ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN OF THE REHABILITATION PROJECT OF THE N1/N10 ROAD BETWEEN QUELIMANE, NICOADALA AND NAMACURRA IN ZAMBÉZIA PROVINCE

CONTRACT No. 16/DIPRO-ANE/313/2017

FINAL REPORT

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ABBREVIATIONS

ANE	National Roads Administration
AP	Affected Parts
ARPAC	Cultural Heritage Archive
CNCS	AIDS National Council
DIPREME	Provincial Directorate for Mineral Resources and Energy
DNTF	National Directorate for Land and Forests
DPA	Provincial Directorate for Agriculture and Food Security
EIS	Environmental Impact Study
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
EO	Environmental Officer
EPSSD	Environmental Pre-Feasibility Study and Scope Definition
ES	Environmental Resident Engineer
HIV/AIDS	Acquired Immunodeficiency Syndrome
MD	Monitoring Department
MICOA	Ministry for the Coordination of the Environmental Action
MASA	Ministry of Agriculture and Food Security
MIREME	Ministry of Mineral Resources and Energy
MITADER	Ministry of Land, Environment and Rural Development
RE	Resident Engineer
SDAE	District Services for Economic Activities
SPFF	Provincial Services for Forest and Wildlife
STD	Sexual Transmitted Diseases
STI	Sexual Transmitted Infection
ToRs	Terms of Reference
WB	World Bank

1. INTRODUCTION

The present document outlines the Update of the Environmental and Social Management Plan for the rehabilitation of the Quelimane_Nicoadala_Namacurra road section, in Zambezia province, Mozambique, done in 2016 by the CPG Consultant Company, the project is being executed for ANE. The ESIA concluded that the e rehabilitation works on the proposed road will not have significantly change in the present alignment, but some sections of it will be realigned. Due to the nature of the project is not anticipated significant environmental and social negative impacts that cannot be mitigated.

An Environmental and Social Management Plan (ESMP), contains instructions that allow the proponent, ANE, to integrate the environmental issues identified in the environmental assessment into the project implementation process. Compliance with these instructions is the responsibility of the ANE. Subsequently, at all stages of the project life cycle, the project will delegate responsibilities to other actors involved in project implementation, including the contractor (and subcontractors) and consulting engineers, to ensure that the guidelines and instructions are followed.

The ESMP encompasses a number of general and specific recommendations that collectively serve as a basis for environmental and social management (mitigation of impacts) and control. The ESMP is a dynamic document that can be revised and updated as necessary throughout the construction and operation of the project. Most of the impacts described in the ESMP report are of a temporary nature, localized and limited mainly to the construction phase. The remaining impacts can easily be monitored as long as the project creates conditions for regular inspection and monitoring.

The ESMP identifies measures for the mitigation and management of negative impacts and for the potentiation of positive impacts to be observed by the Government, contractors and other interested and affected parties, from the construction to the operation phase.

The objective of the ESMP is to establish effective mechanisms for monitoring the implementation of the proposed mitigation measures and procedures.

Thus, this document serves to identify the principles, responsibilities, activities and methodologies that the contractor shall adopt during construction phase and maintenance phase under the ORPC. It is important to note that ANE did not yet selected the contractor, therefore the mitigation given here for most of the impacts are not related with any specific location, but based on the impact assessment and mitigation proposed under the ESIA.

1.1 INTEGRATION OF ESMP WITH THE PROJECT

The ESMP is an integral part of the Project and an important component, which will be implemented simultaneously as the project proceeds.

The project will be funded by the World Bank the elaboration of the ESIA, ESMP and RAP shall be done in line with the World Bank Safeguards policies. Four out of ten World Bank operation policy will be triggered by the project, these are OP 4.01 – Environmental Assessment; OP 4.04 – Natural Habitats; OP 4.11 – Physical and Cultural Resources; and OP 4.12 – Involuntary Resettlement (for the small sections of road in Quelimane Town and Nicoadala Township). The World Bank Group Environmental, Health, and Safety General Guidelines dated April 30, 2007 also apply. Additionally, the Bank's new operation guidelines on Gender Based Violence (GBV) and Children Abuse Exploitation (CAE) as well as labour influx specifically for the road sector, shall be taken into consideration by the contractor when implementing the project. Where the legislation of Mozambique is silent the World Bank operation policy will be applied.

The ESMP is an integral part of the Implementation Project for the rehabilitation of the N1 and N10 roads linking Quelimane, Nicoadala and Namacurra in Zambezia Province and will be implemented simultaneously with the construction works, while the road is being rehabilitated.

The rehabilitation works are expected to be accomplished through an Output- and Performance-based Road Contract (OPRC). In keeping with the OPRC nature of the planned contract, once the Contractor is selected, the ESIA/ESMP and RAP will be updated by the Contractor and those documents will be cleared by ANE and the World Bank prior to the start of construction. The contractor will be legally bound to implement the final ESIA/ESMP as part of the OPRC. Noting that Mozambique suffers from periodic and often catastrophic flooding, the final design and revised ESIA/ESMP is expected to particularly address issues related to of climate resilience. Additionally, the ESIA/ESMP will address issues related to labor influx and potential GBV.

The project will be executed and supervised in an efficient, effective and timely manner, including the monitoring of the ESMP implementation.

The ESMP will be an integral part of the Tender Documents, and relevant items must be included in the Bill of Quantities. The contractor must ensure that all costs associated upgrading the ESIA/ESMP and with the implementation of the upgraded ESMP are included in the proposal.

The ESMP shall be part of the Contract and penalties shall be applied in cases of violation of the aspects referred in the document.

2. IMPLEMENTATION OF THE ENVIRONMENTAL MANAGEMENT PLAN OF THE PROJECT

2.1 STRUCTURE OF THE ESMP IMPLEMENTATION

This section describes de organizational structure and other activities that are necessary on the course of the implementation the present ESMP.

The entities responsible for implemention the ESMP are as follows:

- National Road Administration (ANE) - Monitoring Department (MD)
  - ✓ The entity responsible for ensuring that the ESMP requirements are met during the construction phase, as well as for certifying to the regulatory agencies, MITADER, that relevant environmental safeguards are being met during and after project implementation;
  - ✓ Entity responsible for hiring the Contractor and the Resident Engineer;
- Contractor
  - ✓ Hired by the client under the OPRC arrangement to perform the rehabilitation works of the N1/N10 road linking Quelimane, Nicoadala and Namacurra;
  - ✓ Entity responsible for updating the ESIA/ESMP based on the final design and complying with and implementing the measures defined herein and for ensuring that all the activities are environmentally and socially sound.
  - ✓ Environmental and Social Officer (ESO)
  - ✓ Hired by the Contractor to join the contractor team to implement the ESMP.
  - ✓ Resident Engineer (RE)
  - ✓ Hired by the client to ensure that the contractor complies fully and faithfully with the terms and conditions of the Contract.
  - ✓ Environmental Resident Engineer (ES)
  - ✓ Hired by the RE to join the Resident Engineer team to supervise the implementation of the ESMP.

