MOZAMBIQUE: MONTEPUEZ-LICHINGA ROAD

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT SUMMARY*
MONTEPUEZ–LICHINGA ROAD, MOZAMBIQUE

ENVIRONMENTAL AND
SOCIAL IMPACT ASSESSMENT SUMMARY

Project Name: Montepuez–Lichinga Road
Country: Mozambique
Project Number: P-MZ-DB0-007

1. Introduction

1.1 The overall objective of the project is to provide accessibility to the remotest districts of Niassa and Cabo Delgado provinces of Mozambique. Its purpose is to reduce transport costs and stimulate economic development, national integration as well as developing an alternative corridor for regional and international trade.

1.2 The strategic environmental context has been comprehensively studied in the commissioned Lichinga–Montepuez EIA (Volume 3 of the Feasibility Study), September 2003. This report was financed by the Bank and covers the entire corridor. Detailed socio-economic information is presented regarding the populations in the two provinces, the development context and subsistence base. The report covers in depth the nature of potentially affected heritage and cultural sites (particularly grave sites) as well as wildlife issues. The report also contains a well articulated environmental management plan as a ‘stand-alone’ attachment to the report.

1.3 The report has been updated for the current project sector, together with a Compensation Plan or detailed Resettlement Plan in line with the Bank’s requirements for a Category 1 project. This document is a summary of the major findings and recommendations.

2. Project Description and Justification

2.1 The project comprises road, bridge and culvert works to upgrade 203 km of road way between Montepuez and Marrupa, including three major components.

- a major upgrade of an existing track between Montepuez and the Ruaca River in Cabo Delgado Province to bitumen standards of 6.4m carriageway and 0.8m shoulders on either side (7.0m double sealed width and a 0.5m width of single seal on either side) for the Montepuez-Ruaca section (137km); and,

- civil works to upgrade another 66 km of engineered road to bitumen from Ruaca River to Marrupa section 7.0m carriageway including shoulders, as applied on the 245 km between

- Finally, there is a rehabilitation of the Lichinga and Litunde section (66 km) and the construction of 7 bridges along the project corridor to be financed by JBIC within the project.

2.2 The upgrading of the Pemba-Lichinga Corridor has been conceived and fits within Government’s road sub-sector policy and strategic framework to provide adequate and efficient transport infrastructure and services capable of serving the economy and in particular, connect, all provincial capitals and transit to the land locked neighboring countries
to the ports. The Montepuez-Marrupa Road Upgrading Project which is a vital link in the Corridor, has in this context been accorded high priority in the ROADS 3 programme as a necessary investment in the northern provinces of Cabo Delgado and Niassa. The road will provide the communities in the zone of influence access to socio-economic services and markets in the major towns of Montepuez, Balama, Marrupa and Lichinga. The project when completed will compliment the Pemba-Montepuez road, an earlier Bank intervention in the corridor.

2.3 The section between Montepuez and Marrupa is a track and can only be used by four wheel-drive vehicles, which makes the entire area inaccessible to light vehicles. The detailed engineering design report considered seven (7) pavement types in four groupings, namely granular, cemented, emulsified material and asphalt. The pavement options were analysed to determine their load carrying capacities over the design period. Based on technical, cost and climatic considerations, a triple seal on cemented base and sub-base gave the best performance under the projected loading. However a double seal has been reviewed and found adequate given the performance Pemba-Montepuez road since opening it to traffic in for more than four years.

3. Policy, Legal and Administrative Framework

3.1 The GOM Plan of Action for the Reduction of Absolute Poverty (PARPA) recognizes that inadequate infrastructure, particularly in rural and peri-urban areas is the major contributor to the high incidence of poverty in Mozambique. Low access to infrastructure has resulted in the high costs of supply of services especially to the remote low-income communities. The provision of infrastructure will reduce poverty through improved access to markets, social services, natural resources and promotion of private sector development.
3.2 Strategically, upgrading the Pemba–Montepuez–Lichinga Corridor, for which the project road is the only missing link, would contribute to the attainment of the objectives of ROADS-3. The Corridor will promote regional integration and provide a link to the port of Pemba for the land-locked countries to the west. The project will improve economic activities by reducing transport costs and also provide easy access to markets, social and extension services. The Bank in consultation with GOM has identified the road sub-sector as one of the focal areas of support to the country in the ADB Country Strategy Paper for the 2005-2009 period.

3.3 Mozambique has received considerable support in the area of environmental management. There is an impressive body of EIA legislation and a developing consciousness among policy makers of the importance of a rational development of natural resources for the country’s future. The vast size of the country makes enforcement of legislation inevitably difficult. Professionals with competence and access to vehicles are very thinly spread, especially in the remotest provinces in which the project is located. Economic development along the corridor can be expected to make Pemba and Lichinga more attractive locations for staff postings. An evident and growing demand for nature tourism and NGO activity from Pemba may lead to a better political consensus for monitoring and controlling illegal hunting and logging. Faced with this reality, PARPA II acknowledges the need to strike a balance between the use and exploitation of natural resources to the benefit of the poor.

