concrete and transport of building materials.

The total estimated cost of the project is \$ 125,297,100(One hundred and twenty-five million, two hundred and ninety-seven, thousand and one hundred US dollars) which will be applied in activities of scrub-removal work, construction of detours and auxiliary, bridges, culverts, drainage and other relevant work.



**Figure1 Map showing the project road**

**Table 1 Road Sections and Total Road Length to be improved. District CuambaMandimbaNgaumaLichinga**

#### 4. Project Alternatives

The main alternative to the proposed project is the “without project” scenario .Without the project, the current situation will remain as it is. However, economic growth will continue to stagnate due to problems of access to the potential agricultural development areas and due problems of transporting the necessary agricultural inputs to the communities. With the project,

there will be accelerated economic growth and the current environmental and social impacts would be mitigated through implementation of the environmental management plan.

Based on the proposed construction options according to width of clearance and the Right of Way (ROW) proposed by the project design, there are two alternatives for the project.

Alternative-1 involves clearing approximately 30m (total 60m width plus road width without shoulder) as provided for in the Mozambican Land Law. This will affect all towns and villages in the project area. A total of 5,848 structures will be affected.

Alternative-2 involves clearing approximately 7m from designed shoulders representing a total of 14m width. The effect of implementing this alternative will exclude major villages and towns in the project area. A total of 970 structures will be affected.

The alternative chosen for this study was a third option suggested by the client, ANE. This was a compromise between alternative 1 and 2 and consisted of clearing approximately 9m from the shoulders to give a total of 18m width. The consultant conferred with the designing engineers and it was agreed that this alternative was the best fit and found acceptable. The effect was that areas in the district capital along the road were excluded and the resettlement cost would be moderate.

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

**Mozambique's Constitution** (2004) gives all citizens the right to live in a balanced environment and the duty to defend that environment (Article 90). The realization of this right goes through the proper management for the environment, its components and the creation of conditions conducive to the health, well-being, socio-economic and cultural development of communities and the conservation of natural resources that sustain them. The state is obliged to

- i) to promote initiatives that ensure ecological balance,
- ii) prevent pollution and integrate environmental concerns into all policies in the public sector(article.117).

**The National Environmental Policy**,(1995) approved by Decree no.5/95aims to ensure an acceptable relationship between socioeconomic development and environmental protection for present and future generations. To meet these decrees the Environmental Framework Law-no.20/97was approved by Parliament with the purpose to define the legal basis for correct use of the environment and its components for the realization of a system of sustainable development in the country. This law applies to all public and private activities that may directly or indirectly influence environmental components. One of the basic frameworks of the Environment Act is **the Environmental Impact Assessment (EIA)** for projects of economic and social development, which is regulated by Decree No.45/September 29, 2004, updated by Decree No.42/November 4, 2008.The Decree is complemented by the General Directive for

Environmental Impact Assessment (Diploma Ministerial 129/2006) and the General Directive for Public Participation in the EIA process (Ministerial Diploma 130/2006).

The EIA regulations (Article 3) established three project categories to identify the level of environmental assessment to be undertaken.

(i) Category A: projects that cause significant impact due to the nature of the proposed activities or the sensitivity of the area, require a complete study, including an Environmental Management Plan (EMP);

(ii) Category B: Projects that have a negative impact of short duration, intensity, extent magnitude and importance, require a Simplified Environmental Study (EAS);

(iii) Category C Projects which do not require environmental assessment, but must follow specific guidelines for good environmental management.

The Road Sector Decree, 14/April 27, 1999 regulates the legal, institutional and financial support in which to operate the administration of roads Resolution No.50/July 28, 1998, approves the National Policy and Road Strategy. It states that besides the positive impact on the development of the country in general and the wellbeing of people, activities related to roads should be developed in an attempt to mitigate the environmental damage the construction creates. The Government will continue to ensure that the environmental protection standards are followed when carrying out road work.

ANE submitted its draft to DNAIA, after the assessment the project was classified in category A and required a full EIA in order to reduce the negative environmental impacts.

## **6. Description of the Project Environment and Social Profile**

### **Infrastructure**

The majority of Niassa is devoid of infrastructure. The location of the province is quite remote from the main centers of production and consumption of the country, particularly due to the weak interconnection of access roads and transport systems, resulting in poor integration of the province in the national market. As a border province, Niassa is important in its role for the country's integration in Southern Africa.

The road network of Niassa covers 7,690km in total, including primary roads (870 km), secondary (1,420 km), tertiary (1,208km), and unclassified (local roads, 4,570 km) of major importance are the N14 that connects to Pemba Lichinga, the N13, that links Nampula to Lichinga, N.360, connecting Cuamba to Marrupa and N361 which connects Lichinga to Metangula. Most roads in the province of Niassa, including tertiary roads are unpaved.

### **Climate and Rainfall**

The province is divided into two meteorological zones: The low-lying area in Cuamba with an altitude of 600m and the high altitude in Lichinga reaching above 1,300m above sea level.

The average annual temperature varies between 14° C and 22 °C. The lower temperatures are in the district of Lichinga and gets gradually warmer towards Cuamba where temperatures could reach 35°C during the month of November. Temperature distributions in both districts are shown in Graphs 1 a. and b.

The study area is characterized by two distinct seasons throughout the year: a wet and dry season. The rainy season lasts from October to March and the dry season from April to September. The months of April and October can be viewed as transitional periods with no fixed patterns.

### **Topography**

Niassa province has an altitude that ranges from 500 m up to the high plateau of Lichinga at 1300 m above sea level. Cuamba area is generally a flat landscape characterized by so called inselberg formations. The larger part of Cuamba district is between 500 and 700 m above sea level but altitudes over 1 000 m do exist, for instance the highest point is 1 836 m above sea level.

### **Soil**

The N13 crosses a mosaic of soils. The predominant soils that are characteristic to Cuamba are the red soils, differentiated on the basis of medium texture (VM) or clay (VG). The soils of the VG group are deep and well drained; the main limitation is potential erosion. VM soils occur on the top sand sides of steep slopes. Soils with orange-red tonal variations are found in some areas on the section Mandimba Lichinga.

### **Geomorphology**

Niassa Province has five layers with different variations of terrain and topography. In the valleys of major rivers the altitude ranges from 200m to 400m. The sub-plateau area of the District of Cuamba has altitudes between 400m and 700 m.