The employer (ANE) is responsible to insure that the terms of the ESMP are implemented and complied with during the contract. Employer may appoint his Environmental Site Officer (ESO), who would assist or may delegate part of this responsibility to the appointed ESO of the Resident Engineer. The contractor should be audited at specified intervals during the contract by the ESO appointed by the employer. In general terms the responsibility of the above entities are summarized in the table below:

Institution	Role and Responsibilities
ANE	a) ANE (Client) - MD ANE through the Monitoring Department is the client and has overall responsibility for implementing the N1/N10 rehabilitation project in an environmentally sound and responsible manner. ANE is as well,

	responsible for assuring that the implementation process meets the MITADER's requirements and the applicable International standards. ANE- MD should: • Ensure that the project has the environmental license issued by MITADER; • Ensure that updating and then implementing the ESIA/ESMP are included as part of the OPRC for the N1/N10 rehabilitation works; • Ensure that the updated ESIA/ESMP are implemented as part of the OPRC for the N1/N10 rehabilitation works; • Ensure that the updated ESIA/ESMP is delivered to the Resident Engineer at the beginning of the contract; • Guide the resettlement and the compensation processes; • Participate, with the contractor, in the community liaison committee meetings (see section 5.3.5). • After five years, assist the contractor for the extension/update of the environmental license valid up to the end of ORPC.
Environmental and Social Officer (EO)	• Be familiar with the content of the ESMP. • Check the legal requirements for construction work and ensure prior to the start of the activities to obtain licenses and authorizations (in particular for gravel sites and quarries). • Training of workers and sub-contractors on environmental awareness and assure that all the staff involved in the construction knows the Environmental Specifications and its purpose and is properly aware of the need to comply with such specifications. • Keep the records of the environmental training delivered to the construction team (including sub-contractors) throughout the duration of the contract. • Define channels of communication with the local population, local authorities and other interested parties and/or affected. • Monitor the effectiveness of the ESMP implementation. • Conduct daily inspections at the construction site (with the ES/RE) to monitor the environmental performance and compliance with the Environmental Specifications. • Report on environmental issues on a regular basis and whenever required by ES/RE.
Resident Engineer **(The Environmental Site Officer)**	• Monitor the implementation of procedures to mitigate negative social impacts, including HIV & AIDS among project workers and communities affected by the project, during the construction phase. This will involve monitoring the conduct of awareness campaigns, as well as the development and implementation of mitigation measures; • Monitor the environmental impacts of the construction activities and the implementation of mitigation measures;

	• Monitor the implementation of the ESMP, as well as any changes needed to adapt it to emerging circumstances in the course of the work; • Advise the client on matters that require special attention and may undermine the success of the project implementation; • Approve all plans and methods submitted by the contractor; • Assure that the service provider hired by the contractor, complies with the contractual obligations; • Receive all notifications coming from the communities and ensure timely responses; • Participate with the community, in the meetings of the liaison committee.
Contractor	Comply with ESMP norms in accordance with acceptable technical standards, practices and construction methods to minimize possible environmental damages that may occur in the course of the works and enhance the positive impacts; Update and finalize the ESIA and ESMP based on the final design; Prevent or minimize the occurrence of accidents and its effects that may result in damages to the environment; Allow it to be periodically inspected and audited and provide all the information necessary for that purpose; Conduct their own audits/monitoring; Ensure compliance with the Environmental Impact Assessment (EIA) and the ESMP; Prepare and present plans showing the methods that will be used to ensure compliance with environmental requirements; Develop detailed and specific procedures for each construction activity as identified in the EIA and ESMP: The procedures should detail how the environment will be protected and how the environmental impacts will be prevented and/or mitigated during the construction phase; The procedures should be used to: • Manage solid waste; • Develop an Emergency Plan that will provide immediate and effective response to environmental and social emergency situations, based on acceptable standards; • Manage any emergency as an integral part of the environmental management plan; All procedures are subject to review and approval by the Resident Engineer, the client or its legal representative; The procedures shall take into account the conclusions of the ESMP and the appropriate environmental standards;

	Ensure that all subcontractors and contract workers are aware of their environmental duties and responsibilities in and outside the working area; Hire an environment and safety officer to monitor ESMP implementation and compliance with occupational safety and health aspects; Hire a full time Health and Safety Officer. The environmental officer should monitor and make recommendations on the implementation of the ESMP, as well as on the occupational health and safety rules and regulations. His/her responsibilities should include the following: • Monitor and ensure that the workers comply with contractual regulations; • Run the environmental monitoring program; • Monitor the effectiveness of the ESMP implementation; • Implement worker awareness and training programs on environmental management and occupational safety and health; • Monitor compliance with all occupational safety and health rules and standards, including the use of individual safety equipment; • Attend work meetings whenever necessary; Hire an independent HIV/AIDS service provider that will be responsible for developing and implementing an HIV/AIDS education and awareness program within the contractor's workforce and the local community.
Environmental Resident Engineer (ES)	• Resident Engineer be familiar with the content of the ESMP. • Implement, in the Detailed Design, mitigation measures recommended in the SEA. • Submit to ANE-DM for approval, the Detailed Design integrating mitigation measures recommended in the ESMP. • Advise the RE on environmental aspects. • Review and approve the Contractor's Method Statements, required in the ESMP. • Monitor compliance with the Environmental Specifications by the Contractor, on a monthly basis and whenever requested by the RE. • Establish a connection with the ANE-DM on the level of compliance with the ESMP attained by the Contractor, on a regular basis throughout the duration of the contract.
Health and Safety Officer of the Contractor.	The contractor must hire a full-time Health and Safety Officer (HSO), who must be a full-time health worker. Among the various responsibilities will be to administer first aid to injured workers on the various fronts of the work, as well as to ensure the functionality of the health post of the contractor.

	Ensure efficient and rapid patient transfer to referral health units if applicable. In addition, it should facilitate contact with health authorities in the district. To assess the possibility of accidents and emergencies (such as road accidents, fire, explosions, spills or releases of hazardous materials, and natural disasters), to avoid incidents, to respond to incidents and to report on incidents. The contractor's HSO officer will promote on-site health and safety awareness through lectures and meetings with workers throughout the construction phase.
ESO	The Environmental control or site Officer must be appointed by the contractor and approved by the RE. He will be in charge of the people at the construction site and will give instructions on the implementation of the environmental aspects during all project phases. The will monitor and give recommendations on the execution of the ESMP and these responsibilities will include: • Monitoring and ensuring compliance of the workers to the specific contractual regulation • Execution environmental monitoring program • Monitoring effectiveness of the implementation of the contractor ESMP • continues contact with subcontractor • Training the environmental awareness • Ensuring that all the disturbance areas during construction phase are efficiently rehabilitated as soon as possibly

TABLE 1.1 – ROLES AND TERMS THE RESPONSIBILITY

For the purposes of this ESMP, the biophysical and socioeconomic components prevailing in the project area were considered, and need to be preserved with few significant changes during the project implementation and operation.

