

ENVIRONMENTAL AND SOCIAL MANAGEMENT SUMMARY

Project Title: Matotoka-Sefadu Road Rehabilitation
Project Number: P-SL-DB0-005
Country: Sierra Leone
Department: OITC **Division:** OITC.1

1. Project Description and Justification

1.1 Project Background

Sierra Leone is located on the west coast of Africa and covers an area of about 72,000km² and borders the Republic of Guinea on the north and northeast, and the Republic of Liberia on the east and southeast. Administratively, Sierra Leone is divided into 4 provinces with a population estimated at about 4.9 million. The country's life expectancy is estimated at 47 years with adult literacy rate of 34.8%. The Sierra Leone National Road System totals about 11,300 km of which, about 2,140 km is Class A (primary) and 1,904 km is Class B (secondary). Its feeder roads cover 4,152km while the urban and local roads comprise 3,104 km and nearly half of the road network is in poor motorable state.

1.2 Project Description

The Matotoka to Sefadu Road links the northern Tonkolili district to the eastern Kono District. The road is 119 km and passes through the major towns of; Matotoka, Makali, Masingbi, Njaiama-Sewafe, Yengema, Lebanon and Koidu. Apart from the towns traversed, the road largely passes through the countryside which is largely practicing subsistence cultivation. The movement of goods and people in the northern and the eastern Districts is through Matotoka-Sefadu road whose state is increasingly deteriorating despite being an important road link. As part of its effort to improve its National Road System (NRS), GoSL is soliciting financial assistance from the AfDB for the rehabilitation of Matotoka-Sefadu road. The objective of the project is to enhance mobility, promote efficient, affordable transport services along the Matotoka-Sefadu road and improve the livelihoods in the project area of influence. The identified project components include; rehabilitation of 119 km of road between Matotoka and Sefadu/Koidu; supervision of construction works; environmental and social impact mitigation measures; sensitization of project area inhabitants on HIV/AIDS/STIs and related diseases; gender; road safety and environmental protection. Its pavement design has been based on 20 year traffic loading design life with a carriageway width of 6.7m width and shoulders of 1.50m which is in conformity with the adjoining road section of Makeni-Matotoka. There are 27 bridges along the route that will require rehabilitation.

2. Project Justification

The Matotoka-Sefadu road project forms part of the core road network identified by GoSL hence, its rehabilitation forms an integral part of the National Transport Strategy Investment Plan (NTSIP). This road is of regional importance to the Government as it is one of the major highways linking Sierra Leone to Guinea, Liberia, Ivory Coast, Mali through Koidu town. In addition, the road connects to Kono in eastern Sierra Leone which is a rich mineral and major agricultural area in the country hence once rehabilitated; it will boost both mining and

agricultural sectors. Improvement of this road will also facilitate the transportation of mining equipment as well as minerals to the Ports of Nitti for export thereby boosting the mining sector. The road project will also facilitate communities in the eastern areas of Kono access referral medical services in the areas of Makeni in the north. The road project will also involve reconstruction of two large bridges namely; the Worryie and the Five-Five Bridges which are dilapidated and have major structural defects hence posing risk to road users. The other 25 bridges on this road will also be rehabilitated.

3. Policy, Legal and Administrative Framework

3.1 Policy Framework

The GoSL National Environmental Policy (NEP) of 1994 emphasizes the need for Sierra Leone to pursue development on a sustainable path implying the need for sound environmental and natural resources exploitation and management. On the basis of these, the road project needs to comply with the NEP Policy objectives as well as other provisions in a number of policy instruments in order to ensure compliance of the project works. In this case the following policy and legal instruments are of relevance in the project. The National Environmental Policy, 1994; the Sierra Leone Vision 2025; the National HIV/AIDS Policy for Sierra Leone, 2002; the Poverty Reduction Strategy Paper (PRSP2); the SLRA Strategy and Investment Plan, 2009-2012; the National Population Policy, 2009; the National Health Policy, 2002; and the Land National Policy, 2004. These policies provide sectoral frameworks for the mainstreaming of thematic areas into the development process including in Matotoka-Sefadu project.

3.2 Legal framework

Legislations governing environmental issues in Sierra Leone and of relevance to the road project which have been addressed in the ESIA include: the Constitution of Sierra Leone, 1991; the Environment Protection Act (EPA), 2008; the Forestry Act, 1988; Sierra Leone Roads Authority Act 2010; The Factories Act, 1974; the Domestic Violence Act, 2007 and the Local Government Act, 2004. The draft mining regulations for resettlement which will apply to all developments These legal instruments outline compliance requirements that have to be observed during the various stages of implementation of the road project.

3.3 Administrative Framework

The key environmental assessment and monitoring agencies in the road sector will include:

- *The Environment Protection Agency-EPA*: a statutory agency for the protection of the environment and for other related matters. With reference to the road project, the EPA has the overall responsibility of approving and monitoring the project's compliance in line the Approval Conditions as well as other standards relating to environment;
- *Sierra Leone Roads Authority-SLRA*: a semi- autonomous government entity responsible for the administrative control, planning, development and maintenance of all roads and related structures including bridges and ferries. With regard to the environmental and social aspects of this road project, SLRA's Environmental Division will take the responsibility of monitoring compliance during implementation and operational stages of the road project; and

- *Sierra Leone Road Transport Corporation - SLRTC*: will be instrumental in monitoring behavioural road safety aspects during the implementation and operation of the road in line with its mandate.

Other lower administrative frameworks on the project will include the Provisional Administrative Structures (especially the Provisional Committees), the Chiefdoms, the District Budget Oversight Committees and the CSOs.

4. Description of the Project Environment

4.1 Physical Environment

Topography: The area around Matotoka is rolling with heights between 100 to 200m above sea level while the Sefadu/Koidu and its environs are characterized by heights between 370m and 400m above sea level. The topography of the area is very undulating with most areas being at fairly high elevation while others being in poorly drained inland valley swamps. From Matotoka to Makali there are dissected plains of extremely low relief with scattered small hills and terraces, dissected escarpment and hill ranges of moderate to high relief dissected by valley swamps. From Masingbi to Njaiama, Sewafe there is a variable dissected complex of plains and hills of low to moderate relief with valley swamps in between Njaiama, Sewafe to Sefadu.

Geology and Soils: The general geology of the project area is predominantly of archean greenstone granite. Rocks of this type form the greater part of the granite greenstone in the eastern half of Sierra Leone extending North and East into Guinea and Liberia respectively. The greenstone of the Liberian event have been referred to as the Sula group which consist of a large variety of metamorphic rocks of both igneous and sedimentary parentage e.g. serpentines, Kambui schists and iron-stones. Rocks of the Sula Mountain form the Sula group, Kangari hills, Gori hills and the Nimini hills.

Climate: Climate of Sierra Leone is determined mainly by the seasonal movements of two air masses namely the north-easterly Continental Tropical Winds (commonly called North-East Trade Winds) and the south-westerly Maritime Tropical Winds (commonly called South-West Monsoon). The country experiences two main seasons: the dry season, which is between November and May, and the wet/raining season, which lasts from April/May to November. On the basis of information available, climatic and other data from the Sierra Leone Meteorological Services stations in Yengema, Makali and Yele have been used to project the climatic conditions within the project area.

Rainfall: Generally, the rainfall in the project area is described as wet tropical monsoon with a single wet season each year. The average annual rainfall is about 2738 mm overall. The greater part of this rain falls between mid-May and mid-November and the wettest month is usually August, even though rivers attain maximum discharge in mid-September. There is very little or no rain in the months of December, January and February. The mean annual rainfall is between 2500mm and 3000mm, with highest rainfall in September and the lowest in January. The maximum shade temperatures in the study area are consistent throughout the year, being around 31°C–35°C, generally lower in the wet season at 26°C–31° C whilst the minimum only falls below 18°C on odd days in January and December,

when the influence of the cold, dry wind from the north of the desert are felt. Relative humidity level (at 09.00hrs) is around 80-95 and (at 1500hrs) around 40-80, with low values occurring in January and December.

General Surface Hydrology: The area from Matotoka to Makali is drained by numerous streams, whilst between Masingbi and Njaiama Sewafe there are main water catchments; the area being drained by the Sewa the Falima Rivers plus other small streams. From Njaiama Sewafe to Sefadu the tributaries of the Sewa and the Meya Rivers are the main water catchments. From the hydrological point of view, there are a few sections on the road project with fairly serious drainage issues but with appropriate drainage facilities such as box culverts to be installed, no flooding will be expected.