At altitudes above 700 m, are the average plateaus (plateau Metarica, the Alto Lunho, and the first platform of the Upper Niassa) where the terrain undulates. Above 700 m up to 1300m are other spots, such as the Plateau of Lichinga. High altitude peaks occur in some mountains reaching 1500m above sea level.

### **Geology and Mineralogy**

A recent geological mapping of Niassa done over a four year period outlines the main geological units of the province, including the complex of Ponta Messuli, Unango, Marrupa, M'Sawise, Txitonga groups (gold band), Geci, the Karoo super group and kimberlites. Figure 6 shows the main geological units in the study area.



Niassa has great potential for mineral exploration because of the occurrences of gold, diamonds and, mineral coal. The following table shows the location of these occurrences. The lower zones of the study area, the sedimentary layer (Quaternary) is thick and reveals the presence of isolated aquifers, with vast amounts of water.

## **Hydrology**

Niassa has three basins: the Rovuma Basin (Lugenda rivers, Lucheringo, Luchimua, Luambala, and Luculumezi Lualessi), the Zambezi Basin (Lunho rivers, Luangua, Luaisse, Machel, Luchemange, Meliluca, Mandimba, Ngami, Lussangasse Lake Niassa, Amaramba, Chiuta, chiru and Michemazi) and the Lurio basin rivers (Muanda, Luleio, and Ruruamuana Massequesse). The section of the N13 between Lichinga and Mandimba crosses several rivers. The general direction of flow of most of the rivers is from south to north. Some rivers in the section between Cuamba and Mandimba don't have power because the topography is quite flat. The largest river in the study area is the Lugenda which springs from Lake Amaramba along the border between Tanzania and Mozambique before flowing into the Indian Ocean.

## **Vegetation**

The proposed project area is covered by a forest of miombo type dominated by savanna grassland. The area from Cuamba to Mandimba is flat and covered by open forest and grassland. Mandimba to Lichinga area is mountainous and is covered with mixed miombo forest. Most of the vegetation in Cuamba and Mandimba District has disappeared due to 'slash and burn' farming practice and the remnants include fruit trees and seasonal grasslands in the swampy areas. Deforestation is on the increase in Ngauma District as a result of charcoal production.

There are gazetted and protected forest reserves and national parks in the project area. According to Directorate of Niassa Province, there are no rare and endangered tree species due to development activities in the project area.

## **Agriculture**

Agriculture is the main activity for most rural families and it is estimated that Niassa province has 12.3 million hectares of land suitable for agriculture, of which 9.6 million is in average to excellent condition. The forest projects of Niassa occupy an area of 210 hectares, including 110 for planting and the remainder for storage. In the exchange between Lichinga and Mandimba, the planting of forests represent a source of income for families. Along the N13 narrow portions of land with crops that would be removed would, require affected families to be compensated. This has been considered in the RAP developed as part of this study. Niassa's livestock development is poor, with 850 cattle, 286,081 goats, 41,361 sheep, 28,296 pigs, donkeys and over 1,304,472 chickens in the family sector. The weak development of cattle farming is mainly due to the high infestation of Tsetse fly throughout the entire province. Public infrastructure for cattle production and management is either underdeveloped or non-existent and the quality of pastures is poor.

## **Fauna**

Districts on the N13 have a low diversity of fauna, although the province presents a great diversity of fauna such as at the Niassa Reserve which is an important sanctuary for wildlife, with the occurrence of elephants (*Loxodonta africana*), Kudus (*Tragelaphus strepsiceros*), Palapala, lion (*Panthera leo*), leopard (*Panthera pardus*), spotted hyena (*Crocuta crocuta*), zebra (*Equus burchellii*), red kudu, mountain goat, monkeys (Gray and Simango), civets, impalas, and warthogs. The project area is not characterised by any habitats of rare and endangered fauna species.

## **Socio-Economic Profile:**

### **Demography and Settlement**

The total population for Mozambique was estimated at 18 million in 2002, with a population growth rate of 2 %. The population density is 22.5 inhabitants per km<sup>2</sup> and 60% live in rural areas. Niassa province has the smallest population with about 870 000 inhabitants in 1997 and Cuamba represented about 154 000 of these. This makes Cuamba the second biggest town/city of Niassa, after Lichinga. Population projections for Niassa have predicted the one million lines to be transcended by 2006. Since Niassa is the largest of all provinces, it is also the most sparsely populated.

### **Socio-Economic Activities**

Agriculture plays an important role for attaining livelihoods in the project area. People grow crops and raise animals fundamentally for food and cash in the project area. Major crops grown are maize, beans, tobacco, millet and peas. Food items such as fruits harvested from gardens for cash. The communities also engage themselves in small-scale cattle raising and poultry production. Others survive by trading food and household items using small shops near the road.

### **Use of the land and natural resources in the project area**

The land, water and forests are natural resources of vital importance to rural communities. The land is used for production for economic, social, cultural and subsistence farming. Forests are where firewood is obtained as well as building materials for housing, collection of natural resources and to perform ritual ceremonies.

Water is another natural resource of vital importance to the lives of communities and is used primarily for domestic and animal consumption, agriculture and fishing. This project area's water supply, like most of the country's water supply is precarious. Most wells and boreholes are located at the district headquarters, while the majority of the rural population use rivers, streams and ponds for their water supply.

## **7. Mitigation/Enhancement Measures**

Based on a range of topics, the positive and negative environmental and social impacts were assessed for the construction and operation phases of the project. Measures are needed to

maintain and increase the positive impacts and preventative actions taken for the anticipated adverse impacts.

### **Positive Impacts**

The rehabilitation of the road Cuamba – Mandimba – Lichinga, including construction of the section of the road that leads to the border with Malawi, will facilitate the integration of Mozambique in the SADC region, specifically with the neighbouring countries of Malawi and Zambia.

Rehabilitation of the road will also result in significant benefits within Niassa province in terms of access to social infrastructure (schools, health clinics and markets), as well as reducing travel time and costs within and between provinces thus improving the flow of agricultural products and other goods.

Indirect positive impacts associated with the rehabilitation of the road include, more investment in infrastructure programs by Government and NGOs, increased employment opportunities, improvement in the region's economy because of improved road condition agriculture will get a boost.

The positive impacts during the construction phase are related to employment opportunities and the consequent increase in the income of families, increased agricultural production and small businesses that serve employees of the contractor.