It is therefore important and necessary that, during the rehabilitation works, attention be paid to the environmental and socio-economic aspects associated with the project, in order to minimize the negative impacts and to enhance the positive ones on the affected parties. The adoption of construction techniques that reduce affected areas should be considered as they can reduce the need for resettlement and consequently reduce associated costs. Contacts with communities through their leaders as well as with local authorities should be encouraged throughout the construction phase, as they are an important tool for mitigating negative socio-economic impacts and enhancing the positive ones.

The next chapter will address the aspects that the contractor must implement to minimize the impacts of its actions on the environmental and social components. The planning, opening and operation of slopes will be dealt with in an individual chapter, given the significant impact they have.

The client must include the ESMP in the Contract, and the relevant items must be included in the Bill of Quantities. The contractor must ensure that all costs associated with the implementation of the ESMP are included in the proposal.

3. ENVIRONMENTALAND SOCIAL MANAGEMENT PLAN

The Environmental and Social Management Plan (ESMP) is the contractor's working tool, which defines mitigation measures, technical specification terms (document) and the institutional organization for its implementation and supervision. The detailed environmental management procedures will be developed by the contractor, with the approval of the Resident Engineer, prior to the implementation of the activities related to the following construction steps:

- Planning
- Establishment and maintenance of the construction sites
- Construction/rehabilitation activities.

3.1 PLANNING

Compliance with Environmental Legislation

ANE shall ensure compliance with all relevant legislation on the protection of the natural environment. This includes Mozambican legislation, as well as other international norms and standards, notably from the World Bank, which have been adopted in the absence or in addition to the Mozambican norms.

The Resident Engineer should monitor compliance with all applicable laws and regulations.

Environmental Licenses

All relevant environmental licenses and permits necessary for the carrying out of the construction activities must be obtained from the competent authorities.

- The contractor shall ensure that all necessary authorizations, certificates and permits are obtained prior to the start of the activities and must be rigorously implemented and adhered to;
- The contractor shall keep on a file, all relevant and necessary authorizations and permissions for the implementation of the Contractual activities.

Negotiation for Accessing Land and Compensations

- The negotiation for accessing land and the payment of compensations for temporary/permanent loss of ownership must be carried out by ANE or as defined in the Contract and in accordance with the Resettlement Action Plan (RAP) or the Resettlement Policy Framework (RPF) prepared for the road section between Quelimane and Namacurra;

Relocation of Existing Infrastructures and Services

- ✓ In urban areas (Quelimane and Nicoadala), the contractor must ensure that existing services (e.g. water pipes, high/medium voltage lines and telephone services- optical fibre) are not damaged or disrupted, unless this is indispensable for the project implementation and pending prior approval of the Resident Engineer/client;
- ✓ The contractor shall, in coordination with the local authorities and with the providers of the services that are subject to be discontinued, inform affected parties, at least 3 days in advance, using the most comprehensive means of communication;
- ✓ The contractor is responsible for the repair and/or replacement, at his on cost, of any damaged infrastructure during the implementation of the project. Whenever damage occurs, replacement of the assigned service must be considered a priority activity before all other activities;
- ✓ It is the responsibility of the contractor to become familiar with the services and infrastructures that may be damaged during construction. The contractor shall obtain from the suppliers of such services, the location of the network/distribution network of any existing underground infrastructures.

Private and Community Properties

- ✓ Prior to the start of the construction activities, the contractor shall provide appropriate information to the relevant stakeholders, about the activities to be carried out, and their timing;
- ✓ All resettlement (private and community property), land acquisition issues will be dealt accordingly to the RPF and RAP developed for the road section of N1/N10 Quelimane-Nicoadala-Namacurra.

Provision of water, Electricity and Collection of Solid Waste

- ✓ The contractor should contact the service providers to be connected to the electricity and water supply network and for the hiring of a solid waste collection service;
- ✓ Contractor shall guarantee reliable sources of water, that not impact to the existing uses, for its operations at camp sites;
- ✓ The use of any natural water source for construction purposes requires the consultation and consent of the communities and the relevant authorities (Provincial Water Directorate).

Establishment and Maintenance of the Camp Sites

Camp Sites Location

- ⇨ The location for the establishment of the camp sites, should be determined in consultation with the Resident Engineer and the local communities/authorities, taking into account the following aspects:
  - ✓ It should be located outside the watercourses (at least 100 m) and wetlands protection zone so that it does not affects the aquatic life and natural drainage and to minimize the possible pollution of groundwater;
  - ✓ It should be located away (at least 500 m) from the nearest community settlement, in order to minimize possible social conflicts as well as insecurity in the area;
  - ✓ The camp site shall not be in any intact vegetation area (forest or protected area) and shall be avoided to cut the remain trees for the proposed infra-structure construction;
- ⇨ Once ANE and the OPRC contractor have agreed on Camp Site locations, the contractor will prepare a Labour Influx Management Plan that will be reviewed and cleared by ANE and the World Bank.
- ⇨ Although it is the contractor's decision, it is recommended that, whenever possible, the camps be handed over to the administrative or community authorities for future use.

Immediately after the contractor shall hold an initial awareness Increased movements of people (influx labour) may introduce new diseases to the area (particularly, communicable diseases like Tuberculosis, cholera HIV/AIDS and other STD) are of particular concern. Spread of these communicable diseases is one of the prime concerns associated with construction camps. Effective counter measures and highest level of attention are mandatory in road development projects planned in areas with highly affected HIV prevalence, such as Zambezia province.

All resettlement, land acquisition issues related to establishment of camp sites will be dealt in accordance with the RPF and RAP developed for the road section of N1/N10 Quelimane-Nicoadala-Namacurra.

3.2 Construction/Rehabilitation Activities

Environmental and Social Management Program

- ✓ The Contractor shall Prepare and submit to the Engineer for acceptance the "Contractor's Environmental and Social Management Plan" (CESMP) which provides a detailed explanation on how the Contractor will comply with the project's safeguards documents such as the Project Environmental and Social Management Plan (ESMP), that were provided as part of the bid documents and/or have been publicly disclosed. **No civil works shall commence until the CESMP has been cleared by the Engineer. The CESMP has to be based on this ESMP.**

- ✓ The contractor shall ensure that CESMP includes with appropriate detail, a minimum of the following aspects:
  - ✓ Work Activity
  - ✓ Traffic management;
  - ✓ Occupational Health and Safety;
  - ✓ Environment protection;
  - ✓ Waste management;
  - ✓ Labour Influx management; and
  - ✓ Gender Based Violence (GBV) and Child Abuse/Exploitation (CAE) Codes of Conduct and an Action Plan to mitigate and respond to GBV and CAE.