4.2 Biological Conditions

Vegetation: The present distribution of vegetation in Sierra Leone is due to a combination of factors such as climate and soil and human influence. The inland valley swamps comprise aquatic grass species and *Raphia* palm which are usually evident as regenerating vegetation. Along the Matotoka-Makali axis the vegetation consists mainly of secondary forest with patches of bush regrowth of ranging from one year to about seven years. From Masingbi to Njaiama Sewafe, bush re-growth of various stages is the most extensive vegetation with many oil palm tree jutting out and thickets with patches of secondary forest. The road areas from Njaiama Sewafe to Sefadu has bush re-growth with many oil palm trees and grass along edges of the road and patches of secondary forest mainly fruit trees around settlements. In all, none of the vegetation groups are listed as rare, endemic or threatened from the conservation perspective; implementation of this road project will therefore have minimal impacts on vegetation communities.

Wildlife: From the community consultations during the ESIA, the main animal groups in the areas of the project comprise largely monkeys and common birds. No animal groups are reported to be rare, endemic, or vulnerable. There are also no national parks or protected areas in the project area.

4.3 Social and Socio-Economic Environment

Population: The population of Sierra Leone is estimated at five million people. The western area which is largely urban accounts for 15.5% of the total population. Kenema with 10.0 %, Bo has 9.3% Port Loko with 9.1% and Bomabali with 8.2%. The areas of the project have virtually the same population distribution of about 7.0%. The Sierra Leone Infant Mortality Rate is 157 per 1,000 which is fairly high. The Poverty Reduction Strategy Paper 2 (PRSP2) puts poverty estimate to be 63% and rural areas account for the largest proportion of the poor (47% in urban areas versus 79% in rural areas).

Energy: Most households do not have adequate access to electricity and use kerosene, coal/lignite, charcoal, wood etc.

Health Status of the Population: Sierra Leone has some of the poorest health indicators in the world, with life expectancy of 47 years. The majority of the causes of illness and death

in Sierra Leone are preventable. Most deaths can be attributed to nutritional deficiencies, pneumonia, anaemia, malaria, tuberculosis and now HIV/AIDS. Diarrheal diseases and acute respiratory infections are also major causes of out-patient attendance and illness in the country. According to Sierra Leone demographic household survey 2008, more than 85% of the pregnant mothers attended ante-natal care services at least once in their most recent pregnancy, but only 42% actually delivered in a health facility. There is no functional referral system in many districts, leading to delays in provision of comprehensive emergency obstetric care. In 2008, 21% of children under age 5 years were found to be underweight or too thin for their age while 36% were stunted or too short for their age and 10% were wasted or too thin for their height. The type of flooring material in the dwellings can be viewed as an indicator of the quality of housing, a dimension of wealth, as well as an indicator of health risk. Floor materials like earth, sand and animal dung pose a health problem because they can act as breeding grounds for pests and may be a source of dust. The urban households have better floors than the rural.

Sanitation Facilities: Inadequate sanitation facilities coupled with unsafe water sources increases the risk of water-borne diseases such as diarrhoea, typhoid, dysentery and cholera. Prior to the war in 1991, every settlement had improved pit latrines as well as ordinary pit latrines owned by individual households. Currently, it is estimated that the study area has 12 % coverage for sanitation compared to a national average of 15%. These are mostly traditional open pit latrines (73%) which are in desperate need of repair and therefore causing health hazards.

HIV/AIDS Prevalence: HIV/AIDS is a rapidly emerging threat to Sierra Leone's population and could significantly affect the country's prospect for long-term development. The 2008 Sierra Leone Demographic and Health Survey (SLDHS) reported that, about 1.5 % of Sierra Leone aged 15-49% are HIV positive. Overall, 1.7% of women and 1.2 % of men are HIV/AIDS positive. HIV prevalence is reportedly higher among women than men in both urban and rural settings. HIV prevalence is 2.5 times higher in urban areas than in rural areas (2.5% versus 1.0%). In addition, it is also reported that, women become infected at younger ages than men. Prevalence for both women and men increases with age until it peaks at age of 30-34 years for men (2.4%) and at age of 15-49 for men (2.1%). On regional basis, the northern region (Tonkolilil areas) has a prevalence rate of 1.2% while the eastern region (Kono) has a prevalence rate of 1.4%. HIV prevalence is highest among women with secondary or higher education. For both women and men, HIV infection rates are considerably higher amongst those who are widowed or divorced/separated than those who are married/living together or those who have never been married.

Land Tenure: Customary land tenure rules apply in the areas of the project (i.e. in the Districts of Tonkolili and Kono). Through customary laws, ownership of land is vested in the chiefdoms and the communities as established under the Chiefdoms Councils Act as well as in Section 28 (d) of the Local Government Act of 1994 and amended in 2004. Principally, the customary land tenure system is based on family tenure, which is equally on lineage or clan and unites all descendants of a particular ancestor or group of ancestors. The paramount title to family is vested in the family as a group and the responsibility for

the management of family land is vested in a head of family assisted by a council comprising of principal family members. Although the title of ownership is vested in the family, varying degrees of lesser interests in specific portions of family land may be held by some family groups or individuals. It is important to note that, under the customary land tenure system, the Paramount Chief is the overall custodian of the land in the entire chiefdom and all land related disputes are arbitrated by him.

Economic activities: The majority of the people in Tonkolili, Kono and Kenema districts are engaged in farming, bee keeping, small scale animal production, mining and business for their livelihood. These districts have been very productive agriculturally in both food and cash crops and accounts and it accounts for 95% of the people's sources of livelihoods. On average, area cultivated over a year is estimated between 0.5-2.0 ha. Rice is the main crop grown during the rainy season as well as sweet potatoes and cassava. In most of the villages, between 10-20% of the population keep livestock. For men, illegal mining also plays an important role in their livelihoods.

Cultural characteristics: the communities in the project area are largely patrilineal characterized by male dominance in the ownership and control of productive resources. This cultural male dominance has affected female population in terms of education where often girl children are not given equal opportunity to go to school because of labor demands at household level. This also has led to early marriage by girls and high fertility rate with associated poverty among women.

Marriage and Family: like all African cultures on marriage and family, it is an obligation for every man who is deemed to be of age to marry and have a family. Since the people in the project area are patrilineal the decision to marry is dependent on the men who find a suitor. The cultural value of dowry is an obligation of every man to pay to the girl's family which is in form of livestock. People in the area put great value on extended families and clans. People especially girls who do not go far in school marry early and by age of 22 years have on average three children. It should be noted that there is significant number of unmarried persons who are single, widowed or separated. The implication to the project is that, the nature of the population is highly vulnerable to behavioral change especially in terms of reproductive health and sexual behavior.

Gender roles: In the areas of the project, there are specific cultural roles for men and women in project area. Generally women are culturally assigned reproductive roles such as home keeping which are concerned with general household welfare and community work whereas men take on grazing animals, ploughing, pruning, and general tending to the plantations. However, women are increasingly taking on the men's roles mainly because most men are moving to urban areas in search of employments opportunities. Very few women are in small businesses particularly in rural communities. Fetching water and fire wood is women role. Preparing food, bathing children, feeding children and cleaning the house are specific for the women in both urban and rural areas. Daily activity profiles compiled for men and women indicate that women wake up earlier than men, do almost all the household chores and also participate in other gardening activities with men. Women

work longer hours than men and are involved in more activities at both household and community levels where they get involved in community services such as weddings and funerals.

Access, Ownership and Control of Assets: From women participants during the ESIA study, marketing of produce are mainly the responsibility of men who also control the proceeds. Though women may sell some of the agricultural produce, this is done with the permission from their husbands but quantities are usually restricted and the women are required to declare the outcomes of their transactions and account for the money spent. A wife may be entrusted with money to keep but has no right to spend it unless the husband has permitted her to do so. Spouses were said to occasionally discuss family finances and spending usually tied to needs, such as children fees, treatment, farm inputs, and so on. All productive major assets such as land, farm implements, livestock especially cattle are owned and controlled by men with women having access as long as they are in marriage. Women on the other hand have more control over some assets such as poultry, household utensils, and sewing machines which are items which help them to meet their reproductive gender roles. In some instances, these are occasionally overseen by the men.