Since the tender for civil works has not yet been published, it is not within the remit of this study to determine the number of people to be employed by the contractor (s). Notwithstanding, it is advocated that 25% of the employees are women. However, because of culture, tradition etc, it is sometimes difficult to meet this quota.

There will be significant direct and indirect positive socio-economic impacts, for the population living near the road and the districts traversed by the project. The improved road will have indirect positive implications in improving the region's economy, allowing the possibility of exporting agricultural inputs and products, improving the conditions of transporting goods mostly to the districts traversed by the road. This action will consequently aid in the reduction of regional poverty.

An improvement of this road will rapidly increase food production and marketing/business opportunities for a wide range of goods and services, stimulation further attraction to the vicinity of the road. The result will be expansion of junction settlement and commuter services like restaurants, vehicle repair, fuel sales, storage and handling of agricultural and non-food items. Periodic markets will expand their sources of supply of farm and other products and create the need for opening new feeder road accesses and links to these new supplies.

### **Negative impacts**

The current environmental impact of the existing road is minimal however; the project advocates increasing the width of the road which will consequently affect agricultural land, property and

cemeteries that exist in the construction area. Therefore, a number of mitigation measures are proffered for the identified and potential impacts of the road rehabilitation project.

Mitigation could involve all or some of the following;

- ☐ Avoid the impacts by refraining from taking appropriate action
- ☐ Minimize impacts by limiting the degree of the action
- ☐ Failure to implement recommended action to be taken
- ☐ Rectify the impact by restoring the affected environment
- ☐ Compensate for the impact by replacing or providing compensation

To minimize the adverse effects associated with the construction of the road, the project will be designed based on the guidelines of the AfDB, JICA and World Bank on Involuntary Resettlement. With the assistance of the department responsible for land management within the district, communities affected by the project were consulted.

The other negative impacts associated with the improvement of the N13 include air pollution, contamination of water sources, soil erosion, noise and vibrations, loss of native vegetation, spread of diseases, increased road accidents and inclusion of women.

☐ Air quality pollution by dust and gas emissions can be minimized by regular maintenance of facilities and vehicles, as well as sprinkling water to suppress dust on dirt roads and surfaces during road work.

☐ All local vehicle maintenance, as well as storage areas for fuel and oil should be coated with concrete or other impervious material properly to minimize environmental contamination.

☐ Excavated areas should be compacted immediately after excavation to limit the exposure of loose soils, thus minimizing soil erosion.

☐ The use of appropriate noise mufflers and maintenance of vehicles and machinery will reduce the impact of noise and vibration associated with construction activities.

☐ Land clearing should be limited to only those areas necessary for the construction of the project.

☐ The conduct of employees in relation to health and safety, including the mandatory use of personal protective equipment at work as well as treatment of workers should be provided for all workers on the project.

☐ The placement of signals that regulate the speed at appropriate locations across the road will minimize the occurrence of road accidents

With respect to health measures, the Contractor and the Engineer's Supervisory Team prior to the start of construction should address the issue of health risks from transmittable diseases and such as HIV and AIDS as well as security risks. In connection with AIDS prevention, an AIDS prevention programme should be developed in consultation with ANE.

This should include the provision of on-site medical unit manned by a qualified health officer, to give advice on prevention, as well as undertake the following activities.

- Install posters and other graphic displays dealing with HIV prevention throughout the work site;
  - Arrange for facilities for voluntary AIDS screening on a monthly basis;
  - Conduct counselling and health education sessions for all workers; and communities along the road
  - Arrange for referrals of known or discovered AIDS cases to appropriate health centres for further advice and treatment as appropriate
  - Provide contraceptive in reasonably sufficient quantities to workers and families
- The Resident Engineer will be responsible for the implementation of the mitigation programme and will utilise standard monitoring techniques to assess the level of reception and the impact of specific target groups within the workforce and the zone of influence of the project. Progress of the HIV and AIDS mitigation monitoring will be an agenda item at the monthly site meetings.
  - The construction of the road will result in immigration of people from other provinces and neighbouring countries. This influx of temporary residents plus the lack of employment and poverty of women will increase the number of sex workers and the incidence of STI, HIV and AIDS during construction. ANE should strengthen its collaboration with other institutions specialized in STI, HIV and AIDS in order to ensure effective implementation of mitigation plans in the project area;
  - The sale of alcohol near the site increases the occurrence of the risky behavior of casual sex and the group most impacted is women. This behavior could contribute to an increase in the number of single mothers. The probability of this negative impact occurring is high with serious consequences.

It is recommended a specialized professional team hired to handle matters regarding prevention campaigns to promote awareness among workers and the surrounding population.

- With respect to security, the Contractor should endeavour to obtain police clearance for potential employees from outside the immediate vicinity of the project before recruitment. In addition, the local police and community leaders should be consulted and periodically apprised of any situation, which might have the potential of resulting in violence or uncontrollable anti-social behaviour.
- It is not expected that there will be a substantial impact on the forest resources or fauna as a direct result of the project, because it does not involve the opening up of new areas. However

to control illegal cutting of wood in other parts of these districts, the contractor should prohibit workers from cropping forest products for commercial ends. The proponent of this project should inform district and provincial authorities of these potential impacts, so that they can reinforce the activities and execute the law.

- Gender equality laws should be followed and equal opportunities for the jobs available should be based on the qualifications required.

Field evidence indicates that some women are currently engaged in manual labour in road construction. Nevertheless the impression in communities in the area is that females are generally too weak for unskilled labour or manual work, and unsuitable for deployment in a highly mechanized road rehabilitation operation, which this project is likely to be. An informed female community will no doubt be eager to contribute to the success of the project through meaningful participation in it.

□The women in the area can be engaged in clerical, food services, light work and supplies of essential commodities at sight. A smaller percentage could be deployed in some categories of machine operations.

## **8. Monitoring Program**

The following environmental monitoring plan is recommended for implementation during the construction phase of the project:

- An Environmental Monitoring Unit (EMU) will be set up consisting of:
- The Resident Engineer –Chairman;
- The Contractor’s Agent;
- ANE Representative;
- Representative of the MICOA in Niassa;
- One representative from each of the districts in the zone of influence of the project road.

The Unit will be charged with the responsibility of monitoring all environmental issues connected with the rehabilitation of the road and report directly to the Director General of ANE.