The project Environmental and Social Management Plan (CESMP) shall, also include:

- ✓ Identification of staff responsible for the implementation of CESMP, of environmental protection, health and safety management, description of the methods to reduce negative environmental, social, health and safety impacts, water resources management, water supply and sanitation management plan, the list of agreements made with the owners and current users of private sites, etc.;
- ✓ Approve public disclosure of the CESMP once approved by the Engineer through the project web site and other means that the Employer may deem appropriate;
- ✓ Shall allocate sufficient resources in terms of budget and staff to carry out the provisions of the approved CESMP;
- ✓ Attend public meetings at their own expense as requested by the Engineer to discuss the CESMP or any other aspects of the project's environmental and social compliance of interest to the public;
- ✓ Submit monthly reports on the CESMP implementation progress to the Engineer in an agreed format;
- ✓ Update the CESMP as necessary, in particular when there are design changes, (e.g. changes in the alignment, lay down areas, working hours or practices, etc.) and when the environmental licence ceases (maintenance phase under the ORPC contract), that impact on the project area of influence or the public or upon instruction by the Engineer for re-approval and re-disclosure;
- ✓ For CESMP or ESMP infringements, the Contractor shall be given a Notice by the Engineer to initiate actions to remedy the issue within 48 hours. If remediation and restoration has been satisfactorily initiated but could not be completed during this period, the Engineer shall determine a reasonable extended period to complete the remediation in consultation

with the Contractor and the Employer. If in the judgment of the Engineer the Contractor has not:

- Initiated any satisfactory remedial action within the 48 hour period, or
- The restoration is not being done properly, or
- The restoration is not being done in a timely manner during any extended period, then:

✓ The Engineer may instruct the Contractor to cease all remediation activities. The Employer shall be entitled to employ and pay others to carry out the restoration work. The Contractor shall reimburse the Employer through deductions to payments all costs reasonably incurred by the Employer for others to carry out the restoration work.

Participation of Women and Children

- ✓ Qualified female workforce should be searched for in the project area. If possible, qualified female workforce should be offered refreshing or upgrading vocational training, thus making possible for women to qualify for recruitment;
- ✓ Contractor shall not be extensively contracted children (any person under 18 years of age). But considering that currently some children become heads of households they need a job to guarantee the survival of their siblings. If and when cases like these occur (only allowable for children above 15, as per socially acceptable). The Contractor must consider the children's work with justice, the level of effort asked from them must be adequate, they must be allowed time to attend school and be paid e regular salary;
- ✓ The Contractor shall develop:
  - Gender Based Violence (GBV) and Child Abuse/Exploitation (CAE) Codes of Conduct (see Annex 10 for sample Employer's Code of Conduct) and an Action Plan to mitigate and respond to GBV and CAE within the project and the community around (within 2 km from the ROW);
- ✓ The Codes of Conduct will outline the responsibilities of: (i) the company to create a positive culture for its workplace and employees; (ii) managers to ensure that culture is implemented; and, (iii) individuals to adhere to the principles of that culture and not to engage in GBV and/or CAE;
- ✓ The contractor shall include in the workers contractor an annex of the agreement not to infringe the CAE and GBV clauses when implementing construction activities;
- ✓ All employees (including managers) will be required to attend training prior to commencing work to reinforce the understanding of HIV/AIDS, GBV and CAE.

Subsequently, employees must attend a mandatory training course at least once a month for the duration of mobilization;

Contractual obligations related with GBV

- ✓ The prospective contractors will be briefed on the Environmental, Social, Health and Safety standards and the Occupational Health Standards, as well as gender-based violence and sexual exploitation and abuse related requirements during pre-bid meetings.
- ✓ The bidding documents will include specific requirements that minimize the use of expatriate workers and encourage hiring of local workers, thereby minimizing labor influx. This approach was used successfully on the ongoing World Bank project (Roads and Bridges Management and Maintenance Program, Phase II), where local labor is estimated to account for 90 percent of the workforce.
- ✓ Contractors will be required to submit "Codes of Conduct" with their bids (see Annex 10 for sample Employer's Code of Conduct). The codes will set clear boundaries for acceptable and unacceptable behaviours of all individuals and companies (including the contractor, sub-contractors, and their workforces), and specify sanctions, including for any incidents of gender-based violence or sexual exploitation and abuse. All project consulting firms will also be required to submit Codes of Conduct with their proposals.
- ✓ The contractor will be required to establish anti-sexual harassment policies, and an Action Plan for implementing Environmental, Social, Health and Safety and Occupational Health and Safety standards and preventing sexual exploitation and abuse.
- ✓ The contractor will be required to provide training to workers on sexual exploitation and abuse and HIV/AIDS prevention and on the content and obligations derived from the code of conduct, through the partner nongovernmental organization (NGO).
- ✓ The Output and Performance-Based Road Contract (OPRC) will directly link payment and level of service of social and environmental compliance.

3.2.1 Biophysical environment

Control of Erosion Soil Pollution

- ✓ The contractor shall protect all hydraulic infrastructures against erosion by protecting slopes, compacting soils, vegetation and/or stabilizing with gabions, as defined in the implementation plan;
- ✓ Equipment's and vehicles transporting material should be covered and work with material during winding days must be limited.

- ✓ The contractor shall restrict the use of heavy machinery to the dry period. In the months of December and January, the use of machines must be conditioned according to rainfall, in order to reduce soil damage.
- ✓ The contractor , when fills the embankment of the road, shall avoid
- ✓ The contractor shall take all reasonable measures to control erosion and shall specify and provide the method for the control of rainwater for the approval of the Resident Engineer;
- ✓ The contractor shall take all precautions to avoid erosion or landslide in the slopes, and shall create slopes compatible with the nature of the soil.