5. Analysis of Alternatives

The plan to rehabilitate Matotoka-Sefadu road is an integral part of the SLRA's National Transport Strategy Investment Plan (NTSIP). This implies that, the rehabilitation of this road is already planned by GoSL since it is the only direct connection from Freetown to the eastern parts of country. Therefore, analysis of the alternatives has focused on the implementation modalities of the road project taking into account, a combination of factors such as environmental, social and economic dimensions. In addition, it is important to note that this is already an existing paved road which now requires rehabilitation. Based on the above, the following alternatives were considered:

- 5.1 **The Do Nothing Scenario:** this Scenario implies that, the Matotoka-Sefadu road would remain without any rehabilitation or maintenance interventions. Under these circumstances the road condition would continue to deteriorate with many potholes coming up as well as further deterioration of the bridges infrastructures making the road risky for public use and worsening the economic situation. The Do Nothing Option was also dropped from further consideration as it is not with GOSL NTSIP programme.
- 5.2 **The Routine Maintenance Option:** this considered the annual maintenance costs computed based on an "ideal" maintenance schedule rather than a "minimum" or "absolute minimum" schedule which presumes that the road will always be maintained in a good condition. However, from the Feasibility Study, it is concluded that, the current routine maintenance of Matotoka-Sefadu road does not conform to the absolute minimum standards making this Option equally not feasible and was dropped from further consideration in the project.
- 5.3 **Paving with Asphalt:** this Option considered the rehabilitation intervention of the road to Asphalt Concrete (AC 50 mm) standard at a cost of about USD 65 million which gives the

road a lifespan of 25-35 years with a regular maintenance regime (routine and periodic). In addition, it is GoSL policy that, all its trunk roads should be of AC type which is already the case for Freetown-Makeni and Makeni-Matotoka road sections; hence the Matotoka-Sefadu road link will be a continuum of the AC standard. In view of these, this Option was taken as viable for the implementation of this road project.

6. Potential Impacts and Mitigation/Enhancement Measures

The major positive environmental and social impacts anticipated as a result of the project are:

6.1 *Enhanced Economic Activity*, improvement of the road will lead to improved access to markets and also open up business opportunities for the local people thereby enhancing commercial activities in the areas. It will also create employment opportunities, it is estimated that about 300-500 persons most of whom likely be sourced from within the communities will be employed on the project. In addition, the road improvement, with enhanced safety features, would lead to reduced road accidents, particularly of heavy trucks which often overturn due to the poor road surface and potholes leading to fatalities as well as the risk of pollution of soil and water from spills. The project will eliminate challenges as those experienced during the rainy season whereby some sections of the road are virtually impassable and during the dry periods where they get unbearably dusty. It will also improve regional connectivity, as this road forms part of the major highway linking Sierra Leone to Guinea, Liberia, Ivory Coast and Mali through Koidu town. Furthermore, the road will lead to enhanced agricultural production in the areas of Kono and Tonkolili which are major agricultural and mining areas in Sierra Leone. It will also improve the delivery of social services; the Matotoka-Sefadu road forms a direct route for the medical referral medical cases from the Eastern Kono areas to Makeni Regional Referral hospital in the north.

6.2 Anticipated potential negative impacts & mitigation:

- impacts relating to surveying and mapping of the route which will likely cause anxiety and speculation amongst the communities during surveying of the road This is to be mitigated through community sensitization programmes;
- construction works will potentially lead to slope failures in hilly areas which can be a challenge to road use during construction and operational phases. This is to be mitigated through grass planting, use of gabion boxes, stone pitching and good engineering measures to establish stable slope;
- land and property expropriation impacts will likely involve permanent land acquisition which will impact on crops and structures (roadside fruit trees and makeshift kiosks respectively) and this is to be mitigated through adequate, fair, and prompt compensation and resettlement of PAPs;
- Rehabilitation works will impact on potable water availability as 33 roadside public water sources are likely to be affected by the project during construction works and this will be mitigated through timely notification and sensitization of the communities about the road project as well as provision of alternate water for the affected communities (water tankers supplying clean drinking water) and some new boreholes will be provided in instances where the sources will likely be permanently blocked;

- during construction, dust and air emissions will be emanating from earthworks and operating plant and equipment. These will likely lead to cumulative impacts relating to respiratory impacts and debilitating conditions. These will be mitigated through routine sprinkling water on construction areas; conducting scheduled maintenance on equipment; adhering to standard operating procedures and controls and raising awareness for both the employees and the communities.
- impacts on land will include soil erosion, degradation in quality, land uptake; and changes in land use which can end up in surface runoff and general loss of vegetation. This will be mitigated by ensuring that cleared areas are timely re-vegetated, while materials sites will be landscaped and where possible rehabilitated in agreements with the landlords for agricultural purpose. Vegetation clearance will also be limited to bushes rather than trees and where roadside fruit trees are to be cleared, they will be compensated in financial terms;;
- **Public health and human safety at the camp site:** during implementation could easily introduce some hazardous materials (e.g. some soils stabilization chemicals, old/used plant and equipment parts etc) that could not be envisaged in this study. This is to be mitigated through the contractor putting in place a comprehensive plan for the management of any potentially hazardous materials in its various phases of the project; should designate some specific zones in the camp site for cigarette smoking; provide PPE for its workers; have adequate public facilities (toilets and bath shelters) for the workers; have adequate accommodation as per Public Health Act and workers should not be crumbed in small rooms and the office space should spacious and well light;
- Construction works will likely have implications on the health and the safety of the workers in terms of injuries. This can be mitigated by putting in place First Aid Kits, and provision of Personal Protection Equipment-PPEs.
- The project may result in the increase in STI/HIV/AIDS prevalence due to interaction of the workforce with the local communities and this can be mitigated through awareness and sensitisation of the communities and the workers as well as employment of local people where practicable to minimize separation of families (men and women);
- establishment of access routes and subsequent opening of an estimated 25 borrow pits will present negative impacts and they can be mitigated through ensuring that agreements are reached with land owners and that, there is adequate and satisfactory of borrow areas at the end of the project.
- On the management of cut to spoil the setting out of the road works and from general civil works this is to be mitigated through disposal of such materials into approved sites and not along the road reserve. Hazardous waste generate in the project such as bitumen drums, paint containers, oils etc. will be addressed through a waste management plan that must be compiled by the contractor prior to commencement of works.

7. Mitigations Enhancement Measures

In order to enhance the effective implementation of the mitigation measures, it is important that both the contractor and the supervising consultant to have Environmental/Social Specialists whose role will be to guide the implementation of the mitigation measures proposed in the ESIA. For the contractor, the environmental/social specialist will be a full time employee on the project. In addition, the specialist(s) will attend project monthly site

meetings to present progress and adherence of the project to ESMP and EPA's authorisation conditions. Minutes of the monthly meetings will be kept and used for the annual environmental and social audit report that will be sent to the AfDB. Secondly, the bills of quantities as well as the contract documents will integrate environmental and mitigation measures as outlined in the ESMP and this will further ensure that the allocation and utilisation of resources for the implementation of mitigation measures are monitored and subsequently captured as part of the overall project audit process.

8. Complementary Initiatives

To improve the project's environmental and social performance; the project will include road rehabilitation for 20km of feeder roads to enable easy passage of agricultural goods as the areas along the road are mostly agricultural as well as a lorry park in Koidu town. There will also be provision of water and improved sanitation facilities for five primary schools, one secondary school and one health facility. The schools will also get additional classrooms as per need.

9. Environmental Hazard Management

Some activities relating to the road project will likely involve handling, storage and use of some hazardous materials which can have adverse health and safety impacts to the communities and the wider environment. Potential hazardous materials will likely include: used vehicle and plant equipment accessories (car batteries, tyres, oil filters); medical waste from the field clinic (sharps, swabs, expired drugs etc); road construction materials such as soil stabilizers; asphalt plant and its processes; oils and lubricants including diesel pump; and explosives for rock blasting. In order to manage risks and associated hazards on this road project, the contractor will compile an emergency preparedness plan and/or the waste management plan.

The plans will include training of employees on emergency response and disaster preparedness in case of an accident; prevention measures and the general rescue strategy for the workers and affected communities in emergency cases. Issues to be considered in the plans will among other include fire control and management and uncontrolled spill of hazardous substances. The project will exercise a code of conduct that helps in the control and minimization of risks on the site such as naked flames and unrestricted cigarette smoking. Contact details for ambulance services, police and nearest health facility will be known to all key staff of the project and will be in the plans.

10. Environmental and Social Monitoring Program

The environmental and social monitoring program will operate through all phases of the project. It will consist of a number of activities, each with a specific purpose, key indicators, and significance criteria. The following aspects will be subject to monitoring:

- provision for drainage;
- soil erosion control measures;
- rehabilitation of materials sites;
- impacts on road safety (including road accidents);

- land use changes (particularly settlement patterns) along the project road;
- changes in socio-economic activities along the project road;
- traffic management measures instituted;
- management of cut to spoil materials;
- impacts on changes in the incidence of STI/HIV/AIDS;
- encroachment onto the road reserve; and
- relocation of displaced persons (particularly traders at the markets and flower nurseries).