3.4 The project status in the Bank environmental assessment procedures is that of a Category 1 project because of the resettlement requirement (> 200 Project Affected Persons) and because the project involves a radical upgrading from a track with little or no wet season traffic to a bitumen sealed strategic highway. The latter implies a new penetrating road. This will create an important strategic transport link across an otherwise remote wilderness area. The scope of appropriate environmental and social assessment and planning should therefore cover three areas: i) strategic environment and development context; ii) construction environmental management, including occupational health, HIV/AIDS mitigation, road safety; and, iii) resettlement planning implications.

3.5 The project will be implemented in conformity with requirements of the national legislation of the Government of Mozambique for a Category A project as prescribed by Decree No. 45/2004. The Division for Environmental Impact Assessment within the Ministry of Environmental Affairs (MICOA) will be responsible for ensuring the appropriate implementation of environmental and social management plans by ANE, in particular the compensation arrangements. MICOA will receive progress reports and verify that undertakings of their development permit and local government law are properly respected.

4. Description of the Project Environment

Natural Environment

4.1 The Lichinga–Montepuez–Pemba road corridor extends across the two northern Provinces of Niassa and Cabo Delgado. It transverses the three districts of Lichinga, Majune and Marrupa in Niassa Province and two districts of Balama and Montepuez in Cabo Delgado Province. These five districts of project influence cover a land area of 57,312 sq. kms which is equivalent to 7.03 % of the surface area of Mozambique, with impact area covering about 113 villages with estimated population of about 480,000 inhabitants in 2005 approximately 5% of the total Mozambique population. Population density is estimated at 7 inhabitants per square km in Niassa and 17 inhabitants per square km in Cabo Delgado which is relatively low compared with the national average of 23.5 inhabitants per sq.km. Population growth rates vary considerably between the five districts at about 2.4% which is higher than the national average of 1.7%, while Lichinga and Sanga have over 4%.
4.2 The project zone of influence is on a plateau with altitudes varying between 200 and 1000 meters. Except for the coastal zones of Cabo Delgado, are chains of mountains with metamorphic and igneous rocks, and sedimentary lands. The project area is located in the Rovuma, Montepuez and Messalo River basins covering a total area of 155,400 sq. km; 24,000 sq.km and 9,500 sq.km, respectively. The project region is very rich in flora and has about 8,500 species. The vast area to the north of the road, to the Tanzanian border and beyond is characterized largely by deciduous Miombo Savana Woodland (Wild & Barbosa, 1967) with small glades. With respect to fauna the geomorphological characteristics of the region restrict certain animal specifies because of the difficulty of finding water in dry seasons. However, the amphibians survive in underground water bodies during the dry season.

Subsistence Base

4.3 Agriculture is the main source of livelihood with 85% of the population dependent on it and occupying between 94% and 98% of the economically active population, mainly working on smallholdings. The main food crops are maize, beans, groundnut, rice, millet, sorghum, cowpeas and cassava. Niassa and Cabo Delgado are among the main producers of maize of the 10 provinces of Mozambique. In 2004/05 they produced 147,882 tons and 139,711 tons, respectively, out of the estimated national production of 1.4 million tons (ie 27% of national output). Cash crops include tobacco, cotton, cotton and sunflower. Use of fertiliser and improved technologies, eg use of high yielding seed varieties, is very low compared to national averages due to poor access by extension workers and limited access to credit.

4.4 The production of tobacco has risen from almost nothing in the recent past to 8,132 tons in Niassa and 82 tons in Cabo Delgado for 2004/05 cropping season. Similarly cotton production has increased from 4,290 tons to 8,977 tons in Niassa during the period 2001/02 to 2003/04, and in Cabo Delgado it has grown from 15,317 tons to 20,819 tons over the same period. Approximately 17% of farmers in Marrupa were already growing tobacco and cotton and a further 38% were contemplating doing the same. Despite this tobacco and cotton yields are about 30% lower in the project area than the average elsewhere.

4.5 Non-agricultural employment opportunities are very limited with some 2% to 6% of population earning wage income of which an estimated 8% to 12% were women. The major sources of non-agricultural income are the public sector, NGOs, small commercial businesses including bakeries, informal trading and artisan works/repair services. Women are involved in selling food items, charcoal and firewood. A potential exists for some agro-processing in maize mills, cotton, rice and sunflower gin, timber sawing, marble stone mining and production of sunflower oil, but their growth has been constrained due to lack of transport access. Banking services are restricted to outlets of Banco Austral or BIM present in Montepuez, Lichinga and Marrupa and a small scale enterprise fund (Fundo de Fomento a Pequena Industrial) which gave out some credit for businesses.

4.6 Fertility rates are high at 7.2 for Niassa and 5.9 for Cabo Delgado compared to the national average of 5.5 (DHS, 2003). Usage of modern contraceptive methods is low at 5.8% in Niassa and 4.5% in Cabo Delgado compared with the national average of 11.7. At least 22% of households in the two provinces were headed by women. The Mozambique 2003 poverty profile shows that 62.5% of female headed households were poorer compared to 51.9% headed by men. % While the poverty incidence for Niassa has improved during the period 1996/97 to 2002/03 from 70.6% to 52.1, in Cabo Delgado it has deteriorated over the same period from 57.4% to 63.2% (PARPA II). The national average has improved from 69.4% to 54.1% over the same period. According to the DHS, infant mortality rates in the two provinces were high at 140 and 177 per 1000 live births, respectively, with the national average of 124.
4.7 HIV/AIDS prevalence is high in Mozambique with a national average rate in 2005 of 16.2% and those for Niassa and Cabo Delgado provinces 11.1% and 8.6%, respectively. The trend in the prevalence pattern shows that the more remote the district the lower the rate. Several NGOs and community based organization have begun activities in these areas. According to the information provided by CNCS, NGOs that have been active in the districts within the zone of influence are: APROVO, APCO, Association of Mbanje, Association of Muslim Women, AJF (Firm Youth Association), ARO Juvenil, Comboni Missionary Sisters, Napuwele Okumi and Conselho de Alimos de Mozambique. CNCS, in collaboration with other ministries especially those of Health and Youth, have set up voluntary testing centres (GATV) and youth clubs.