In particular, the unit should carry out the following duties:

- (i) To ensure compliance with the Mitigation Plan (MP) as outlined in Appendix 1 of the ESIA report and all legislation concerning environmental protection and improvement as well as the specific clauses relating to environmental matters included in the Contractor’s contract;
- (ii) To keep a register of compliance with the Plan for monthly inspection at EMU meetings including updating of the route plans showing tree planning, quarries and pits used with updated characteristics of each and location of erosion control devices in the drainage system;

- (iii) To record any violation of the MP and action taken to correct them;
- (iv) To identify any new environmentally harmful situations arising during construction and recommend measures for immediate mitigation;
- (v) To carry out monthly physical inspection of the works to inspect environmental state of the works and any improvements implemented;
- (vi) To prepare a monthly environmental report for presentation at monthly site meetings and submission to the Director of Projects at ANE and;
- (vii) To make proposals for future maintenance studies. This will outline specific arrangements for studying subsequent maintenance subsequent to the completion of the works and should include tasks to be undertaken to improve the environment and comments or supplementary data regarding the state of quarries and the area drainage.

## **9. Public Consultations and Public Disclosure**

Public consultations were held at the beginning and end of the study in all four beneficiary districts.

Two weeks prior to the date of each set of consultations, announcements were placed in national and local newspapers and also announced on local radio stations.

Invitations were sent out to the following:

National institutions, provincial and district governments and institutions, relevant private sector interests, Community organizations and NGOs working in Niassa province and respective districts. (copies of the invitation, press announcements and signed list of participants are in the annex of this report).

The first consultations were conducted from 29<sup>th</sup> August to 3<sup>rd</sup> September 2010 in the districts of Lichinga, Ngauma, Mandimba and Cuamba.

The objectives of the first consultations were (i) to present the project of the rehabilitation of the N13 to the various stakeholders, (ii) present the possible positive and negative environmental and social impacts, (iii) record their opinions and suggestions for possible mitigation.

In Lichinga, the meeting was opened by the Permanent secretary for the province and in Cuamba, by the Mayor. The meetings were presided by the Administrators, official government representative in the districts of Ngauma and Mandimba. A participatory session followed the presentation a participatory where stakeholders impressions and suggestions were recorded. (copy of the minutes are presented in the annex of main report).

Proceedings of the first consultations served to develop the Terms of Reference presented to MICOA in September 2010 to grant authorization to conduct the ESIA.

The second consultations were held in from 13 – 16 December 2011 to present the results of the study to stakeholders in the districts. The objective was to get validation of the findings and proposed mitigation measures. The meetings were participatory and suggestions made were used to enrich the final report.

The final report submitted to MICOA in January 2012 was approved in March to enable the client obtain a License.

## **10. Complementary Initiatives**

Construction of N13 Road will necessitate demolition of houses, kitchens, toilets, tobacco barns, kraals, Yards, maize stores, well, Chicken coop; and destruction of graveyards. Structures to replace the demolished ones will be re-constructed within the surrounding areas. There are no better alternative sites to avoid or minimize relocation of people. However, re-alignment of the new road, to avoid graveyards is highly recommended.

A Resettlement Action Plan (RAP) was prepared to ensure that construction of the N13 Road, on the built up areas, will have minimum impacts on the Project Affected Persons (PAPs), their structures and livelihood. Hence some of the mechanisms to minimize adverse impacts of displacement of people and their structures must include:

- relocation or repositioning of affected structures to within the surrounding areas;
- paying fair compensation in time and before PAPs' property is removed;
- maintaining or improving PAPs' means of livelihoods;
- ensuring that PAPs' grievances, in relation to the project, are accommodated and addressed promptly; and
- providing employment to PAPs, as an alternative source of income, where appropriate.

The general guiding principle for preparation of the RAP was that there should be fair compensation upon land acquisition, relocation, loss of assets and impact on livelihood.

The zone of impact of the land taking activities is limited to within the 15m wide strip of land, from the centre of the road, on each side. This area of immediate influence of the proposed project is the Corridor of Impact (COI) which extends approximately 9m away from the current road width on either side of the existing road. Assessment and measurement of affected property, which included houses, kitchens, maize stores, Chicken coop, agricultural fields, planted trees and graveyards was done within this strip of land along the road from Cuamba to Lichinga.

The census to identify PAPs and their assets commenced on the 17<sup>th</sup> March, 2011 and continued up to 25<sup>th</sup> of March; and from 17 to 25<sup>th</sup> May, 2011. Key stakeholders consulted included local chiefs, some representative of PAPs, representatives from Lichinga, Ngauma, Mandimba and



Cuamba district councils and officials of ANE. The community leaders and the PAPs were well informed of the cut off date (May 25<sup>th</sup> 2011) and advised that after this date, any new settlements within the project impact area will not be compensated for.

A total of 334 households will have their dwelling houses affected by the road project representing approximately 2338 persons. These will be physically displaced and will require relocation to new sites, to construct new houses outside the right of way. The 334 households comprise of 183 from Lichinga, 105 from Mandimba, 18 from Ngauma and 28 from Cuamba. The displaced persons will require fair, adequate and timely compensation for their lost houses.

The total estimated cost of relocation and compensation including monitoring cost is **US\$2,410,685.71** based on the socio-economic study conducted. This includes cost for buildings and structures, assistance for opening new farms, cost for exhuming graves, a 20% total value of compensation to be paid as disturbance allowance, 20% allowance for vulnerable groups, 20% allowance for loss of income, and a 10% contingency to cater for eventualities.

## **11. Environmental Management Plan (EMP)**

Under the ESIA the EMP presented a proposal of preventive and management measures for all the environmental and social impacts identified in the various phases of the project, including what entity(s) should be responsible for its/their implementation.

The EMP also proposed programs that define the procedures for monitoring the evolution of the aspects considered sensitive such as employment opportunities, loss of sacred sites and cemeteries, loss of land and /or property, loss and /or disturbance of natural habitats, noise and vibration, air quality, soils, water resources, social conflicts, waste, hygiene, health and safety at work.

### **Capabilities of Environmental and Social Units**

The environmental and social unit (GAT) in ANE has been recently upgraded with training of personnel outside Mozambique. Staff from the unit also receives on-the job training through assignment to projects participation in all stages of project implementation especially in field data collection and project monitoring. However the following actions are recommended to strengthen their capacities:

#### ***Actions to strengthen capacities***

- It is proposed that Staff of the environmental and social unit should receive language training in order to facilitate communication with donors and consultants and also to get a better understanding of relevant documents and reports written in English.
- It is proposed that appropriate technical training is provided for personnel in the provincial offices

## **Cost Implications**

### **Key Provisions to be included in the Works Specifications**

The provisions described in this section are recommended for inclusion in the Specifications of Particular Application and should be paid for under identified bill items.