The monitoring of mitigation measures construction and defects liability period will be carried out by the Contractor's Environmental Expert, who will provide regular reports to the Resident Engineer. After construction, the responsibility for monitoring will lie with the SLRA's Environmental Unit as well as the EPA.

Decommissioning: This involves the removal of the contractor's and workmen's camps, rehabilitation of all materials and work areas (including deviations/access routes or detours etc) and removal of equipment, excess materials and oil tank farms. A decommissioning plan will form part of the monitoring parameters and will be prepared by the contractor for approval by the resident engineer. The plan will give special attention to remediation of oil polluted areas and the relocation of oil tanks. A decommissioning plan will be prepared by the Contractor for approval by the RE, and a decommissioning audit undertaken. Special attention must be given to remediation of oil polluted areas and the relocation of oil tanks.

9. Public Consultation and Public Disclosure

9.1 Public Consultations

The key stakeholders consulted during the ESIA included: district technical officials; the NGOs and CBOs in Tonkolili and Kono districts; EPA Sierra Leone; Chiefdom authorities and their representatives; representatives of transport operators such as drivers of long distance trucks and the *Okadas* (motorbike riders), women and youth groups amongst others. Community consultative meetings were conducted through local languages such as Creole, Temne and Kono. The collection of field information also involved the use of questionnaires. A total of 25 consultative meetings were held with a cross section of communities between September 2007 and June 2008 for areas likely to be affected by the project. The meetings were held in the areas of Matotoka, Njaiama, Sewafe, Masingbi, Giema south, Mano and in Sefadu/Koidu. Further consultations with the communities were done in June –July 2011 during the compilation of the RAP. In September-October 2011 further consultations were held with government departments such as the Environmental Protection Agency, Ministry of Social Welfare, Gender and Children Affairs and the Road Transport Authority (SLRTA).

The main issues raised during the consultative meetings included: the need for speed control measures in the built-up/trading centres and schools to reduce accidents; good communication, respect and cooperation between the contractor and the communities; community consultation with regard to identification and access to construction materials; sensitisation of the road workers so as to avoid luring school girls and married women to

sex relations as this brews conflict etc. These issues are part of the ESMP and some form the core of the training and awareness program.

9.2 Public Disclosure

As part of obtaining the environmental authorisation, SLRA will submit eighteen (18) hard copies and a soft copy of the ESIA report to the EPA for circulation to its Board members and professional bodies for review and comments. At the same time SLRA will disclose the ESIA summary to all affected and interested parties as per specifications given to them by EPA. SLRA will also disclose the ESIA report through publication of the summary in the newspapers; it will also make announcements over the media in the local languages regarding the project and the ESIA report. Furthermore, SLRA under the guidance and the supervision of the EPA will hold public hearings in the project areas for purposes of soliciting public views on the project. In addition, the EPA will also place the ESIA report in specific public places accessible to the general public to enable the affected and interested persons make comments on the impacts of project and such comments will be sent directly to the EPA. The Board of the EPA is vested with the powers to approve or reject the project based on the outcomes of the above processes. In addition to the national disclosure requirements, the ESIA summary with an annexed RAP summary (Annex 1) will be disclosed on the ADB's website from October to February (120 days) in line with the ESAP.

10. Costs of Environmental Mitigation and Monitoring Plan

Some of the costs related to the implementation of environmental enhancement and mitigation measures that require physical construction works have been estimated and included in the engineering designs and tender documents. Costs relating to the improvement of the well-being of the communities in terms of monitoring and capacity building, gender and HIV/AIDS mainstreaming, off-road initiatives such as school improvement and water provision are estimated at USD 465,000 as summarized below. RAP implementation costs will be USD 2,162,736.00.

No	Environmental and cost mitigation areas	Cost (USD)
01.	HIV/AIDS campaigns	35,000
02.	Road safety campaigns	30,000
03.	Tree planting	10,000
04.	Gender mainstreaming and monitoring	30,000
05.	Complementary Initiatives	250,000
07.	ESMP Monitoring costs	80,000
08.	Capacity Building for SLRA Environmental Unit	30,000
Total ESMP Operationalisation costs		465,000
Total Resettlement costs		2,162,736.00

11. Environmental and Social Management Planning

The Environmental and Social Impact Assessment (ESIA) together with the Environmental and Social Management Plan (ESMP), and the Abbreviated Resettlement Plan (ARP) all describe the proposed implementation arrangements for mitigation measures, environmental and social monitoring and reporting. The Director Development Department in SLRA,

through their Environmental Unit will be responsible for the overall coordination of activities and inter-departmental liaisons, particularly in regard to the quality control including environmental and social issues on the project. The Resident Engineer (RE), who will be SLRA's representative on the ground who will be responsible for ensuring that the Contactor implements all environmental and social mitigation measures. The RE's office, through their Project Environmental/Social Expert, will coordinate between the Contactor, the Community and the SLRA.

The Contactor's Project Manager will be responsible to the RE's office on all matters of environmental and social nature and for implementing the ESMP. The Contractor's Environmental Expert will ensure on a day to day basis that the ESMP is properly being implemented. The Contractor's Environmental Expert will be required to liaise with representatives from the local authorities (area local chiefs and the District Environment Officers amongst others). The EPA through its District Environment Officers in the project areas will be responsible for the overall monitoring of implementation of environmental and social aspects of the project. Their concerns will be communicated through the Resident Engineer and/or his Environmental/Social Expert. The Project's Bills of Quantities will include the cost of standard construction mitigation measures. The project will also assign a Specialist to conduct sensitization campaigns to create awareness on gender and to oversee that, the contractor accords equal employment opportunities to both men and women and in this case, gender will therefore become one of the monitoring parameters.

12. CONCLUSION

The planned rehabilitation of the Matotoka-Sefadu road is of importance to GoSL as part of its National Transport Strategic Investment Plan as well as being part of the major highway linking Sierra Leone to Guinea, Liberia, Ivory Coast, Mali through Koidu town. This implies the road carries a large volume of traffic which is even projected to grow over years. In view of the regional connectivity potential of this road there is need for it to be in good all weather motorable condition. The road will contribute to improved access to social services such as health and education not only for the population located immediately along the road, but also for those within the larger area of influence of the Project Road, and the towns beyond Koidu and Matotoka.

A number of negative impacts that are likely to arise from the road project and the mitigation and monitoring activities will require participation by the SLRA Environmental Unit, the EPA and other relevant government bodies such as SLTRA for safety, Gender ministry through the use of their social worker network already existing at community level and most importantly the involvement of the communities through existing structures such as the passenger welfare association which is already a standing member of the road safety committee. The contractor will develop his own ESMP to guide the implementation and monitoring of mitigation measures in accordance with the schedule of works. Furthermore, maintenance of the road and monitoring of key impacts will be important to ensure control of adverse impacts during operation. The SLRA Environmental Unit will have a key role in compliance monitoring of the project.

12. Reference & Contacts

- i. ESIA Report for the Rehabilitation of Matotoka-Sefadu Road 2011.
- ii. Final Feasibility Study & Preliminary Design Report, Matotoka to Sefadu Road Studies , Egis Bceom International, September 2009

Contacts

- i. **Kurt Lonsway**, Manager, Environment and Climate Change Division (ONEC.3), African Development Bank (ADB), BP 323, Tunis 1002, Tunisia. Email: k.lonsway@afdb.org. Tel.: +216 7110 3313.
- ii. **Kelello Ntoampe**, Principal Environmentalist, ONEC.3, ADB, BP 323, Tunis 1002, Tunisia. Email: k.ntoampe@afdb.org. Tel.: +216 7110 2707.
- iii. **Noel Kulemeka**, Chief Socio-Economist, ONEC.3 ADB BP 323, Tunis 1002, Tunisia. n.kulemeka@afdb.org, +216 7110 2336
- iv. **Richard Malinga**, Senior Transport Engineer, Transport 1 Division, ADB, BP 323, Tunis 1002, Tunisia. Email: r.malinga@afdb.org. Tel.: +216 7110 2581.

ANNEX 1 – RAP SUMMARY – MATOTOKA SEFADU ROAD REHABILITATION PROJECT

1. INTRODUCTION

Sierra Leone is located on the west coast of Africa and covers an area of about 72,000km². It extends from latitude 7⁰ north to 10⁰ north, and from longitude 10⁰ west to 14⁰ west. The Republic of Guinea borders it on the north and northeast, and the Republic of Liberia borders it on the east and southeast. Administratively, Sierra Leone is divided into 4 provinces. Each province is subdivided into districts, and each district is divided into chiefdoms. Overall, there are 14 districts and 149 chiefdoms. Among the 14 districts, there are 5 city councils and 14 district councils, including Freetown, the capital, for a total of 19 local councils (SSL, 2006).