5. **Project Alternatives**

5.1 As for many road development projects there are no meaningful alternatives other than the “do nothing” alternative which would render investments undertaken to date in completing contiguous sections of the road corridor in large measure wasted part wasted.

5.2 There is very limited air transport availability except to elite tourism and trophy hunting operations which are consequently difficult to oversee. Clearly there are alternative routes from Lichinga to access the coast. However, these require a much greater travel distance and energy use, routing via Cuamba and Nampula, an indirect route through higher terrain with greater relief which is more wasteful of fuel energy and indeed time.

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

**Wildlife Conservation Impacts**

6.1 The density of wildlife in the area is low and very few sitings of animals have been reported by previous road construction teams, though elephant damage is reported in isolated villages. There are no designated wildlife areas or game lodges in the region surrounding the road, though there are some hunting blocks and temporary camps to the north. It is not expected that the road will have any significant impact on the presence of wildlife. It is known that the area is traversed seasonally by elephants whose migratory corridors have been identified. On the project road section there is one of two 40 km corridors identified which is 20 km either side of the Ruaca River. This represents a very wide migration route, unconstrained on either flank by natural or an artificial barrier. There is naturally a preference for new construction camps be located outside this particular corridor.

6.2 Since the finalization of the above report much of the road corridor has been upgraded, with the exception of the current section. The development of the road to an all-weather bitumen surface will have major implications for economic and natural resource development as far as Lake Niassa and southern Malawi itself. Indeed it is only when this last linking section of the corridor is completed that these impacts will be felt and thus affect economic and extensive land use change for agricultural development. In the very long term there might be some strategic management implications for the sustainable development of currently under-exploited resources. However, it is not reckoned that the risks of land degradation are significant. There may be increased pressure for forest exploitation but equally there will be opportunities to better access and control illegal logging for construction timber and fuelwood. The Bank’s earlier intervention the ADF funded Forest & Wildlife Resources Project aims to introduce sustainable forest and wildlife management in the province of Cabo Delgado and should mitigate concerns in this area.
Economic and Poverty Impacts

6.3 The area has economically suffered due to its isolation. Critical indicators including poverty incidence show that the northern provinces of Mozambique are on average poorer than the rest of the country. Similarly agricultural and human development indicators such as health, education and gender have been worse than the national average. The new road project will facilitate a change to the situation and trigger improvements in the wellbeing of the communities by stimulating economic growth and poverty reduction. This will help achieve MDGs and PARPA II objectives in reducing causes of poverty, such as low levels of education, high dependency at household level, and low returns to economic activities in agriculture and little or no development of agricultural processing and other industries.

6.4 Completion of the road project will benefit farmers and the population at large in four distinct ways. First, it will enhance productivity through better availability of improved agricultural inputs such as high yielding seeds, fertilizers and pesticides. Access to improved farming technologies will benefit the communities through increased contacts with extension workers who will find it easier to travel. Secondly, the road will encourage large farmers to invest more and expand their activities stimulating paid employment and monetisation. Thirdly, a good road will facilitate marketing of agricultural produce from Lichinga and western areas, even flows to and from Malawi. The fourth benefit is related to the notion of food security. As mentioned above the two provinces are significant producers of the major food crops and by linking this area to the major routes via Pemba and Nampula/Nacala, excess production will more easily be exported elsewhere in the country.

6.5 The road development will facilitate trade along the road and between major commercial centres of Lichinga, Pemba, Nampula, Cuamba, Montepuez and Nacala. It will increase inter-provincial and international trade by providing all weather access at reduced cost and time. Linking the project area to the ports of Pemba and Nacala will ensure possibilities of exporting overseas. Agro-processing potential in the zone of influence will be enhanced and the project road when completed will encourage local transport operators, both motorized and non-motorized, to invest in transport systems and improve the capacity of the feeder road network.

Health Impacts

6.6 The road will make it easier to travel to hospitals of Montepuez and Pemba. People will be able to access HIV testing centres at Montepuez and Marrupa (a necessary condition to meet the PAF HIV/AIDS indicators). Ambulance services will be able to operate more effectively and as a result reduce the risk of maternal mortality among women in the districts. Immunization programme campaigns will benefit from the improved road infrastructure. Other social services delivered by NGOs and CBOs such as outreach programs on general hygiene and HIV/AIDS awareness and prevention programs will be facilitated.