The contractor shall prepare for the approval of the Resident Engineer, a declaration of methods concerning the disposal of sanitary and other wastes, in such a way that it does not result in any form of pollution or danger to humans and animals;

- ✓ The contractor is required to take all precautions to avoid spills and leaks of materials with potential to pollute land resources;
- ✓ The cleaning of equipment and vehicles must be performed in designated maintenance areas that should be built for such purposes by the contractor;
- ✓ The contractor must arrange the dangerous products in such a way that they are not in direct contact with the soil in order to prevent spills;
- ✓ The contractor shall be responsible for cleaning up any kind of pollution caused by his activities and shall pay compensation to affected persons whenever such events occur;

Dust and Noise

- ✓ The contractor shall use equipment and machinery which comply with the national and international standards and norms, as well as the regulations on noise, vibration and dust emissions;
- ✓ The contractor shall consider all measures to ensure that the operation of all mechanical equipment and construction processes within and/or outside the work site does not cause unnecessary excessive noise, taking into consideration all environmental requirements;
- ✓ When operating near residential areas, the contractor must carry out his/her activities during the day avoiding uncomfortable situations during the night;
- ✓ The contractor shall apply all measures to suppress dust in order to reduce air pollution. These should include watering the soils;
- ✓ The contractor shall provide his workers with individual safety equipment that reduces the impact of dust and noise, such as masks, earplugs or ear protectors;
- ✓ Works that cause noises higher than 85 dB can only be performed after the approval of the Resident Engineer and from Monday to Friday, from 8:00 a.m. to 5:00 p.m.
- ✓ The contractor must inform the communities living near the source of the noise, at least 3 days before the activity is performed;

- ✓ Schools, hospitals and other noise-sensitive communities must be informed of the activity at least 5 days in advance;
- ✓ Any noisy activity that has to be carried out outside working hours must always be subject to the prior approval of the Resident Engineer;
- ✓ Any complaint received by the contractor must be communicated to the Resident Engineer and promptly answered;
- ✓ Excavation, handling and transportation activities and erodible material should be avoided on days with strong winds;
- ✓ Whenever possible, stored and staked soils should be protected from the winds;
- ✓ The speed of vehicles at work and on access roads should be limited to reduce dust emissions;
- ✓ The contractor must ensure that vehicles, equipment and machinery in general are in good conditions to reduce carbon emissions.

Preservation of Flora and Fauna

Although no impacts on flora and fauna are expected, the following procedures should be followed:

- ✓ Whenever possible, the cutting of existing vegetation should be avoided;
- ✓ If there is need for space to perform activities, the contractor should give priority to areas that are already deforested;
- ✓ The contractor should avoid the removal of the remaining intact vegetation areas along the roadway. In cases where there is a need for new access routes, those should not cross the forest areas;
- ✓ Whenever necessary, the trees should be pruned and not removed;
- ✓ Workers should not remove trees or medicinal plants, nor hunt or attack wild animals in the area;
- ✓ The use of native plants as a source of energy is prohibited, unless it is collected in approved areas. The contractor shall ensure the supply of oil or electric stoves to its workers;
- ✓ The contractor shall not allow the use of domestic animals or livestock on the sites or in camps unless these are maintained in fences.

Protection of Sensitive Environments and Natural Landscapes

While there are no critical habitats or forests within the road corridor covered by this ESMP, there are some sensitive environments, including wetlands and river crossings, that exist nearby or in the construction areas along the N1/N10 section that will need special attention. A detailed inventory of sensitive areas will be conducted as part of ESIA/ESMP update when the final design is completed.

Rivers and Streams

- ✓ The contractor shall ensure that construction activities are minimized in the rivers and/or streams that cross the road;
- ✓ The contractor must submit a declaration of method to be approved by the Resident Engineer, 10 working days before the start of any hydraulic infrastructure construction activities. The statement should highlight the following:
  - Provide a detailed plan for crossings including pipe protection work;
  - The system for the diversion of the water course;
  - Control plan for contaminated water in the event of fuel spills or other polluting materials;
  - Extension of the working area;
  - Restoration of normal river courses after the conclusion of the works;
  - The process of rivers/streams sedimentation due to construction work should be avoided;
  - Building materials and residues should not be piled up in flood risk areas;
- ✓ The contractor shall ensure that all construction activities within the floodplain areas (Quelimane-Nicoadala) take place as shortly as possible;
- ✓ The contractor shall preserve the mangroves and other aquatic vegetation in order to be used in the process of rehabilitation of these areas;
- ✓ The contractor must not pollute watercourses as a result of the construction activities;
- ✓ Soil and stones for the use in road construction should not be obtained from the riverbed.

Swampy Areas

- ✓ Swampy areas should be avoided whenever possible;
- ✓ If construction activities affect wetlands, the contractor shall remove all vegetation (mangroves) with their roots intact, as recommended by the Resident Engineer and environmental officer. This vegetation must be kept alive until replanting. Replanting should occur immediately after soil replacement;
- ✓ No construction waste material should be deposited in swampy areas;
- ✓ No car should be driven in swampy areas.

3.2.2 Socio Economic Environment

Land Acquisition and Resettlement

For the construction activities the contractor will need a clear area to perform his activities with safety. In this regard, ANE will have to compensate the approximately 1000 users of the

ROW. Approximately 225 small tents 390 trees, 18 hectares of agriculture, cemeteries and wells were identified within the project area.

The construction activities will only start after the Compensation process concluded. The extent of the compensation is done in the RAP document that is part of the environmental reports of the project.

All resettlement, land acquisition issues will be dealt in accordance with the RPF and RAP developed for the road section of N1/N10 Quelimane-Nicoadala-Namacurra.

Occupational Health and Safety

- ✓ The contractor shall comply with all health and safety rules promulgated by the Mozambican law, as well as those arising from good construction practices, including the preparation and implementation of a Safety, Health and Hygiene Plan at Workplace;
- ✓ The contractor must distribute personal safety equipment to its workers, in accordance with the activity being carried out, and make its use compulsory;
- ✓ The contractor shall provide a first aid unity with a suitably qualified and experienced health personnel, equipped with at least first aid and malaria testing kits;
- ✓ The contractor must ensure the existence of first aid kits on the various work fronts, slopes, construction sites and train workers for their use;
- ✓ With regard to disease prevention, the contractor should consider the following:
    - Malaria is prevalent in the area. Regular monitoring should be ensured for malaria screening within construction personnel;
    - Eliminate sources of mosquitoes' propagation (standing water);
    - Provide drinking water, sanitation and social centres to prevent cholera outbreak during the rainy season;
    - During the dry season, several drinking fountains should be available onsite to prevent dehydration from overheating/excessive humidity;
    - The contractor shall ensure, through a local service provider, that his/her team is aware of the risks of contracting and spreading sexually transmitted diseases, particularly HIV/AIDS and other STDs, and prevent such risks;
    - The Contractor must provide mobile latrines in an adequate number on all work fronts and ensure their smooth operation throughout the duration of the project;
- ✓ The contractor shall be responsible for protecting the population as well as any public property from any hazards associated with construction works and for facilitating the movement of pedestrians and motorized traffic in areas directly affected by the project;
- ✓ Areas of work/activities that may be harmful to humans and domestic animals shall be sealed, demarcated or protected in accordance with a plan previously approved by the Resident Engineer;

- ✓ The contractor must prepare and implement a Traffic Accommodation Plan;
- ✓ The contractor shall define the speed limits to be complied with at all times and on all access routes and roads used by trucks/lorries. Drivers and operators must ensure that these limits are observed for the safety of the population;
- ✓ The emergency services telephone numbers must be easily visible in the contractor's camps and offices;
- ✓ Unauthorized firearms are not allowed on the site;
- ✓ The contractor shall limit access by outsiders to campsites and construction sites in order to prevent theft and accidents;
- ✓ The Contract must contain an article in which the contractor is obliged to minimize the risks on the public road, due to the passage of the project vehicles and equipment;
- ✓ In coordination with Quelimane and Nicoadala Municipal Councils and the traffic police, the contractor should support road safety awareness campaigns along the road undergoing rehabilitation, especially among the most vulnerable population (e.g. children, public transport drivers, etc.).