Most of these relate to the Contractor's obligations and are to be paid as a lump sum. Other items to be paid on measurement of quantities should be measured as required on completed work.

The following clauses should be included under the indicated sections of the Works specifications:

The implementation of the ESMP is estimated to cost US\$ 290,000.00 (*The estimated cost of implementing the different clauses is presented in Table 6 in the main report*)

#### **Section: Contractor's establishment on site and general obligations**

Clauses on "Use and Storage of Materials" should cover protection of watercourses and groundwater from pollution.

They should include provisions, requiring among other things that the Contractor shall propose to the Engineer details of measures he proposes to adopt in order to reduce impacts on the environment of his worksites and facilities, and on the people living in the immediate vicinity. He should also be required to state his requirement as regards both the surface area to be used, the required bush clearing and any tree felling expected. He shall avoid trash and chemical waste dumping and ground water disruption or pollution of water table. The provision should require also that the worksite should be kept clean and litter free, with idle equipment properly secured in well-designated plant yard. He should limit the use of equipment, including bitumen plant and vehicles with high noise levels, or high emissions of air polluting gases; on avoiding the burning of wastes of any kind as a precaution against the outbreak of fires; and on the reduction of dust levels.

#### **Section: Housing Offices and Laboratories for the Engineer's Site personnel**

Include clause, which specifically requires that: Ablution and toilet facilities should be kept clean and regularly maintained, free from odour and of little risk to health and that there should be regular litter collection.

#### **Section: Accommodation of Traffic**

Clause on "Accommodation of Traffic" should specify that the Contractor is required to reduce disruption of the day-to-day activities of communities in establishing security and safety at diversions and at other worksites.

### **Section: Clearing and Grubbing**

Clauses relating to Clearing and Grubbing and that for Disposal of Surplus Material, should require that spoil dumps should be isolated from normal working areas and from nearby settlements. They should not interrupt drainage or be susceptible to or increase the risk of erosion.

### **Section: Drains**

Clauses requiring temporary drains to be installed during construction should include standards for drainage to permanent and temporary housing to be used by the Contractor for staff accommodation to ensure that a storm water system is designed to handle the additional runoff expected. Guidelines should also be given for clearing of blocked culverts and side drains, and for reshaping of unlined open drains. The guidelines should require the Engineer to determine where the debris from culvert and ditch cleaning and drain reshaping should be placed, so that it is at a sufficient distance from the roadside if placed upstream of the ditch or spread downstream with a counter-slope with respect to the ditch.

### **Section: Borrow Materials**

The requirements for borrow materials should cover protection of trees, which should not be cut without approval of the Engineer, or destroyed during stock piling, drainage and finishing off or restoring the borrow areas to their original state on completion of the works.

### **Section: Landscaping and Grassing**

The provisions under this section should include, qualifying clauses in respect of “Avoidance of invader species” during reinstatement and re-vegetation of quarry sites, borrow areas and campsites. The provision should also cover watering, cleaning and other tendering measures for planted trees and other approved plant species. Providing the planting material and maintaining the plants up to the end of the defect liability period, shall be covered for payment under a designated bill item.

## **12. Conclusions and Recommendations**

The rehabilitation of the road in Niassa province between Mandimba-Cuamba-Lichinga, including the road along the border with Malawi will certainly introduce significant benefits in terms of road traffic throughout the year and facilitate the integration of the Republic of Mozambique in the SADC region, especially with its neighbouring countries.

The road will also introduce significant benefits in terms of access to social infrastructure (schools, health clinics and markets) and reduce travel time and costs thus improving the flow of agricultural products and other goods.

Indirect Positive impacts associated with the rehabilitation of the road include: investments by the Government and NGOs in strengthening programs of infrastructure and improving the

region's economy due to improved road circulation, increased employment opportunities, an increase in agricultural projects and agro-industries because of the excellent conditions for agricultural practices.

The project implementation will also have temporary positive impacts during the construction phase derived primarily from employment opportunities with the project that will result in increase in family income, increased agricultural production and small businesses that will benefit construction workers. There will also be positive direct and indirect socio-economic impacts for the population living near the N13.

The fact that project is rehabilitation of the existing road, there is minimal negative impact on its environment; however, this would change once construction begins to widen it to 18m. Currently the road crosses a large number of villages, with residential and commercial infrastructures that would be adversely affected by the project. The negative impacts include the destruction of homes and social infrastructures, agricultural land, vegetation on the roadsides.

Community Expectations of Social, Cultural and Economic Benefits from the Proposed Rehabilitation of the Road hinged on three significant benefits namely;

- (i) increase the volume of trade in the area,
- (ii) that business would be more brisk than at present irrespective of volume and
- (iii) that transportation of goods will improve. Some respondents stated safer roads, faster commuting, more job opportunities and cheaper travel costs.

To minimize the negative environmental effects of the project on these infrastructures, a Resettlement Action Plan (RAP) was developed according to the AfDB, the World Bank, JICA's and the MICOA guidelines on involuntary resettlement.

Based on the above, the following measures are recommended for total implementation to mitigate against negative impacts:

All impacts that require engineering and contract management solutions must be incorporated in the project design and specification for construction. The process of relocation and compensation should be administered through the offices of the District Administration and in such away that does not impair the performance of the project.

The relocation of cemeteries, as well as land acquisition, resettlement and compensation has been recommended in the RAP that was prepared for this project. The costs of mitigation measures should be included in the construction tender documents. The tender documents should also contain the appropriate conditions and clauses, including the recommendations of the ESIA and RAP to be followed and respected by all contractors. ANE and the consultant should adequately monitor the implementation of the EMP and the RAP.

### 13. References and Contacts

#### *References:*

- i. N13: Cuamba – Mandimba - Lichinga Road: Environmental and Social Impact Assessment – Draft Report, December 2011, AGEMA Consultoria & Services Ltd.
- ii. N13: Mandimba – Cuamba – Lichinga: Resettlement Action Plan, Revised 2012, EGEMA Consultoria & Services Ltd.