6.7 Similarly, the education system will improve as the area becomes more attractive to teachers and there can be better surveillance of attendance and easier distribution of teaching materials and better facility maintenance. Teachers (especially female teachers) would more easily be posted to remote schools, while Balama students will be able to access EP2 and ESG1 schools in Montepuez and Marrupa (by so doing meeting the PAF goal of 41% of girls completing EP2 by 2007).
Social and Health Risks

6.8 Good transport systems and the spread of disease tend to go hand-in-hand. Studies show that the transport sector is a major vector for the spread of diseases such as STD and HIV/AIDS. Dimensions to be checked on this project are (i) risks of workers contracting HIV/AIDS during road construction where there will be enhanced interaction of better paid construction workers with the surrounding communities; (ii) increased population mobility and contacts between provinces and districts; and (iii) promiscuity among transport operators (truck drivers) and bar operatives at stopping places and terminal points. Opening up of these areas to traffic and contact will inevitably put the local population at a risk.

6.9 Once the road is fully operational, traffic accidents are bound to increase with traffic volumes. There is no specific data on number of accidents in the zone of influence but the national traffic police statistics show that in the first half of 2005, there were 3,013 motor vehicle accidents with 594 deaths. Accidents may also occur during construction of the road especially from operation of construction equipment.

Employment Opportunities

6.10 With the road construction will be the creation of employment opportunities. It is expected that roughly 200 people (approximately 50 skilled and 150 unskilled) will be employed as direct labour on the project; with more people required for routine maintenance and related periodic maintenance works, thus providing off farm income. There will also be indirect and additional opportunities for local businesses through the supply of food stuffs, goods and other services to the work force during construction, thus providing an incremental boost to the local economy. Once the transportation systems are improved there will be facilitation of labour migration and regular travel to paid employment in other parts of the provinces.

6.11 In pursuit of gender equality, ANE has a policy of ensuring that at least 25% of the workforce is women. This implies that at least 50 women will get wage employment during construction and even after construction. In addition, women will be encouraged to engage in service provision such as selling food items, rendering domestic services, etc. It is clear, therefore, that by offering employment and other income earning opportunities to women would go some way in the fight against poverty.

7. Environmental Management

7.1 With respect to road environmental management during construction, the Feasibility Study EIA (September 2003) incorporates a detailed Environmental Management Plan. This is a very comprehensive document and will be the basis of contractual requirements for construction work under the supervision of ANE. It covers all necessary steps to mitigate negative impacts. These include measures during construction to: a) mitigate risks of erosion and sedimentation around watercourses; b) restrict water and soil contamination on work sites and around work camps (including littering and waste disposal); c) restrict generation of dust during construction; d) reduce risk of fire, cutting of trees for firewood, hunting and trapping by construction workers; e) implement HIV/AIDS awareness programs for construction workers; and, f) minimize risk of accidents and ensure occupational safety of workers on construction sites.

7.2 Construction impacts will be mitigated by application of best practice environmental management measures and by day-to-day supervision and monitoring of the contractor by the Engineer's Representative and the environmental/social specialist. The latter will ensure implementation of contract environmental monitoring measures and compensation and
relocation measures for affected persons as presented in the Compensation Plan. A fortnightly monitoring form will be completed to cover environmental performance on site and will provide a record of adequate and unsatisfactory performance with respect to borrow pit management, erosion mitigation, health and safety, community consultation, etc.

7.3 The environmental management plan includes provisions for an AIDS/HIV awareness campaign during construction when there will be a significant risk from the influx of waged construction labour. The contractor will be required to conduct a campaign among his staff and in the villages along the road, making available to his staff devices to restrict STD transmission in the host population. ANE has made special provision in the contract to include such prevention and mitigation programmes. This includes recruitment of an NGO to manage HIV/AIDS campaigns, including "street theatre" activities, provision of information leaflets, conducting STD tests and treatment, supply of condoms, etc.

7.4 Regarding contacts between local communities and well paid construction workers, ANE is working jointly with CNCS to ensure that HIV/AIDS awareness and prevention programs are being implemented within the communities at large. The NGO Association of UMOKAZI has received funding from CNCS to implement programmes in Montepuez and Balama, among other districts. UMOKAZI activities will implement programmes targeted at transport operators, drivers, bar staff and vulnerable school girls.

7.5 The Road Safety Council through its secretariat, INAV is responsible for ensuring road safety. Once the Road Safety Strategy and action plan are completed, an enhanced program of public awareness on road utilization will be mounted. Communities will be re-oriented on the importance of preserving road signs and other road furniture. School children along the corridor will be given extra curriculum lessons and activities on how to safely use the road.

7.6 All the above environmental and social measures will be monitored and enforced, together with health and safety measures (accident prevention, etc.) applied by the contractor for his workforce. Reporting in these areas will be undertaken in conjunction with construction progress. These will be monitored by ANE and reviewed by MICOA provincial offices.