Employment Creation and Income Rising

Although recruitment of workers is an administrative matter of the contractor, the contractor should be formally encouraged to hire locally, whenever possible, in order to maximize the distribution of benefits and the social acceptability of the project. Thus:

- ✓ The contractor must hire locally (In Quelimane, Nicoadala and Namacurra) 100% of semi and unqualified workers, according to their qualifications and experience, and must offer equal opportunities for men and women. It is recommended that, of the total workforce to be hired locally, at least 25% should be female;
- ✓ The contractor should encourage his employees to do their purchases locally in order to increase sales and turnover/the amount of businesses in the area;
- ✓ A program to enhance that positive impact should be institutionalized, and workers should be encouraged to make savings for small business investments;
- ✓ The contractor must comply with the current law prohibiting the use of child labour whether by himself or by the subcontractors;
- ✓ Liaison committees should be set up with the communities along the road in order to facilitate the contractor's work and to ensure conflicts resolution, particularly the labour disputes that may arise.

Agriculture and Livestock

- ✓ Prior to the start of the project, all owners who may be affected by it shall be informed, in good time, not to cultivate the affected land in the following agricultural season;

All resettlement, land acquisition and compensation issues related to agriculture and livestock will be dealt in accordance with the RPF and RAP developed for the road section of N1/N10 Quelimane-Nicoadala-Namacurra.

It should be ensured that agricultural activities are encouraged so that peasants take advantage of the opportunities that the project will create during the construction phase (the need for agriculture products for the workers) and stimulate agricultural marketing in the operation phase;

Protection of Cultural, Historical Heritage and/or With Archaeological Importance

- ✓ The contractor shall prepare a statement of methods relating to construction activities that will occur nearby public cemeteries (having identified one in Quelimane and another in Nicoadala), fields and areas of cultural, historical or archaeological interest;
- ✓ If any archaeological site (artefacts) or remains are found on the location during excavations, the works must cease and the contractor must inform the Resident Engineer and the relevant authorities (ARPAC or Provincial Directorate of Culture and Tourism).

Relationship with the Communities and Control of the Interference with the Community

- ✓ The contractor, with the knowledge of the Resident Engineer and the client, should establish liaison committees to work closely with affected communities and their leaders. The committee should include community leaders, representatives of local authorities, representative of the contractor, representative of the Resident Engineer and the client representative. The Committee shall meet monthly and whenever necessary in order to keep communities informed of the activities that may affect them. Formal community leaders are the contact point for the meetings;
- ✓ The contractor must install and maintain information tables, containing his or her contact details and those of the Resident Engineer, in order to allow and help the population to get in contact with the contractor.
- ✓ Potentially noisy operations that create dust or other nuisances may be carried out only after affected communities have been informed and/or consulted;
- ✓ Prior notification (at least 3 days in advance) of potentially disruptive activities should be made to neighbouring communities;
- ✓ The contractor shall minimize any disturbance of the communities adjacent to the project by applying the specifications of this ESMP to:
    - o Noise
    - o Dust
    - o Destruction of the landscape
    - o Risks of accidents due to traffic or works;

⇨ Workers should in no circumstances be annoying to neighbouring communities. Any complaint received must be answered and if necessary The Involved Persons should be suspended from the Project.

Water and Sanitation

- ✓ The contractor must provide toilets in an appropriate number according to the number of existing workers, which must be built according to the specifications and applicable standards, with running water and a residual water collection and disposal system (septic tanks);
- ✓ The contractor shall ensure that adequate quantities of water are made available for housework (kitchen, laundry and toilets) within the work areas and in the camps;
- ✓ All toilets must be kept in good hygienic condition;
- ✓ The contractor must provide potable water to all workers on all fronts;
- ✓ The Contractor must provide mobile latrines in an adequate number on all work fronts and ensure their smooth operation throughout the duration of the project;
- ✓ In order to reduce the potential for contamination of groundwater and surface water, the contractor shall, whenever possible, ensure that:
    - Hazardous products, which include lubricants, fuels and asphalt, should be stored in demarcated and flagged areas;
    - The maintenance and supply of the vehicles should be confined to the designated workshops;
    - Residual waters and other liquid residues resulting from the washing of equipment must be collected and disposed of in places previously approved by the Resident Engineer, in a manner that should not cause disturbances or pollution;
    - Washing vehicles near water sources is prohibited.

Traffic Control

- ✓ The contractor should prepare a declaration of methods for traffic control measures for the entry and exit of vehicles from the works zone, as well as accommodation of traffic on the road to be rehabilitated (Traffic Accommodation Plan), for prior approval by the Resident Engineer;
- ✓ The contractor should maintain appropriate visible signs for the benefit of road users at all times, in accordance with the project design and the approved declaration method;
- ✓ During the execution of the work, the contractor must have a trained team of traffic controllers (flags);
- ✓ Hump and speed limit signs should be placed in densely populated areas, schools and hospitals (Quelimane and Nicoadala);

- ✓ Any complaint received by the contractor concerning traffic disturbances must be communicated to the Resident Engineer and should be promptly answered;
- ✓ An education program for the community (especially children and youth) on road safety should be developed and implemented by the contractor's environment officers with the participation of the traffic police.

Solid Waste Management

- ⇨ The contractor shall submit to the Resident Engineer's approval a method of statement and a plan for the control and management of solid waste in the camps and construction sites. The Plan shall include at least the following:
  - The number of containers to be made available in the work areas for collecting the daily waste;
  - Program for the collection of the daily waste produced by the workers;
  - The final location of waste disposal (municipal landfills/dumps);
- ⇨ Whenever possible, the material used or generated during construction process should be recycled;
- ⇨ The contractor must not deposit any material in places not previously approved by the Resident Engineer.