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## **ESIA SUMMARY ANNEX**

### **RESETTLEMENT ACTION PLAN**

Project Name: *Nacala Transport Corridor Phase III*

Country: *Mozambique*

**Project Number: P-Z1-DBO-100**

#### **1. Description of the Project, Project Area, and Area of Influence**

##### **a. Project**

The Nacala Transport Corridor, Phase III (N 13 Road) Project construction project is intended to support Mozambique's effort in the improvement of transport infrastructure and the strengthening of the institutional capacity of the roads sector. The proposed road improvement project is located in Niassa Province, which harbours the following districts and municipalities: Lichinga Municipality and District, Cuamba Municipality and District, Mandimba District and Ngauma District. The project area is within large undeveloped land with scattered settlements and low population density. The existing road alignment passes through many small villages. The road undulates from an altitude of 560 masl at Cuamba to about 1400 masl at Lichinga and the road alignment generally follows the watershed crest and natural ground.

Key project works causing social impacts comprise: (i) Asphalt paving and sealing of the 302 km long N13 road sections connecting the Cuamba – Mandimba – Lichinga districts and the road section from Mandimba to the Malawi Boarder ; (ii) Construction of drainage ; (iii) Ancillary road works comprising installation of road signs, kilometre posts and guard rails; and road marking as well as grassing embankment slopes; and (iv) Associated works which include removal and re-installation of railway level crossings, demolition of existing concrete, removal of corrugated pipes, construction of temporary diversions and sourcing and transportation of construction materials.

##### **b. Project area**

##### *Socio-economic Profile, land tenure and use*

The Project impacted province of Niassa is sparsely populated with extensive areas of vacant land. The predicted estimate for 2006 was 1 million inhabitants in the Province. Agriculture is the main activity for attaining livelihoods in the Project area. Cotton and tobacco are grown as cash crops while subsistence produce include maize, beans, corn, sorghum and cassava. Other economic activities include small-scale tree planting, cattle raising, poultry production and; local trading in food and household items.

Land ownership (right to a parcel of land) along the N13, is determined by the National Land Policy and by customary law. On average each family household owns an estimated 0.3ha of

land that is divided into 2 or 3 fields to allow for shifting cultivation. Cropping areas are often at long distances, about 1 to 2 km from the homes.

## **2. Policy, Legal and Regulatory Framework**

Preparation of the Resettlement Action Plan (RAP) was based on Mozambique's national laws, African Development Bank's policies and guidelines<sup>1</sup> and the JICA's guidelines for Environmental and Social Considerations.<sup>2</sup> Where discrepancies or gaps existed in the national laws, international good practices were taken into account.

### **2.1 Key National Laws**

- Land Law, n° 19/1997 defines people's land use rights, procedures for acquisition of title for use and benefits by communities, and recommends a process that recognizes customary rights.
- Article 24 specifies role of local communities in:
  - Management of natural resources
  - Resolution of conflicts
  - Legal process of obtaining land title and;
  - Identification of land boundaries
- Article 27 provides for the requirements and modalities regarding consultation on land matters, with local communities.
- National Land Policy (Council of Ministers Resolution n° 10/1995) establishes State's obligation to provide land for every family for shelter and its responsibility for land use and physical planning.
- Land Law Regulations (Decree 66/1998) regulate (i) procedures for acquiring land use rights, (ii) recommend compensation for losses incurred due to relocation.
- Territorial Planning Law n° 19/2007. (Article 20.)
- Territorial Planning Law (Decree n° 23/2008, Articles 70-72) specifies (i) modalities for compensation and necessary documentation (paid out prior to transfer of property), (ii) required information and documentation on modes of payment, proposed basis for calculation of compensation and time and complaints time frames.

### **2.2 International guidelines followed cater for gaps in the national laws:**

- Census of PAPs and their assets (AfDB, JICA)
- Eligibility for compensation for all persons losing land (with or without title), income, livelihood, shelter etc. should be compensated to restore losses (JICA,
- Land-based resettlement strategy (AfDB)
- Preparation of RAPs (AfDB, JICA)

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<sup>1</sup> African Development Bank ESPS 2009, ADB's Involuntary Resettlement Policy (2003)

<sup>2</sup> JICA's Guidelines for Environmental and Social Considerations (2002)

### 3. Potential impacts

**Land take and demolitions:** The zone of impact of land taking activities for the proposed project is the Road Reserve of 30 m (15 + 15) within which is the Corridor of Impact (COI) which extends approximately 9 m away from the current road width on either side of the existing road making 18 m in total. Construction of N13 Road will necessitate demolition of houses, kitchens, toilets, tobacco barns, kraals, yards, maize stores, water wells, Chicken coop; and dislocation of graveyards.

**Displacement of communities:** A total of 334 households will have dwelling houses affected by the road project representing approximately 2338 persons.

**Vulnerable groups:** There are 11 vulnerable households among the affected population which include 8 households headed by elders and 3 households with orphans. These households will require special assistance in construction of houses, movement of household effects and settling down during relocation. An additional allowance of 20% on top of their basic compensation will be required to assist them.

**Buildings and Structures:** Seven hundred and forty three (743) buildings and structures will be affected. These include 481 houses, ( of which 5 are public buildings -- school and office blocks and mosques), 51 kitchens, 141 shops and kiosks, 29 maize stores, 24 WCs, 8 sheds and 4 other structures. Other affected properties include 1,850 fruit and plantation trees, small subsistence gardens covering an area of 33.03 hectares, 75 yards covering an area of 52 hectares and 40 graves. (Cf. **Table 1**)

**Table 1. Summary Of Affected Buildings and Structures**

<i>ITEM</i>	<i>DESCRIPTION</i>	<i>QUANTITY</i>
1.	Houses	481
2.	Kitchens	51
3.	Shops	141
4.	Maize Stores	29
5.	Water Closets (WC)	24
6.	Others (8 Sheds, 3 schools, 2 Chicken coops, 1 Well, 2 Mosques and 1 Kraal.	17
	<b>TOTAL</b>	<b>743</b>



#### 4. Eligibility

4.1 The identification of persons eligible for compensation and resettlement will be based on the following criteria: (i) Persons losing land with or without legal title (ii), persons losing temporary or permanent access or rights to services, (iii) persons losing business or residential property (iv) person with homes, farmland, structures or other asset (v) vulnerable individuals who, among other characteristics, may be too old, young or ill to fend for themselves (vi) persons that incur losses whether partial or total and whether they have their own land or rent land, including those that rent or occupy buildings individually or as a group for business or as households.