7.7 The total cost of the environmental and social plan (see below for detail of RAP Complementary Measures) is estimated at US$ 670,000. Most of this is in compensation and staff costs for supervision of environmental/social measures. About two thirds of the sum allocated will be for expected compensation and between a quarter and a third for management of the compensation programme. The compensation payments will be met from Mozambican government budgets and not the project loan.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV/AIDS Mitigation</td>
<td>125,000</td>
</tr>
<tr>
<td>Compensation /Relocation Plan</td>
<td>220,000</td>
</tr>
<tr>
<td>School Rebuild/Upgrade</td>
<td>180,000</td>
</tr>
<tr>
<td>Conservation measures</td>
<td>35,000</td>
</tr>
<tr>
<td>Facilitation Staff</td>
<td>40,000</td>
</tr>
<tr>
<td>Office and Vehicles (suppl. item)</td>
<td>30,000</td>
</tr>
<tr>
<td>Soc/Env Contingency</td>
<td>50,000</td>
</tr>
<tr>
<td><strong>ESMP Total</strong></td>
<td><strong>US$ 670,000</strong></td>
</tr>
</tbody>
</table>
8. Monitoring Program

8.1 There is an environmental unit within ANE which is responsible for inspecting and auditing the environmental management which will be required of the contractor. A fortnightly monitoring form will be completed to cover environmental performance on site and will provide a record of adequate and unsatisfactory performance with respect to borrow pit management, erosion mitigation, health and safety, community consultation, etc. ANE and provincial and national environmental authorities of MICOA will receive environmental monitoring reports and/or copies of quarterly reports which will address environmental and social (HIV and compensation programme) management and monitoring status and performance.

8.2 It is proposed that the Bank undertake ad hoc environmental inspections with the ANE Environment Unit personnel and, as appropriate, liaise with MICOA, both at national and regional levels. However primary responsibility for environmental monitoring and supervision of environmental management (and resettlement – see below) will fall on ANE and its consultant, in particular the ANE environmental unit (Unidade de Assuntos Sociais e Meio Ambiente).


9.1 The Bank and indeed the national Mozambican environmental assessment legislation (Decree number 45/2004 of 29 September 2004) require disclosure of project proposals. MICOA (Environmental Coordination Agency) has a remit to approve ESIs according to this legislation and has been duly consulted during project development. MICOA at the provincial level and at national level have received Portuguese versions of the updated ESIA.

9.2 Stakeholder participation was built into the project from feasibility study stage to project conception. The negative and positive impacts were discussed with the local authorities, village leaders, the local community and independent organisations operating in the zone of influence of the project. The approach used comprised interviews, group discussions and observations during project site visits. Strong support for the project has been expressed because of the universally perceived benefits expected.

9.3 A continuous consultation process has taken place during survey of the route by ANE and its consultants. Government surveyors have traced the route and identified individuals who might be affected by relocation requirement or loss of trees. The compensation obligation of the project developer has been explained to potentially affected persons. During the survey work undertaken, and indeed to date, there has been no reported objection to the project as proposed.

9.4 There will be further consultation in the next phase of project implementation. The provincial MICOA offices will be involved in commenting on any further detailed modifications of the project plans prior to national accreditation and any commencement of construction works. This ESIA Summary, together with a summary of the Detailed Resettlement Plan, is published on the ADB website as for all such Category 1 projects.

10. Complementary Initiatives

10.1 Resettlement planning. Although the road corridor is predominantly following an existing alignment, there will be a need for some compensation for localized impacts on roadside agriculture due to land take. However, agriculture is largely of a shifting nature with long fallows following the opening and temporary cultivation of new fields. More important will be the need to relocate Project Affected Persons (PAPs) as addressed in the annexed Resettlement Action Plan (RAP).
10.2 The RAP indicates an estimated 72 houses and 84 barracas (stalls), mostly of traditional materials, are to be permanently relocated /compensated. An additional 50 traditional houses would be affected depending on the contractor needs for earthmoving and access (sum available in contingency). The cost of this compensation to individual PAPS is estimated as US$ 220,000. Some three EP1 schools in Montepuez and Balama will be affected and US$ 180,000 is allocated for rebuilding and upgrading.

10.3 In accordance with Bank policy, all Project Affected Persons will have to be compensated to ensure that they are not made any worse off. A total of approximately US$ 400,000 has been estimated for compensation of PAPs based on the full survey of people and institutions which has been conducted. ANE through its Social Services Unit (UASMA) is at point of finalizing the full details of the Resettlement Plan, including preliminary discussions with the Provincial Director of Education in Cabo Delgado on the possible relocations of 3 EP1 Schools.

10.4 Compensation will be undertaken using established compensation practice. In general land is plentifully available and Mozambique has a good reputation in undertaking fair compensation programmes. ANE will be responsible for administering the programme in liaison with provincial local government offices. The provincial offices of MICOA will have oversight over this process. ANE will monitor and report on progress to both the Division of Impact Assessment of the Ministry of Environmental Affairs (MICOA) and the Bank.

10.5 ANE will be ultimately responsible for implementation of compensation measures, as indicated above, and will deploy a team with survey and social facilitation expertise to liaise with local authorities and undertake the compensation provisions of the Resettlement Plan in accordance with established procedures. Payments will be made on the basis of regionally adjusted and updated prices for structures, fruit trees, crops, etc as indicated by local government in the relevant province, including in particular the provincial directorates of agriculture and local government.

10.6 The Bank with MICOA will ensure implementation of agreed measures and adequate oversight and monitoring during supervision of the project.

11. Conclusion

11.1 There has been extensive consultation with officials and representatives of potential beneficiary groups along the road. There is no local objection that has been recorded and indeed conservation interests are very much in favour of road development to enable the development of wildlife and natural resource based tourism.

11.2 The project is judged to be environmentally and socially acceptable. The ESIA has identified environmental issues and social impacts and adequate measures are planned for mitigation and compensation. As a condition of the loan, the resettlement and compensation arrangements will be implemented prior to construction of the road.