Management of Hazardous Substances (Fuel and Chemicals)

- ✓ The Contractor shall not use or generate any materials in the works that are hazardous to the human, animal or flora health. When the use of substances which may cause harm to the health of workers becomes necessary, the contractor must provide them with adequate individual safety equipment;
- ✓ All liquid fuels, lubricants, bitumen and cement that need to be stored for more than three months, must be maintained on waterproof concrete platforms. The size of the platform should be adequate to the requirements of storage and handling capacity.
- ✓ Spills of fuels and other chemicals should be regularly collected and disposed of in deep wells and distant from any body of water or collected by designated collectors in accordance with rules and regulations for hazardous waste management;
- ✓ Burning of used fuel, lubricants and oils is prohibited;
- ✓ The contractor must obtain prior authorization from the Resident Engineer to set the location of the storage areas;
- ✓ The filling of the storage and refilling tanks shall be strictly controlled and subjected to formal procedures;
- ✓ The contractor shall take all measures to ensure that no contamination occurs;
- ✓ Precaution and prohibition signs (with fluorescent ink) shall be displayed on storage locations, e.g. "Fire Prohibition", "Danger", "Restricted Area", etc.
- ✓ An adequate number of fire extinguishers of sufficient capacity shall be installed and maintained in appropriate places, and workers shall be trained in their use and handling.

Areas for Cement Preparation, Asphalt and Aggregates

- ✓ A method declaration on the project and the on the implantation of the concrete and or asphalt stations shall be delivered to the Resident Engineer;
- ✓ Concrete and/or asphalt stations should be located in areas with low environmental sensitivity, to be identified in coordination with the Resident Engineer;
- ✓ The station shall be located at a distance of more than 25 meters away from any watercourse;
- ✓ The upper soil (up to 20/25 cm thick) must be removed from the place where the stations will be implanted and should be packed in a safe place;
- ✓ The stations must be protected by devices (earth bags) that avoid surface runoff/percolation or escape of materials to other areas;
- ✓ Cement mixtures should not be made directly on the soil unless it is water proofed;
- ✓ The stations must always be kept clean;
- ✓ Contaminated and percolated water from the stations and products already mixed and stored must not enter in the water courses, but must be collected to a tank where water can be filtered;
- ✓ Unused cement bags should be stored so that it does not become affected by rainfall;
- ✓ Used bags should be stored and disposed of in such a way as to prevent pollution in the surrounding areas;
- ✓ Transportation of concrete or asphalt should not result in spillage along the way;
- ✓ Cleaning of station's equipment should not result in pollution to the surrounding environment;
- ✓ Residues of the mixtures must be removed from the area and placed in a previously approved place;
- ✓ All excess blending should be removed and deposited in a previously approved place. It is not allowed to wash contaminated soil with mixing residues;
- ✓ After the closure of the stations and other areas used for the preparation and handling of cement and asphalt, all remaining materials must be removed, including contaminated soil. The surface should be revolved up to a depth of 150 mm and the surface soil initially removed and stored must be homogeneously spread on the site and replanted.

Training and Awareness Campaigns

The Contractor shall ensure the performance of an appropriate environmental education. All employees must undertake an introductory presentation about the environmental awareness. If possible, such presentation should be in the employees' mother tongue.

- ✓ The contractor and the subcontractors must be aware of the environmental requirements and constraints of the construction activities contained in this ESMP;
- ✓ The Contractor shall place and maintain informative posters regarding the environment and health, in places commonly used by his workers such as cafeterias, toilets, etc.;

- ✓ The contractor Environment Site Officer (ESO) shall prepare and conduct the training and implement the campaigns for all workers, including subcontractors. Contents of the program must be submitted to the approval of the Resident Engineer;
- ✓ The first awareness campaign must take place prior to the construction works starts;
- ✓ The training shall include at least the following:
    - Basic information on environmental issues in the workplace;
    - Importance and reasons for the need to protect the environment;
    - How to minimize environmental impacts;
    - Erosion risk minimization
    - Waste management
    - Dust management
    - Relevant requirements of this ESMP;
    - Fire prevention and firefighting;
    - Typical health risks in the area, including malaria and cholera prevention;
    - Awareness, prevention and reduction of the risk of HIV/AIDS and other STIs contamination.
- ✓ The emphasis of the awareness campaigns should be on the environmental impacts related to the construction activities to be implemented on the site and the appropriate precautions (mitigation measures) to be considered, to avoid or mitigate those impacts;
- ✓ The contractor shall keep a record of all training and campaigns carried out, including the attendance lists.
- ✓ The Contractor must install and provide employees with Environmental Information Posters about HIV/AIDS and other STIs.
- ✓ The Environmental Information Posters must be available in the eating area and other areas indicated by the ES.

3.3 Planning, Operation, Closure of Quarries and Borrow Pits

Planning

- ✓ All borrow areas (soils and aggregates) and its access must be indicated in a plan subject to the approval of the Resident Engineer;
- ✓ Before starting the opening, the contractor must ensure that he/she has the permits for the opening and for the use of borrow areas (borrow pits and quarries);
- ✓ Health and safety plans relating to the opening, operation and closing of the borrow areas must be prepared and submitted for prior approval of the Resident Engineer;
- ✓ Quarry area should be located more than 100 m from any water course in such a way that the drainage of contaminated water is minimized and 500 m away of any settlement;

Opening and Exploring New Borrow Area

In case of opening of new borrow areas, the following actions must be observed:

- ✓ Top soil (20 cm layer) should be removed and kept according to the specifications;
- ✓ Cutting and pruning of the trees should not be allowed outside the approved area. The cutting of trees must be done in such a way that it does not damage the remaining vegetation;
- ✓ Excavations in the borrow area should avoid to go behind the water table. In case of identifying an underground water source, it should be protected and improved for the future water use by the communities;
- ✓ The inclination of the slopes should be 2:1 or less to minimize susceptibility to erosion;
- ✓ Access to the borrow area should be restricted to authorized persons;
- ✓ Access to the main road must be properly signalled and regulated in order to avoid significant interference with road traffic;
- ✓ The operation of the borrow area must take into account the need for dust minimization;
- ✓ The use of explosives in quarries requires the approval of the competent authorities and all explosions must be notified to the competent authorities as well as to the populations, at least 3 days in advance;
- ✓ All lorries transporting soils, aggregates and stones must be covered in order to avoid hazards and disturbances to the road users, as well as to avoid the deposition of the materials on the public road, which then will contribute to increase accidents;;
- ✓ The transportation of the materials must be duly supervised, and it should not occur during the night;
- ✓ The control of the vehicles load must be carried out in order to avoid over-loading;
- ✓ The contractor is obliged to the rehabilitation the borrow pits after use, and must observe the following:

- Excavated area shall be smoothed in ways that it minimizes erosion hazards and improves the layout of the area within the surrounding landscape;
- All affected natural drainage contour should be replaced and standing waters should be avoided;
- The upper soil initially removed and stored must be replaced. The soil must be spread in such a way as to ensure proper drainage and avoid risk of erosion;
- The whole area should be replanted;
- Rehabilitation of slopes should take into account the needs of neighbouring communities.