#### 5. Entitlements and Compensation

5.1. According to Mozambique's legislation entitlements for payment of compensation are based on the right to use and benefit from the land, which is the property of the state. Losses of tangible and intangible property need to be compensated. *Table 2* outlines the entitlement matrix to guide compensation for losses by PAPs for the Project.

*Table 2. Entitlement Matrix*

Category of PAP	ENTITLEMENTS			
	Type of Loss	Structures	Land & Other Assets	Income/Livelihood
Property Owners (including cover by Customary Law.)	Loss of Land and Trees	Cash compensation at full replacement value of land and trees	Land replacement at new site. Land clearing by Project	Cash compensation at replacement cost
	Loss of Structures residential or business	Compensation at full replacement value	Backyard, wells, kraals, maize stores, WC, Sheds etc	For lost income from rented property, pay lump sum cash payment of 20% of the total annual income
	Loss of Premises	Compensation at full replacement	Replacement costs for non-movables	None

Residential/Business Tenant		cost	if installation was agreed with owner	
	Loss of Business Income	None	None	Payment of lost income at 20% of annual income
Community	Public Facilities	Cash compensation at full replacement value	Land replacement at new site. Clearing by Project	Payment of lost income at 20% of annual income
		Relocation to resettlement site. Payment of site rent	Waste treatment and connection utilities	Provision of alternative temporary facilities during construction (where appropriate)
	Dwelling houses	Cash compensation at full replacement value for the structure	Assistance towards opening of new gardens	20% disturbance allowance
	Graves	Cash compensation for exhumation and consolation	Land replacement at new site	None

5.2. **Cut- off- date** of 25<sup>th</sup> May 2011 was determined at the beginning of the census through consultative process.

### 5.3 Valuation of Assets

**Physical assets:** Department of public works provided values for calculation. The total value of each property was determined by construction materials used, floor/surface area covered, location of building/property and the cost per unit area. Some physical structures including

schools, restaurants and fences were determined from the replacement cost of the construction of similar or better structures.

**Graves:** Cost for relocation was determined from cost of simple and standard brick headstone and it includes compensation for exhumation, reburying and consolation.

**Fruit, Plantation and Indigenous Trees:** Established standard rates were obtained from the ministries responsible for agriculture and forestry while cost for affected gardens was calculated on the basis of replacement land and the labor assistance required for opening up virgin areas.

## **6. Organizational Responsibility**

6.1 ***The GoM through ANE:*** will bear the overall responsibility of the compensation process and ensure flow of adequate funds to fairly compensate the PAPs. GoM will oversee the land acquisition and relocation process in close liaison with the RAP Implementation Committees PAP, local leaders, District Administration and the civil works contractor. ANE will coordinate the removal of structures and trees by the road, in close liaison with the PAPs, the Local Leaders, the civil works contractor and the consultant.

6.2 ***District Administrations:*** District Administrations (Lichinga, Cuamba, Mandimba and Ngauma) will be responsible for making payments of compensation and resettlement support to the PAPs; through the local leaders, District Administrations will receive related complaints from PAPs and assist the PAPs accordingly. The complaints will be brought to the attention of ANE by the RAP implementation Committee to be informed for record and for further assistance purposes where necessary. ANE will ensure that PAPs are well informed, through the local leaders, at each stage of the process.

6.3 ***Civil works Consultant:*** The contractor will oversee and ensure the removal of only the structures and trees recorded as affected; ensure that implementation of Works does not adversely affect PAPs and that no property is demolished before the PAPs have received compensation and related assistance. He will closely liaise with ANE to ensure that implementation of the civil works does not adversely affect PAP; and that affected structures are not removed before the PAPs have received compensation and any necessary additional assistance in full.

6.4 ***Local Leaders:*** Will provide logistical support in order to maintain the formal channels of communication between the community and the District Administrators. They will assist in the assessment and valuation of assets, support PAPs and receive complaints for submission to the Grievance Redress Committee and ANE.

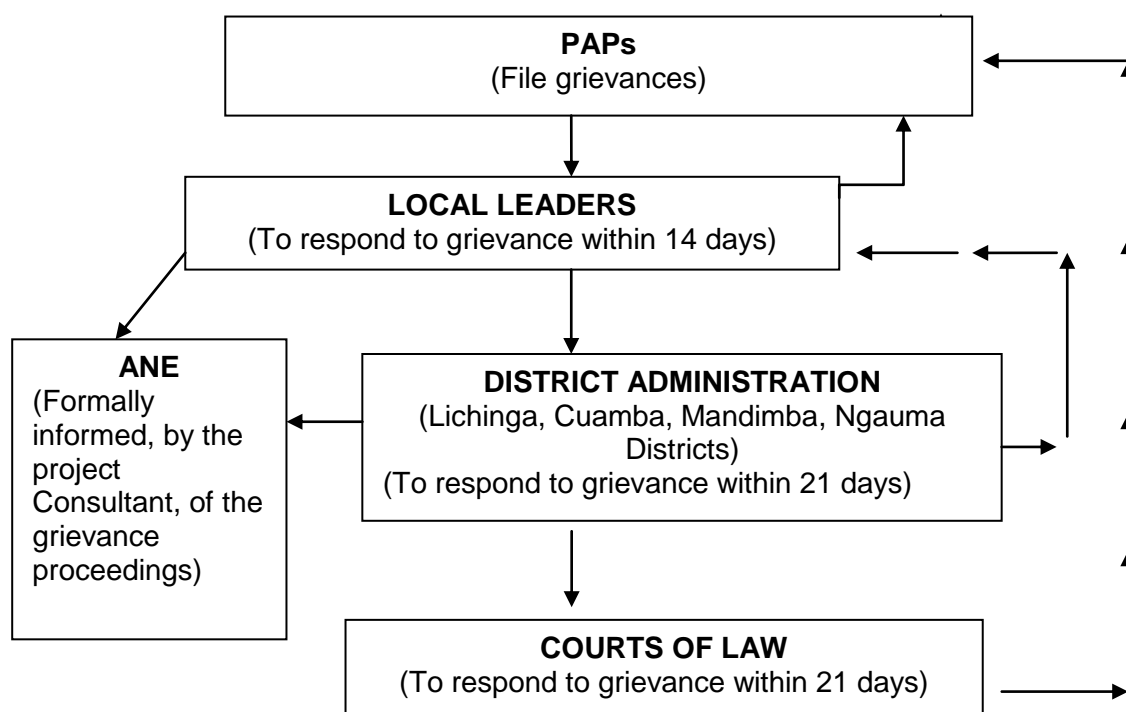
6.5 **RAP Implementation Committee:** The Committee will coordinate the assessment and valuation of assets and affected structures, coordinate compensation payments, provide support in grievance redress and generally oversee the implementation of the RAP. **PAPs** will take charge of the construction of their new houses/structures and the relocation of their property to new sites. The Director of Resettlement in MICOA will undertake the general monitoring task.