The movement of goods and people in the northern and eastern districts has been impeded by the bad state of its road network, with a lot of difficulty being experienced in the movement of agricultural goods and passengers.

The justification for this project is based on the following:

- the road forms part of the core road network identified by the GoSL's as part of its National Transport Strategy Investment Plan (NTSIP);
- the road once rehabilitated would facilitate operations in Sierra Leone's key mining and agricultural region;
- the road will contribute to the socio-economic, political, administrative and regional integration of northern/eastern districts of Sierra Leone by facilitating movement of goods and general delivery of social services;
- the road is of regional importance to the GoSL as it forms part of the major highways linking Sierra Leone to Guinea, Liberia, Ivory Coast, Mali through Koidu town; and
- Furthermore, the road connects to Kono in eastern Sierra Leone which is a rich mineral and major agricultural area in the country hence it will boost both mining and agricultural sectors for Sierra Leone.

1.1 Objective of the RAP

The objective of the RAP is to provide a plan for the resettlement and rehabilitation of PAPs so that their losses will be compensated and their standards of living will be improved or at least restored to the pre-project levels. To achieve this objective the plan provides for rehabilitation measures so that the income earning potential of individuals are restored to sustain their livelihoods.

1.2 Methodology and Approach

The methodology and approach adopted in preparing the RAP is consistent with the GoSL and AfDB's policies on Environment and Involuntary Resettlement. Baseline data was collected and potential direct and indirect impacts to the affected persons identified and analysed. Mitigation measures have been put in place to address negative impacts, and compensatory plans have been designed and recommended. A collection of required resource data involved literature review, field surveys, and participatory appraisal.

2.0 DESCRIPTION OF THE PROJECT ACTIVITIES AND ITS AREA

2.1 Project Area

The Matotoka to Sefadu Road links the northern Tonkolili district to the eastern Kono District. The road is 119 km and traverses the major towns of; Matotoka, Makali, Masingbi, Njaiama-Sewafe, Yengema, Lebanon and Koidu. Approximately seven large villages and 45 small villages/hamlets occur along the road project.

2.2 Project Activities

They will include:

- Contractor(s)'s mobilization process in terms of establishment of site office & general housing, offices and laboratories for both the engineer the Contractor(s) group;
- Securing the ROW. This will be done prior and during constructional phase (including demolition of structures);
- Plans for accommodation of traffic during works;
- Site clearance involving clearing vegetation and other movable materials out of the carriageway and areas close to the shoulders and road verges;
- Scarifying and pulverizing the asphalt surface in some sections of the road which still has some asphalt surfaces;
- General clearing and grubbing works (including mass earthworks);
- Transportation of asphaltic concrete mixes to the road for laying using a paving machine;
- Construction of drainage structures, e.g. culverts, bridges;
- Crushed stone base or sub-base works;
- Stabilization of layers of gravel material with lime or other stabilizer materials;
- Prime coat application processes;
- Single seal and double seal bitumen application;
- Installing prefabricated pipe culverts and cast in situ box/slab culverts over drainage courses;
- Concrete kerbing, concrete channelling, open concrete chutes and downpipes, and concrete linings for open drains works;
- Stone pitching, stonework, protection against erosion and stone pitching walls gabions;
- Road marking and kilometre posts installations;
- Installing guardrails across areas of embankments;
- Undertaking landscaping and grassing over areas
- Heating of bitumen and aggregates separately and then jointly using energy; and
- Pavement construction; and construction of erosion protection works.

2.3 Socio-Economic Factors

- **Human Population:** The population of Sierra Leone is estimated to be five million people.
- **Housing status:** The housing condition in the study area can be described as poor. 90% of the sampled houses are made of mud walls, while the remaining 10% have concrete walls. The floors of 76% of these houses are made of dirt, while those with concrete floors constitute 20 % of the houses. 82% of the house roofs are covered with corrugated iron sheets.

- **HIV/AIDS prevalence** is a rapidly emerging threat to Sierra Leone’s population and could significantly affect the country’s prospect for long-term development. The 2008 SLDHS reported that, about 1.5 % of Sierra Leone aged 15-49% are HIV positive. Overall, 1.7% of women and 1.2 % of men are HIV/AIDS positive.
- **On land tenure:** Through customary laws, ownership of land is vested in the chiefdoms and the communities. This is established under the Chiefdoms Councils Act as well as by Section 28 (d) of the Local Government Act of 1994 and amended in 2004. The Provinces Lands Act Cap 122 regulates the ownership of land by non-natives in provinces/districts.
- **Economic activities** in the project areas reveals that, a majority of the people in Tonkolili, Kono and Kenema districts are engaged in farming, bee keeping, small scale animal production, mining and business for their livelihood. These districts have been very productive agriculturally in both food and cash crops and accounts for 95% of the people’s sources of livelihoods.
- Therefore, as part of GoSL recovery programme, the planned rehabilitation of Matotoka-Sefadu road is anticipated to go a long way in boosting agricultural production.

3.0 POTENTIAL IMPACTS

3.1 Potential Impacts

The planned rehabilitation of the Matotoka-Sefadu road will have a number of *direct short term impacts* limited to the construction/rehabilitation works period. *Direct long-term impacts* will result after rehabilitation, related both to improved road pavement and construction works, and the subsequent increase in traffic volumes and easier connectivity in the regions and delivery of health services amongst others. These are summarized below as follows:

3.1.1 Indirect Impacts

The indirect impacts will stem from multiplier effects on both the environment and human habitat, induced by increase in traffic volumes and greater accessibility throughout the project area. Under the RAP, the impacts of the proposed road project are assessed in relation to the construction phase and the post construction phase. The Construction phase includes all impacts resulting from rehabilitation of the road and the activities of road construction itself. These will largely be under the control of the Supervisor/Contractor under the SLRA.

Direct Short –Term Impacts

Overall, the rehabilitation of the Matotoka-Sefadu road will create job opportunities for workers to be recruited along the project road. There is much anticipation among the roadside communities that local labour will be employed on the road project, especially to carry out manual and unskilled tasks. The Unskilled positions would include casual labourers, watchmen, etc. The number of local people who could be employed by the project will be in the region of 400-600 people women are encouraged to seek employment. The skilled workforce will mostly likely be non-locals from other parts of the country, operating heavy equipment. However, masons and truck drivers can be sourced from the local population.

It is also expected that during the construction, many people will benefit from direct labour working on the road sites and will be engaged in various economic activities such as catering and hospitality that will be demanded by construction workers. It is SLRA's policy to avoid misdistribution of such benefits by encouraging local people, especially women to take part in running different small scale and micro ventures. Nevertheless, upgrading of the project road will enhance the standard of life and socio-economic welfare of the people living within the zone of influence and other road users from afar. It is anticipated that the upgrading of the road will lead to an increase in the volume of trade and other commercial activities in the area. This will have a positive impact on the economy in general as trade will substantially increase across the border with neighbouring countries such as Mali, Liberia, and beyond the borders. Time of travel and transport costs will reduce as a result of the road being upgraded. Access to social and economic amenities such as health facilities, schools and markets will be enhanced for the betterment of the people, and in so doing will contribute to the reduction of poverty.

Impacts in terms of land take, destruction of buildings, loss of trees and crops, and loss of livelihoods will generally be of moderate magnitude, because the road improvements will largely follow the existing alignment.

- Where minor realignments are envisaged to improve curve radii, land takings will be necessary, a few buildings will have to be demolished and the residents compensated.
- As the proposed road and road reserve width will be wider than the existing road and road reserve in most places, land takings will be necessitated along the entire road length and buildings (majority temporary) will have to be demolished or set-back. Trees and crops will be affected.
- Although the road will by and large follow the existing alignment there will be a number of changes that may require limited resettlement. Compensation would be required primarily for buildings and structures, with some private land acquisition, but also for crops and trees, and possibly livelihood restoration. Most of the potentially affected land is community owned land.