11.3 The environmental management and resettlement plans (estimated at US$ 670,000) will be monitored by ANE to the approval of MICOA and the Bank. The reports submitted for the project during the construction phase will include details on the status of implementation of the compensation programme. These will be copied to the two relevant provincial MICOA offices. Supervision visits will be undertaken by the Bank to ensure compliance.

11.4 The investment will have many positive impacts on beneficiary livelihoods and in the potential economic expansion of a region that has been disadvantaged in recent years yet has significant potential for renewal.
Annexe: Resettlement Plan Summary

12. References and Contacts

Key Project and Legislative Documentation

- The Rehabilitation of the Road between Montepuez and Marrupa, Cabo Delgado and Niassa Provinces (May 2006). ANE - UASMA
- ANE Resettlement Policy for Roads Sector, Mozambique (Working Draft)
- Demographic and Health Survey of Mozambique, 2003
- Plan of Action for the Reduction of Absolute Poverty 2005-2009 (PARPA)

Key Contacts in Mozambique

Administracao Nacionale de Estradas de Mocambique (ANE)

Unidade de Assuntos Sociais e Meio Ambiente
Av De Mocambique No. 1225
Caixa Postal 1439, Maputo

Ministry of Environmental Affairs (MICOA)

Luciano de Castro, Minister
Rogerio Wamuse, Special Adviser to Minister
Filício Fernando (Deputy Director), Division of Impact Assessment
ANNEXE

MONTEPUEZ – LICHINGA ROAD, MOZAMBIQUE

ESMP SUMMARY
RESETTLEMENT ACTION PLAN (RAP)
FOR COMPENSATION AND RELOCATION

Project Name: Montepuez–Lichinga Road
Country: Mozambique
Project Number: P-MZ-DB0-007

1. Description of Project and Project Area

1.1 The project comprises road, bridge and culvert works to upgrade 203 km of road way between Montepuez and Marrupa, including three major components.

- a major upgrade of an existing track between Montepuez and the Ruaca River in Cabo Delgado Province to bitumen standards of 6.4m carriageway and 0.8m shoulders on either side (7.0m double sealed width and a 0.5m width of single seal on either side) for the Montepuez-Ruaca section (137km); and,
- civil works to upgrade another 66 km of engineered road to bitumen from Ruaca River to Marrupa section 7.0m carriageway including shoulders, as applied on the 245 km between
- Finally, there is a rehabilitation of the Lichinga and Litunde section (66 km) and the construction of 7 bridges along the project corridor to be financed by JBIC within the project.

1.2 The project area lies in the northern provinces of Mozambique Cabo Delgado and Niassa. The road corridor stretches from Pemba through Montepuez to Lichinga. The zone of influence occupies five districts within these provinces with Montepuez and Balama in Cabo Delgado; and, Marrupa, Majune and Lichinga in Niassa province. The total population is 478,367 (2005 projection) inhabitants covering an area of 57,312 km2. Over 85% of the population is engaged in agriculture mostly subsistence. Food crops include maize, beans, cassava, rice, millet, sorghum, and cowpeas. Growing of tobacco and cotton are on the increase. Cabo Delgado is one of the poorest provinces in country whose poverty incidence has worsened to 63.2% compared to the national average of 54.1%.

2. Potential Impact

2.1 Based on the road alignment survey, this particular project road traverses the districts of Montepuez and Balama where approximately 72 traditionally built houses with 434 persons will be affected. In most cases the affected houses are made of clay and thatch. It is estimated that about 5 to 6 people live in such houses. In addition to dwelling houses are small road side businesses, small shop structures (barracas), cultivated land, trees, boreholes, and 3 primary schools. Except for one school the later are made of traditional materials and roofed with thatch.
2.2 The area of influence will immensely benefit from growth and development as a result of this road development project. The five districts will experience little or no adverse impacts from loss of agricultural land to housing and shops, business and commercial enterprises which are inside the road reserve. The relocation and compensation requirement is concentrated in the approach to Montepuez Town as well as in a small number of villages as a result of realignment.

3. Organizational Responsibility

3.1 The overall execution responsibility will rest with ANE and its Consultant to ensure timely administration of compensation. ANE will sub-contract the work to a local consultant or an NGO. A working committee will be formed in each of the affected Districts headed by an official from the District Administrator’s office. Members shall include provincial representatives of ANE, Environment, Public Works, Education, Agriculture, Land and Social Services. At local level the resettlement and compensation program will be overseen and implemented in collaboration with local leaders and elected representatives (traditional and otherwise).

3.2 Capacity building for personnel that will be involved with resettlement will be provided through workshops prior to land acquisition to cover basic principles of programme and compensation options as available. The first of these activities will be conducted as soon as the project is effective. In addition, there will be capacity building for ANE to ensure its effectiveness in implementation and management.

4. Community Participation

Consultations have taken place with the District Administrators of the affected districts and heads of administrative posts, local leaders and village heads. Further discussions took place with representatives of affected communities and potentially affected persons. For the affected communities and PAPs, the meetings were to explain how the authorities will undertake compensation to mitigate impacts. Lists of names and structures were created to understand likely numbers affected. Furthermore, the consultations presented methods of compensation payment in kind or in financial terms. The consultations also touched on procedures for presenting complaints and grievances that may arise would be redressed, clearly stipulating the processes and people involved (see below).