## 7. **Community Consultations and Participation**

7.1 In accordance with Mozambican guidelines for consultation in matters of resettlement all important stakeholders were involved in the preparation of the RAP: local chiefs, the community and the PAPs. At the administrative level the meetings were held with District administrations, The Environmental Office, The National Directorate for Resettlement in MICOA, The National Directorate for EIA in MICOA, The National Directorate for Roads; and the Directorate for Property Evaluation in Niassa Province.

## 8. **Grievance mechanisms**

8.1 All grievances concerning resettlement or compensation from the PAP and host community should be directed to **local leaders**. This level may allow a local and rapid resolution. In all instances, the objective will be to resolve the cases at local level and avoid the complicated and lengthy processes. Failing resolution at community level, issues may be presented to the **District Administration**. ANE is informed of grievances proceedings and keeps a log for monitoring purposes. The Courts of Law are the final arbitrator for unresolved issues. The sequential steps for grievance redress are shown in figure below:



## **9. Implementation Schedule**

9.1 The process of preparing this RAP is in line with the requirements of the the Land Law, the Constitution and the Urban Construction Legislation (Decree No. 2/2004) and it involved the following:

- preliminary consultation meetings with staff of ANE, representatives of Lichinga, Ngauma, Mandimba and Cuamba District Council and representatives of PAPs;
- the census to identify PAPs and their assets commenced on the 17<sup>th</sup> of March, 2011 and continued up to 25<sup>st</sup> of March 2011; and from 17 to 25<sup>th</sup> May
- asset valuation and preparation of the RAP started immediately after the census, on 26 March, 2011.

9.2 Implementation of the scheduled activities will continue, with approval of the RAP by ANE and the Government of Mozambique. A final database will for PAPs and their assets will be established by ANE and compensation disclosed and agreements reached with PAPs (see Table 3). Activities up to the termination of assistance from ANE will be implemented following the order given in the Implementation Schedule. Implementation dates for the project activities will depend on the approval decision from major stakeholders which include the Japan Bank for International Cooperation, the African Development Bank and the Government of Mozambique.

9.3 The following critical timeframes shall apply unless otherwise agreed between ANE, the local leaders, PAPs, the civil works consultant and the contractor; provided however, that no agreement to waive the timeframes and order of activities shall adversely affect the rights or interests of PAPs, under this plan:

- the inventory shall be completed at most four months prior to the commencement of work;
- the RAP shall be submitted to ANE for approval after completion of inventory and valuation; and
- compensation and relocation activities shall only commence after ANE and the persons to be relocated have accepted the Implementation Plan.

9.4 Relocation of households and documentation/validation of land acquisition shall be completed as a condition for the taking away of land and before commencement of the civil works under the project. The implementation schedule shows that consultation with PAPs will be an on-going process after which assistance to PAPs may be terminated. The 6 months period may have to be extended on agreement between PAPs, local leaders, the contractor and ANE, to facilitate smooth relocation of the PAPs.

**Table 3. IMPLEMENTATION SCHEDULE FOR MOZAMBIQUE N13 ROAD RAP**

		2012/2013																										
								2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	11	12
No.	Activity																											
1	Preliminary meetings/consultations																											
3	Census and civic education																											
3	Cut-off-date																											
4	Asset valuation and preparation of RAP																											
5	Comments and Approval of RAP																											
6	Project approval by Govt.																											
7	Establish database for PAPs																											
8	Action plan agreement with PAPs																											
9	Identification of relocation sites																											
10	Signing compensation agreements																											



Water closets (WC)	24	466.22
Mosque	2	3,385.32
Chicken coop	2	27.58
Well	<b>1</b>	<b>225.00</b>
Yard	75	3,385.32
Toilets	2	36.00
Kraal	1	30.56
Sheds and Other Structures	11	2,237.24
Trees	1850	1,108,703.69
Graves	40	22,622.70
Assistance for new gardens		16,937.99
Allowances for Vulnerable groups (HHE & HHE)		11,509.57
Annual Incomes (Shop owners)		188,571.43
<b>Subtotal</b>		<b>2,151,077.92</b>
Contingency (10%)		<b>215,107.79</b>
Total		<b>2,366,185.71</b>
Monitoring Cost		<b>44, 500.00</b>
<b>GRAND TOTAL</b>		<b>2,410,685.71</b>

## 11. Monitoring and Evaluation

11.1 ANE will be responsible for the monitoring and evaluation of the resettlement process and will institute an administrative reporting system that (i) alerts project authorities on the necessity and procedures for land acquisition for the project activities including budgets, (ii) provides timely information about the compensation process; (iii) maintains records of any grievances that require resolution; (iv) documents timely completion of compensation obligations and payment of compensation and; (v) updates the database with respect to changes that occur on the ground during implementation of compensation. District Administrations will host the M&E activities and carry out internal monitoring at quarterly intervals during the first year after land acquisition.



Reports would be sent to ANE to be part of the official documentation for the road. Internal monitoring will be done in collaboration with the ministry responsible for Lands and MICOA. PAPs, through the RAP Implementation Committee will also play a role in monitoring the proceedings. An external monitoring and evaluation agency, independent of the Project, will be commissioned to carry out an end of term evaluation of the resettlement activities.

## **12. Conclusion**

12.1 Niassa province has inherent development potential in agriculture, forestry, mining and tourism. The districts of Lichinga, Cuamba, Ngauma, Mandimba and the surrounding areas need an improved road network to respond to the local and regional economic growth.

12.2 The Project will affect some three hundred and thirty four households representing approximately two thousand, three hundred and thirty eight persons. While there are no viable alternative to the disturbances, every effort shall be put in place to minimize dislocation of people during project implementation and that fair and timely compensation is paid to all affected persons. In their majority, the PAPs are positive about the new road and have expressed preference for cash compensation for affected structures and relocation within the surrounding areas in order to realize the Project.

12.3 Adverse impacts, notwithstanding, the construction of the N13 Road is an important undertaking which must be seen as a development opportunity for the affected communities to improve their livelihoods. The Project is therefore highly recommended.