The potential impact on flora is considered medium and is both short and long-term. The most important aspect of the project that may impact on vegetation is the need for cooking energy by the construction workers as opposed to clearing during construction. Workers may be tempted to cut down trees for firewood within the neighbourhood of the camp. The predominantly arid environment is not conducive for plant growth; hence tree growth is extremely slow. The critical impact, therefore relates to the inability of the area to naturally regenerate after harvesting of the mature trees. On the other hand, the workers by themselves may not harvest trees but the locals may see an opportunity for income generation by selling firewood and/or charcoal to the contractors. Charcoal may be preferable to the workers since it is easier to use indoors

Impacts related to site clearance and earthworks affecting vegetation cover in the project area is very low. It is even lower along the road corridor due to frequent disturbances. Nonetheless there is substantial tree cover along the sections through Tongola, Sandeyeima, Palima and Kpendebu towns. Construction of the road will be accompanied

by clearance of vegetation along the roadside, clearance for construction of access roads and other civil works. Impact of the project on vegetation is thus very specific to the site of the activities and therefore localized. Additional vegetation clearance at quarries and borrow pits, and camping sites will also contribute to overall vegetation loss. However, the diversity of natural vegetation in the project area is low, suggesting that vegetation clearance will not cause loss of rare species or of species of medicinal and/or major commercial value. No endangered trees or other plant species that are endemic to the area would be affected. The impact of vegetation clearance for construction is therefore likely to be minor.

3.1.2 Potential Long-Term Impacts

A potentially high impact is the possibility of a new charcoal production industry in the woodlands, especially between Bangolili and Sandeyeima areas and up to Koidu where there are substantial woodlands. There are two possible scenarios: Increased urbanization and enhanced immigration rates along the project road, hence greater localized demand for firewood and easy transportation of charcoal and firewood to larger urban centres beyond the project area.

There are a number of transit trucks across to the areas of Koidu and beyond. Apart from transit trucks, other goods trucks also ferry passengers in view of the scarce transport due to the poor state of the road. It is envisaged that, once the road is rehabilitated, passenger transport vehicles will be improved along the road, hence passenger transport will be improved. A number of safety measures will be taken to regulate traffic behaviour and reduce the risk of accidents. The post-construction impacts include direct impacts related to road safety as a result of road rehabilitation. To render these measures effective, additional activities are required such as awareness raising campaigns especially for pupils of schools along the road, and parents. Speed limits and other traffic regulations must be properly enforced by Traffic Police so that drivers do not violate traffic safety rules. The design of the road has provided rumble strips (edge to edge) and speed humps within the busy centres along the road.

Occasional torrential rains or storms do occur, and this can cause severe soil erosion especially where ground cover is poor, as is the case in most of the project area. The torrential rains are difficult to predict. However, these rains are usually associated with extreme weather events such as the El Nino weather phenomenon. There are also occasional torrential rains in between such extreme weather conditions. Based on the above considerations, ordinarily soil erosion is not expected to be a major concern.

Cultural sites (e.g. graves, shrines etc) were few, and archaeological sites were not encountered. If any archaeological or palaeontological materials are found during construction they will be protected and compensated for taking into account the norms of the respective communities. Care must be taken during construction works (especially during excavation of borrow pits) to avoid all graves and graveyards as far as is reasonably possible. No archaeological material may be removed from site by the contractor or his staff and any extensive structures or deposits only after being examined

by SLRA Environmental Officer and if necessary, by specialists from the Museums Ministry before work continues in the area.

3.1.3 Road Side Amenities

The RAP also acknowledges the fact that water sources might be affected by the project in some cases. Should this be the case the impact could be severe to the community. The provision for water boreholes is therefore to be made within each of the three contract sections making up the project. These will form part of the works, and the possibility and practicability of the boreholes also being used by the local communities should be carefully investigated in view of the sensitive nature of such provision to rival clans in the project area.

4.0 POLICY AND LEGAL FRAMEWORK

4.1 Policy Framework

- 4.1.1 **The National Environmental Policy of 1994** aims to achieve sustainable development in Sierra Leone, through sound environmental and natural resources exploitation and management.
- 4.1.2 **The National Population Policy of 2009** is geared towards guaranteeing humane and responsible individual freedoms and rights as well as religious beliefs and cultural values.
- 4.1.3 **The National Health Policy of 2002** aims at motivating and guiding the Health sector in its effort towards effective and efficient delivery of health services taking into account, the after civil war effects and the emerging and broader far reaching cross-sectorial challenges as well as changing patterns of disease distribution (such as the HIV/AIDS, TB and malaria), as well as more general problems associated with the epidemiological and demographic transitions.
- 4.1.4 **The Land National Policy of 2004** is intended to facilitate smooth administration and management of Land. The policy provides the framework to ensure equity in access to land and to provide security to tenure in order to maintain a stable environment of the country's sustainable, social economic development.
- 4.1.5 **The National HIV/AIDS Policy of 2002**, recognizes the urgency of the threat posed by the current HIV/AIDS pandemic and undertakes to ensure the development of coherent policies and the implementation of a coordinated national multi-sectorial programme to successfully combat this epidemic. This road project will also have an HIV/AIDS control programme as one of its auxiliary activities.
- 4.1.6 **African Development Bank and its Relevant Policies**
The following Bank policies apply to this RAP study:
- **The AfDB Policy on Environment, 2004:** The policy calls for the preservation and enhancement of ecological capital to sustain and enrich economic growth.
 - **AfDB Involuntary Resettlement Policy, 2003:** The primary goal of the policy is to ensure that when people must be displaced they are treated equitably, and that they share in the benefits of the project that involves their resettlement.

4.2 Legal Framework

- 4.2.1 **The Constitution of Sierra Leone, 1991** Section (7) 1, states that, the State shall undertake amongst others, the following in pursuit of social protection, and prosperity for

its people; harness all national resources of the nation to promote national prosperity and efficient, dynamic and self-reliant economy and protect the right of any citizen to engage in any economic activity without prejudice to the rights of any other person to facilitate in areas of the economy. These Constitutional provisions guarantee the protection of environment and its sustainable use;

4.2.2 **The Forestry Act, 1988** is a tool set to ensure sustainability of forest products, and the protection of the soil and water resources.

4.2.3 **The Sierra Leone Roads Authority (Amendment) Act 2010** provides for the establishment of the Sierra Leone Roads Authority as an Agency for the control, development, maintenance, efficient planning and reliable management of the national road network to provide safe, reliable and sustainable means of transport.

4.3 Gaps between GoSL and AfDB Compensation and Resttlement Procedures

As seen above, the two institutions have policy and legal instruments which guide matters of compensation and resettlement. However, there are some salient gaps in these instruments which include:

- Bank's policy and procedures emphasize the need to compensate PAPs in the affected areas while the national laws tend to focus on possession of title of ownership as a basis of compensation;
- The national framework does not recognize illegal developments in the road reserve to the extent that, all developments in the road reserve are not to be compensated while the Bank emphasizes to have developments compensated; and
- The Bank on its part ensures that, displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or levels prevailing prior to beginning of project implementation whichever is higher. The GoSL tends to emphasize the need to fully compensate PAPs while leaving resettlement aspect to the PAPs themselves.

5.0 COMMUNITY PARTICIPATION AND DISCLOSURE IN RAP PREPARATION

5.1 Community Participation Process

5.1.1 Consultative meetings were held with Paramount Chiefs and tribal Heads, Farmers association, traders, transport and bike riders association, the leaders and PAPs along the project corridor. Elders and leaders of the affected communities were all willing to allocate land for this relocation when the construction works commence, but pleaded that structures that needed to be relocated should be replaced by better quality ones.

5.1.2 PAPs in all the affected communities preferred financial compensation because some of them still have plenty of land behind their present structures which they intend to develop using the financial compensation expected.

5.1.3 The major consensus reached during the discussions were: **i)** the acceptability of the project was found to be high; **ii)** communities rather expressed their worries on the possible delay of the project; and **iii)** they unveiled their willingness to fully cooperate in areas like removal of to-be affected houses and other properties during project implementation; **iv)** communities see the project road as a major benefit in the movement of commodities such as agricultural products; **v)** upgrading of the road is important for the development of the agriculture sector/local economy and improvement of the socio-

economic status of the local population; and **vi)** construction activities will cause a number of adverse impacts including deforestation and loss of rangelands, increased disturbance and killings of wildlife; increased accident risks to pedestrians and livestock; impediments to movements of livestock caused by sections in high fill; and annoyance caused by dust pollution.

5.2 Identification of Stakeholders

Identification of stakeholders was initiated early in the process of EISA and completed with the identification of directly affected land owners/users during RAP preparation, including through the RAP socio-economic surveys.

5.3 Local Representatives

District Officials and Chiefs have been informed both during the course of the RAP and throughout the basic and detailed engineering phases of the Project by the representatives of the expropriating agency.