5. Legal Framework for Compensation

5.1 Since Mozambique has no specific resettlement and compensation law, resettlement and compensation in this project shall be guided by related Land Law of 1997 and acceptable practices and regulations that have been applied in Mozambique and accepted by the ADB. Given the fact that most people do not possess land titles and that land belongs to the state, usually there is no compensation for land itself but rather for any built structures, trees or crops farmed. In this project, therefore, the compensation for cultivated land shall be guided by good practices of compensating the loss on crops cultivated. Actual compensation sums will be determined by local authorities in collaboration with the provincial department of agriculture who will determine the compensation for crops and fruit trees.

5.2 The project shall draw guidance from the Land Policy approved by the Council of Ministers in October 1995 which recognizes customary rights over land, including the various inheritance systems; it recognizes the role of the local community leaders in the prevention and resolution of conflicts; it aims at creating conditions for the development and growth of the local community and the promotion of investment by the commercial sector; but it does maintains the concept of land belonging to the state.
5.3 The grievance procedures have been made simple and as far as possible administered at local levels to facilitate access by the PAPs. Those seeking redress or would notify the village leaders who will inform and consult with the project management team and the District Administration to determine validity of claims. and address the grievance. If the s claim is rejected the matter shall be brought before the local leadership for settlement which will be final. The local chiefs shall maintain records where grievances and complaints, including minutes of discussions, recommendations, resolutions made and agreement reached, will be kept.

5.4 The project will have two cut-off dates the first being at the completion of the field survey which was conducted in March 2006; and the second will be set when the detailed measurement survey has been concluded. Any people settling in the ROW after these dates will not be compensated in any way.

6. Valuation of Assets and Losses

6.1 ANE has developed a means of establishing different values by collaborating with the Ministries of Agriculture, Lands, Public Works and Housing at district, provincial and national levels. Table 1 below summaries all the findings of the survey carried out which established the exact items that lie within the ROW and for which there will be compensation. A list of all households that will be displaced has been produced with names of owners; likewise land for permanent acquisition has been identified and fruit trees and counted. There are three schools that will be affected.

Table 1: Items for compensation within ROW

<table>
<thead>
<tr>
<th>Type of item</th>
<th>No. of villages /locations</th>
<th>No. of households /Unit count</th>
<th>No. affected people</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mud house with straw roof</td>
<td>7</td>
<td>62</td>
<td>347</td>
<td>To be compensated</td>
</tr>
<tr>
<td>Mud house with iron sheet roof</td>
<td>2</td>
<td>2</td>
<td>13</td>
<td>To be compensated</td>
</tr>
<tr>
<td>Brick house with iron sheet roof</td>
<td>3</td>
<td>9</td>
<td>74</td>
<td>To be compensated</td>
</tr>
<tr>
<td>Permanent land acquisition</td>
<td>25 (ha.)</td>
<td></td>
<td></td>
<td>No compensation</td>
</tr>
<tr>
<td>Annual cropping land</td>
<td>25 (ha.)</td>
<td></td>
<td></td>
<td>To be compensated</td>
</tr>
<tr>
<td>Mango trees</td>
<td>150 (items)</td>
<td></td>
<td></td>
<td>To be compensated</td>
</tr>
<tr>
<td>Cashew trees</td>
<td>50</td>
<td></td>
<td></td>
<td>To be compensated</td>
</tr>
<tr>
<td>Banana</td>
<td>100</td>
<td></td>
<td></td>
<td>To be compensated</td>
</tr>
<tr>
<td>Barracas</td>
<td>5 inf. mkts 84 barracas</td>
<td></td>
<td></td>
<td>To be compensated</td>
</tr>
<tr>
<td>EP1 schools</td>
<td>3</td>
<td></td>
<td></td>
<td>To be compensated</td>
</tr>
<tr>
<td>Boreholes</td>
<td>2</td>
<td></td>
<td></td>
<td>To be compensated</td>
</tr>
</tbody>
</table>

6.2 The bulk of the compensation will be for residential houses, also some agricultural crops. In cases of informal markets, compensation is made only for the goods and services that have been lost due to the road construction rather than the actual market space itself, since most of the markets were open space with individual banks and stalls often made of mud and poles. Barracas will be compensated in accordance with the type and quantity of trade disrupted.
6.3 Houses will be compensated for by either providing cash to the occupants or replacement (mainly for vulnerable PAPs). While the affected persons will be given the ultimate choice, care will be taken to ensure that all affected persons are housed and women have a stake in decisions about the agreed package. Even in cases where the household is headed by a male the respective spouses will have to be involved in all matters of compensation including their presence and supported influence during the cash transfer and decision making on the use of the money.

6.4 Compensation for barracas, trees and annual crops will all be done in cash. For the elderly and children care shall be taken to ensure food security and livelihood sustainability in food supply subsequent to the interruption due to project works and realignment. While land will be made available to the affected people by the local authorities for free, clearing such land for cultivation would present a major challenge for most of the vulnerable households and hence consideration will be taken to hire labor for that purpose.