5.4 Village Level /Residents Consultations

The objective of village level consultation was to share information about the road rehabilitation project, to solicit the views and attitudes of villagers towards the road upgrading project and to identify the key issues of concern to them.

5.5 Stakeholder's Views and Opinions

Social acceptability of the project was very high despite the potential short term and long-term negative impacts such as loss of property and sources of income. The stakeholders were assured that adequate and timely compensation will be made to mitigate the impact on the PAPs.

5.6 RAP preparation

The Resettlement Action Plan (RAP) was prepared based on views and desires obtained during direct consultation with specific groups affected.

5.7 Public notice

Notice for land acquisition will be given six months prior to the start of the expropriation.

5.8 Public Consultations and Disclosure

A key step in the AfDB policies on resettlement, land acquisition and compensation is a framework for public consultation, participation, and the establishment of a process to redress the grievances of affected people. Consultation was made with the affected population as well as with officials of local government, civil society and other representatives of the affected population. The intention was to ensure that: all stakeholders have access to project information; the information provided can be understood; the locations for consultation are accessible to all who want to attend; and measures were in place to ensure that vulnerable or minority groups are consulted.

The full resettlement plan will be posted in the Bank's Public Information Center (PIC) and the Bank's web site for public review and comments in accordance to the Bank's disclosure policy and the Bank's Environmental and Social Assessment Procedures (ESAP 2001).

5.9 Eligibility Criteria

5.9.1 Individual

Affected persons, irrespective of their status are eligible for some form of assistance if they occupied the land before the entitlement cut-off. The entitlement cut-off refers to the time when the assessment of persons and their property in the project area is carried out. The key determinant for compensation is on the basis of a pre-project census during which, all residents were identified. Replacement costs were categorized separately for houses, structures, crops and trees. By and large, resettlement of the affected people will occur by setting-back existing occupations away from the road construction, or by relocating within the same community.

5.9.2 Community Compensation

Communities (districts, towns and villages) who will permanently lose land and/or access to assets and resources owned under the customary rights or tenure rights in the project areas will be eligible for compensation. During the RAP study, it was agreed that, community compensations will cover assets that serve the wider communities such as toilets, market places, schools, health centres and water supply. Under this arrangement, eligibility for compensation can be claimed collectively on the basis of the group.

5.9.3 Vulnerable Groups

SLRA in collaboration with Ministry of Lands, Country Planning and Environment as well as Ministry of Housing and Infrastructure will all be responsible for identification and ensuring that vulnerable groups and households receive adequate assistance during the process. These include but are not to be limited to households of the elderly, households headed by children (orphans) by women and by persons with disabilities and the children. From the RAP study, the **most vulnerable groups comprise the children who constitute 1,309 of which 1,004 were school going. The female PAPs on the other hand were 553** while male constituted 653. To ensure these vulnerable groups receive due attention, all compensation committees and discussions will ensure that both men and women members of the affected households are fully involved in the decisions made to safeguard compensation packages that will be paid out. The affected school properties will be rebuilt and in the process, there will temporary arrangements to accommodate and facilitate learning for the affected children. Where women sources of livelihoods will be affected, full and timely compensation will be effected to avoid disrupting their sources of income. In all, compensation packages for all the PAPs are to be developed and an implementation schedule for compensation and relocation drawn up consultatively.

5.9.4 Grievance Management Procedures

Grievance committees, which will be established for the purpose of resettlement implementation and scrutinizing the interests of the affected people, will be informed

about the registration. The Grievance committees will include members of the respective villages, village elders, representatives of the PAPs, representatives of vulnerable groups (women, children/youth), Chiefdom representatives, and members of the District Land Boards, community based organizations and NGOs in the project area. The registration process is intended to involve different parties in different villages in the resettlement/compensation process to avoid disputes or misunderstanding at a later date. A registration form is to be prepared to ease the task.

The registration form is to include the following elements:

- Household information: means and details about each member, including economic activities and number of dependants outside the village;
- Relocation information about present situation and preferences;
- List of fixed assets including buildings, permanent gardens, wells and other water sources, if any;
- Identification of possible factors that would place a particular household under the category of “vulnerable” such as the number of dependants, single parent, female household head, lack of ample land or income, etc. There were very vulnerable people who were found among the PAPs and the registration form has noted such cases.

6.0 LAND AND PROPERTY UPTAKE

6.1 Potentially Affected Properties

Based on a review of the proposed road design, temporary and permanent buildings will be affected, of which an estimated 176 are constructed with durable materials. Among all, buildings expected to be affected by the project, about 74% are temporary structures, while about 21% are made of permanent materials, with an estimated 5% being classified as make-shift. Village centers and small open-air markets are located at the major road junctions and these tend to have small and temporary kiosks used by hawkers and other micro-enterprises. In addition to loss of residential and commercial houses, there will also be loss of land and crops, trees and fences. Nearly all of the affected properties are affected by the road reserve width requirements, and not by the actual works.

6.2 Valuation of Assets and Losses

The replacement cost approach was adopted and is based on the premise that costs of replacing productive assets is based on damages caused by project operations. These costs have been taken as minimum estimate of the value of measures that will reduce the damage or improve on site management practices and thereby prevent damage. The approach involves direct replacement of expropriated assets and covers an amount that is sufficient for assets replacement, moving expenses and other transactions. For most of the project area, the land is unconsolidated or un-adjudicated customary land making issuance of titles not possible. For urban centres, land consolidation and adjudication process is on-going with the registration process complete for some land parcels. Most of the buildings and structures along the road corridor, are constructed from locally available materials; wood, sticks, grass, iron sheets etc. There are some semi-permanent and permanent buildings also

affected. Most of the permanent and semi-permanent buildings are used as commercial units for local retail trade or as food kiosks.

As previously stated, land along a great length of the road corridor is held in trust by the Chiefdoms and customary arrangements with limited private ownership within urban areas. Consequently, this meant that during valuation of affected properties, except in urban areas the valuation team concentrated their assessment on structures, buildings, trees, vegetal and other fences, crops and plantations, privately owned or otherwise, located within the right of way (road reserve). The market rate for land was however determined for every area surveyed along the project road. An inventory of properties located within the Right of Way (road reserve) was taken and a schedule of the same prepared and that schedule is attached to the RAP Report.

6.3 Framework for Valuation

SLRA under whose remit the road project lies will undertake compensation for any loss accruing to individuals or community, whether the loss is land, crops or access to a resource. The process for determining a loss and compensation was followed. Unit rates for compensation of affected properties have been established by the Consultant using data collected from local authorities, from interviewing locals, and from dealers in building materials. Rates for crops and plantations were obtained from the Ministry of Agriculture, while those for trees were obtained from Forestry Unit. The rates for other structures including various types of vegetal fences were determined and fixed using information obtained from the community and local authorities. It should be noted that the unit rates are area specific i.e. the unit rates in Matotoka area would not necessarily be the unit rates applicable in Makali town, or in Koidu areas village.

6.4 Estimated Properties Uptake

Land, buildings, trees, crops, and livelihoods will be affected by this road project. There will be impact on agricultural land, permanent crops and trees. An estimated 42.97 hectares of farmland will be affected due to existing alignment and widening of the ROW, of which, 4,863 permanent trees (fruit, etc.) of which orange trees amount to 292, palm tree is 279, guava is 244. Bananas and mango trees are the highest of the economic trees that are affected and are 1,506 and 1,880 respectively. A sizeable number of life trees (328) used for construction & fuel wood will also be affected. In the town sections and villages located along the project road PAPs will lose residential houses and businesses to some extent.

Similarly, public utilities such as, electricity poles, telephone poles and will also be affected but only in Koidu/Sefadu. The housing structures to be affected are estimated to be 498 (148 thatched, 324 corrugated iron sheets roofing and 54 constructed kiosks). Furthermore there are two fuel stations; farmland for perennial crops and trees. The public structures to be affected also include: 29 community hand pumps, 14 mosques, one church, one Community Centre and one Court Barry. The estimated total amount of compensation estimates for all affected properties that are structures is about **SSL 8,364,319,300 (USD 2,070,376.08)** derived as shown in the table below and the attached Annex 2.

: Summary of Properties and Compensation Needs for the Road Project

Detailed Verification of Property Acquisition					
N ^o	Description		Amount in Leones	Amount in Leones	Amount USD (\$)
01.	Dwelling houses		3,522,382,500		871,876.86
02.	Dwelling houses with shop		383,930,400		95,032.28
03.	Community Structures		3,312,036,000		819,810.90
04.	Business Structures + Fuel Station		1,145,970,400		283,656.04
TOTAL			8,364,319,000		2,070,376.08
Detailed Verification of Property Acquisition Economic Trees (Summary)					
N ^o	Description	No. of properties	Rate in Leones	Amount in Leones	Amount USD (\$)
01.	Palm trees	279	80,000	22,320,000	5,524.76
02.	Mangoes trees	1,880	101,000	189,880,000	47,000.00
03.	Orange trees	292	101,000	29,492,000	7,300.00
04.	Guava trees	244	92,700	22,618,000	5,598.52
05.	Cocoa nut trees	70	90,000	6,300,000	1,559.41
06.	Cashew nut trees	38	38,000	1,444,000	357.43
07.	Pear trees	196	25,000	4,900,000	1,212.87
08.	Banana trees	1,506	50,000	75,300,000	18,638.62
09.	Cola trees	18	106,000	1,980,000	472.28
10.	Sweet harps	58	70,000	4,060,000	1,004.95
11.	Grape trees	10	45,000	450,000	111.39
12.	Tombi trees	63	70,000	4,410,000	1,091.59
13.	Lime trees	34	25,000	850,000	210.40
14.	Life trees	175	50,000	8750,000	2,165.85
TOTAL				372,682,800	92,248.22

7.0 ORGANIZATION RESPONSIBILITY IN RAP IMPLEMENTATION

7.1 Compensation Responsibilities

In terms of compensation and resettlement, the overall responsibility, lies with the Sierra Leone Roads Authority (SLRA), while the Ministry of Works, Housing and Infrastructure are responsible for conducting the valuation and ascertaining the compensation rates. Given the multiplicity of functions under SLRA, including facilitating compensation in a timely and efficient manner, SLRA is expected to sub-contract the services of a consultant for this purpose. The Consultant would be expected to work through the District Committees.

7.2 Institutional Involvement and Roles in Compensation and Resettlement

- a) **SLRA** will be in charge of implementing the project including ensuring coordination and collaboration with other stakeholders, monitoring/support supervision, sourcing for funds, ascertaining extent of compensation/resettlement, ascertaining PAP, determining final alignment, coordinating between different stakeholders, and resettlement guidance.
- b) **Ministry of Lands, Country Planning and Environment**, would be responsible for managing and protecting the environment as well as land valuation and compensation related to this project.
- c) The **Ministry of Social Welfare, Gender and Children's Affairs** is the focal point for integration of women's participation and gender issues into governmental strategic

planning as well ensuring that, issues of child labour are eliminated in the project as well as HIV/AIDS concerns.

- d) **The Chiefdoms** in collaboration with the law enforcement agencies can be helpful to the project in aspects such as compensation and general resettlement issues. Local Councils and the Chiefdoms will generally be responsible for ascertaining ownership, general community mobilization and sensitization, immediate adjudication over ownership and boundaries, and providing guidance for the compensation process, receiving complaints on behalf of the compensating agency, and facilitating integration in new areas.
- e) The **District Budget Oversight Committees (DBOCs)** comprising 15 members selected through a participatory process will be of help during compensation and resettlement of the PAPs.

7.3 Cost and Budget for RAP Implementation

A cost and budget has been prepared to include compensation for land, houses, fences, trees, relocation of infrastructure services, disturbance allowances, and costs for monitoring and administration. The estimated total amount of compensation estimates for all affected properties that are structures is about **SSL 8,364,319,300 (USD 2,070,376.08)**. These include dwelling houses, community structures like mosques, community hand pumps and taps, water wells and business structures like kiosks and mini C.I sheets structures.

7.4 Monitoring and Evaluation

7.4.1 Purpose of Monitoring and Indicators

The purpose of monitoring and evaluation is to report on the effectiveness of the implementation of the RAP, covering physical resettlement, disbursement of compensation and effectiveness of public consultation, amongst others. SLRA will ensure that all aspects of the RAP have been adequately and expeditiously executed according to the implementation plan. The monitoring will cover the review of survey results, formation of relevant committees (including the Grievance Committee) and adherence to the compensation payment schedule. The following social indicators, for monitoring of the implementation plan, have been considered:

- The appropriateness of the relocation sites i.e. step back ;
- income of affected peoples;
- Inflation and availability of essential goods in local markets
- Effectiveness of compensation payments and procedures
- The appropriateness of the grievance mechanism
- Mechanisms for assisting vulnerable groups.

Successful implementation of land acquisition and compensation of the affected communities will be carried out in accordance with the provisions of the RAP. Internal and external (independent) monitoring and evaluation will be carried out. The internal monitoring will be carried out by SLRA by checking particular indicators to ensure that all the responsible units follow the schedule, plan, and provisions of the RAP. Monitoring and evaluation will be purposely undertaken to ensure that checks and balances are effectively handled. Internal monitoring will be on going until the end of the programme. It is important to note that, the PAPs in this regard are mainly children implying measures

to ensure they continue attending school and with minimal disruption should be put in place.

The baseline survey data, which has been provided in the RAP document, will be necessary to provide the benchmark against which measurement and evaluation of the success of the RAP can be gauged. It is important for the implementation team, prior to resettlement, to scrutinize such data. Monitoring will cover the physical progress of resettlement including provision of infrastructure for markets and roadside amenities, where appropriate.

7.4.2 Monitoring and Evaluation Systems with Stakeholders

Monitoring and purposeful evaluation are key factors in implementing successful resettlement activities. The grievance committees and local councils will effect participatory representation, monitoring and evaluation within the affected communities, with indicators designed by the community and leaders of the affected communities.

- 7.4.3 In the event that the aggrieved PAPs are not satisfied with resolutions of the Grievance Committee at local level/village level, he/she will be provided with an opportunity to appeal to the District Lands Authority/Tribunal. If still does not agree to the decision, he/she could go to court as the last resort. Where necessary and appropriate, the grieved person could submit his/her complaint to the Independent Review Mechanism of the AfDB

7.5 Implementation Schedule

SLRA will be responsible for the implementation of the RAP. The implementation schedule below covers resettlement implementation activities from preparation through, identification of property, persons affected, property valuation and composition and notice for relocation and harvesting of all crops with the right of way. Compensation of the PAPs shall be done in two sets; 50% before loan effectiveness and 50% before first disbursement. RAP implementation schedule runs for almost the life of the project to ensure that there is remedial action for new issues that may surface. The implementation schedule includes monitoring for all the activities of the RAP right from sensitization of the PAPs through to its full execution of activities. This is important as it will enable the project to capture gaps in the process and address them thereby allowing smooth progress of the project.

No.	RAP Activities	2012												2013												2014												2015											
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
1	Sensitization of Communities																																																
2	Formation of Resettlement Implementation Committees																																																
3	Right of Way Surveys and re-confirmations to confirm plots and compensation rates:																																																
4	Land Transfer procedures																																																
5	Acquisition of title deeds																																																
6	Payment of compensation																																																
7	Construction of relocation structures and/or rebuilding parts of lost structures (mosques and churches), water sources etc																																																
8	Monitoring of RAP and General Grievance Redress process																																																

7.6 Conclusion

The primary objective of the planned rehabilitation of Matotoka-Sefadu road is to improve and enhance the national road network by providing an asphalt paved link connecting areas of Tonkolili and Kono districts. It is anticipated that, this road will boost agricultural production and mining activities in the relevant areas. The road once rehabilitated will lead to improved transportation services along the project road which in turn will result in better access to health centres and improved delivery of social services by the Government. The people affected by the proposed project are willing to give their fullest cooperation but they were very concerned about payment/compensation delays. The total affected persons are 2487 and this constitutes 625 males, 553 females and 1309 children and about 1000 of the children are at school going age with the remaining number being less than 5 years old.

The development of the road will most likely attract new investments especially in the mining and agricultural sectors. The study area has vast timber resources, tree crops such as coffee, cocoa and citrus plantations waiting to be exploited in a controlled manner. With the development of roads, these resources will attract investors to set up programmes which will be of benefit to women and other vulnerable groups. The poor state of the roads has been a setback for business and transportation of goods to market where women from these areas can be able to set better prices and sell to more customers.

The study has shown that the area of influence of the Matotoka-Sefadu main road and its emerging feeder roads is a poverty stricken region. Women, elderly people and children suffer the most in this region. Women are largely engaged in farming and petty trading. With the development of the feeder roads women will now be able to take their goods to distant markets and get better prices for them. In addition the new roads will generate new businesses and economic activities which will provide new sources of income for families. The areas also lack sources of good water supply, health services and educational facilities. With the rehabilitated feeder roads, provision of water to schools and a health facility, provision of sanitation facilities, the lives of the vulnerable will be improved especially children as they are most at risk of diseases.