6.5 Compensation for the three EP1 schools shall be by their replacement or rebuilding, in collaboration with the Provincial Directorate of Education (PDE). The Considering that the affected schools had pupils learning under trees, and that the current average enrolment is less than 100 students, the project will endeavor to improve the situation within limits, with the proviso that the PDE will complement in line with the education strategy. The project will therefore provide new schools in the vicinity each comprising 3 classrooms, modest office space for the head teacher combined with a store-room, a head teacher’s house and a borehole. The cost estimate for this package is US$ 60,000. Community boreholes affected by the project will be replaced at an estimated cost of US$ 10,000.

7. Monitoring and Evaluation

The Compensation Plan will indicate parameters to be monitored with objectively verifiable indicators (OVI’s) identified which will measure inputs, outputs and outcomes. ANE will furthermore set up an internal supervision structure, while periodically, an external monitor will be subcontracted to give an independent view of the implementation. Internal reports shall be produced on a quarterly basis and those by external monitors semi annually. An evaluation report shall be produced at the end of the first year to determine whether the affected people have been paid in full and before implementation of other project activities. The ADB together with ANE and MICOA (mandated by legislature to oversee EIAs) will monitor implementation to ensure fair and timely compensation. The local committee chaired by the official from the district and local authorities will work hand-in-hand to ensure satisfactory progress.

8. Costs and Budget

The table below (Table 2) shows the total direct cost of about US$ 400,000 for compensating all the affected people and communities for lost residential property, agricultural land, commercial enterprises, informal markets, crops, trees and public utilities in this case, schools and sources of potable water. This includes allocation for planning and training in addition to the administrative overheads for the local government officials. The activities have been budgeted for in the recurrent budget ANE for 2006 as counterpart funds for the project.
### Table 2: Total Cost Estimation for Resettlement and Compensation

<table>
<thead>
<tr>
<th>No.</th>
<th>Property type</th>
<th>Quantity</th>
<th>Unit Price USD</th>
<th>Total USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Residential house – Concrete /brick/iron roof</td>
<td>9</td>
<td>10,000</td>
<td>90,000</td>
</tr>
<tr>
<td>2</td>
<td>Residential house – mud/poles/iron roof</td>
<td>2</td>
<td>2,000</td>
<td>4,000</td>
</tr>
<tr>
<td>3</td>
<td>Residential house – mud/poles/straw roof</td>
<td>62</td>
<td>600</td>
<td>37,200</td>
</tr>
<tr>
<td>4</td>
<td>Barracas</td>
<td>84</td>
<td>400</td>
<td>33,600</td>
</tr>
<tr>
<td>5</td>
<td>School (EP1)</td>
<td>3</td>
<td>60,000</td>
<td>180,000</td>
</tr>
<tr>
<td>6</td>
<td>Borehole</td>
<td>2</td>
<td>10,000</td>
<td>20,000</td>
</tr>
<tr>
<td>7</td>
<td>Mango trees</td>
<td>150</td>
<td>30</td>
<td>4,500</td>
</tr>
<tr>
<td>8</td>
<td>Cashew trees</td>
<td>50</td>
<td>30</td>
<td>1,500</td>
</tr>
<tr>
<td>9</td>
<td>Banana</td>
<td>100</td>
<td>6</td>
<td>600</td>
</tr>
<tr>
<td>10</td>
<td>Maize crop</td>
<td>7.5 ha.</td>
<td>181</td>
<td>3,167</td>
</tr>
<tr>
<td>11</td>
<td>Cotton crop</td>
<td>2.5 ha.</td>
<td>64</td>
<td>160</td>
</tr>
<tr>
<td>12</td>
<td>Millet and sorghum</td>
<td>1.25 ha.</td>
<td>160</td>
<td>200</td>
</tr>
<tr>
<td>13</td>
<td>Tobacco crop</td>
<td>0.25 ha.</td>
<td>2,000</td>
<td>500</td>
</tr>
<tr>
<td>14</td>
<td>Peas and beans</td>
<td>0.75 ha.</td>
<td>535</td>
<td>401</td>
</tr>
<tr>
<td>15</td>
<td>Feijao jugo</td>
<td>0.5 ha.</td>
<td>180</td>
<td>90</td>
</tr>
<tr>
<td>16</td>
<td>Cassava</td>
<td>2.25 ha.</td>
<td>2,800</td>
<td>6,300</td>
</tr>
<tr>
<td>17</td>
<td>Resettlement allowance*</td>
<td>t.b.d.</td>
<td>5,000</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td><strong>Sub-total (1-17)</strong></td>
<td></td>
<td><strong>387,217</strong></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Resettlement planning and training</td>
<td>0.40%</td>
<td>1,5498</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Administration (local government)</td>
<td>2.20%</td>
<td>8,519</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Internal monitoring and evaluation</td>
<td>0.20%</td>
<td>774</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>External monitoring and evaluation</td>
<td>0.20%</td>
<td>774</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td><strong>Sub-total (19-22)</strong></td>
<td></td>
<td><strong>11,617</strong></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td><strong>Sub-total (18+23)</strong></td>
<td></td>
<td><strong>398,834</strong></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL COST**

Exchange rate, 1 USD = MZM 25,000.00 (March, 2006)

* Resettlement allowance is a precautionary measure to ensure that vulnerable project affected persons who may require to be physically assisted in relocating are provided with such help including transportation, residential housing or renting temporary accommodation.