4. EMERGENCY PROCEDURES

The contractor shall submit to the Resident Engineer a declaration methods related to the procedures in an emergency situation regarding the most important activities that may lead to emergency situations caused by accident or negligence. These situations may include, but are not limited to:

- Fires;
- Accidental spills and leaks of fuel or other polluting substances;
- Road accidents involving vehicles;
- Accidents in concrete stations and others.

The referred declaration of method should be part of the Occupational Health and Safety, at the Workplace and should be prepared and implemented by the Contractor.

The following aspects shall be taken into account and assured by the Contractor with regard to the definition of Emergency Procedures:

- ⇨ The contractor must ensure that his/her workers are aware of the procedures to deal with emergency situations;
- ⇨ The contractor must also ensure the material and equipment required to deal with emergency situations, and the training of his/her workers on how to use it;
- ⇨ In the specific case of oil spills:
  - The source of spill should be insulated and the spill should be contained using sand berms, sandbags, sawdust, absorbent material and/or other materials approved by the Resident Engineer;
  - The area should be insulated and protected;
  - Contaminated soils should be removed in accordance with previously approved procedures;

The treatment and rehabilitation of the areas affected by emergencies must be done with the approval of the Resident Engineer, at the expense of the contractor when the latter is responsible

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5. MONITORING AND SUPERVISION MECHANISMS

The proper monitoring and implementation of the ESMP involves periodic verification of which activities are being carried out in accordance with the plan. The objective of the plan is to ensure compliance with all legal requirements applicable to the work to be carried out and to define measures for the mitigation and for the potentiation of negative and positive impacts, respectively, to be implemented by the contractor.

For CESMP or ESMP infringements, the Contractor shall be given a Notice by the Engineer to initiate actions to remedy the issue within 48 hours. If remediation and restoration has been satisfactorily initiated but could not be completed during this period, the Engineer shall determine a reasonable extended period to complete the remediation in consultation with the Contractor and the Employer.

If in the judgment of the Engineer the Contractor has not:

- Initiated any satisfactory remedial action within the 48 hour period, or
- The restoration is not being done properly, or
- The restoration is not being done in a timely manner during any extended period, then:

The Engineer may instruct the Contractor to cease all remediation activities. The Employer shall be entitled to employ and pay others to carry out the restoration work. The Contractor shall reimburse the Employer through deductions to payments all costs reasonably incurred by the Employer for others to carry out the restoration work.

A General Environmental Monitoring Program is established contemplating the following aspects:

- Landscape monitoring plan;
- Air quality monitoring plan (dust, fumes and exhaust gases and odoriferous compounds);
- Noise monitoring plan;
- Waste monitoring plan;
- Safety, health and hygiene at workplace plan.

For the purposes of the Monitoring Program, national standards and regulations should be applied, namely the Regulation on Environmental Quality Standards and Effluent Emissions and the Regulation on Waste Management.

In the absence of national regulations and standards, international standards (ISO) must be adopted or others that are considered adequate or internationally acceptable.

In order for the report of monitoring results to be effective, the contractor should prepare three types of reports:

- Routine monitoring reports (RMR);
- Monthly monitoring reports (MMR).

- Quarterly monitoring report (QMR).

The routine monitoring report will describe, for each of the actions to be monitored, the work developed, the results obtained and their critical analysis. The RMR should be produced at set intervals for the activities referred to and kept at the local office so that they can be consulted at any time by the enforcement authorities.

The monthly monitoring reports (MMR) describe the monitoring activities, results and their analysis. RMMs should be prepared and submitted monthly to regulatory authorities and to the monthly work meetings.

Descriptor	Phase	Location	Parameters	Frequency	Responsibility
Noise	Operation	Nearest habitations to Quelimane Municipality, Nicoadala town ship	dB (A) in the daytime and night reference periods	A campaign before the start of the road; One campaign per year after the start of the operation; Each campaign must be done on a business day and on a Sunday.	ANE/service provider
Road accidents	Construction	Areas of greater use for pedestrian crossing (Km 0+2 Municipality of Quelimane and Km 31,5+2 Quelimane - Nicoadala). Any accident occurring along the road must be registered.	Number and consequence of accidents: Number, origin and destination of persons crossing the road; Presence of the most vulnerable (children, the elderly, the disabled), etc.	Periodicity: weekly	Contractor (in liaison with police authorities and local leaders)
	Operation	Same as above.	Same as above.	Periodicity biweekly in the first three months of operation and monthly in the following months, until the end of the first year of operation. Each campaign must be carried out on a business day and on a Sunday at the beginning and end of the day.	ANE (in liaison with police authorities and local leaders).
Losses of buildings and/or associated structures, farms, crops, fruit trees	Prior construction	Along the road specifically at Quelimane Municipality and Nicoadala District	Number of affected people compensated and resettled	Weekly	ANE + implementing entity of RAP
Water quality degradation	Construction	In all water cross		Monthly	Resident Engineer+ Contractor + ANE

Accidental fuel or hazardous substances spill: Soils contamination		at the construction site			
Waste management	Construction	Camp site, work fronts		Daily	Contractor
Risk of STIs and malaria increase	Construction	Along the project	Number of affected people with STIs and malaria	Monthly	Contractor+ Service provider + ANE
Socio-cultural conflicts with staff coming from outside the project implementation area	Construction	Along the project	Number of grievance presented	Monthly	Contractor +ANE

TABLE 2.1 ESMP INDICATORS

6. COSTS ASSOCIATED WITH THE IMPLEMENTATION OF THE ENVIRONMENTAL MANAGEMENT PLAN

All costs inherent to the implementation of the recommended measures in the ESMP or good practices should be included in the contractor's unit prices. The unit price of each relevant measure will be spelled out in the final ESIA/ESMP to be prepared by the contractor based on the final design.

On the other hand, other measures correspond to the engineering project solutions foreseen or to be developed in the following stages (for example the constructive processes for the construction of the bridge foundations or the safe pedestrians crossings to be implemented in certain zones of the design) and the budget estimation of these measures will be issued by the Project Designer.

Following is the cost estimation inherent to the activities not included in any of the above mentioned situations connected to this ESMP:

Item	Quantification	Estimated cost (USD)
Updating ESIA/ESMP based on final design - under the OPRC, the contractor will update the ESIA/ESMP once the final design is finalized.		50 000
ANE project imputable expenses – Monitoring Department, ANE provincial Delegation Focal Point - dedicated mobilization of the Environment Auditor (EA) and equipment's (camera, GPS, Laptop)	40 Months @ 10 000 USD / month	400 000
Training for ANE staff, transport	Global amount	50 000
Local communities communication/relationship program	Global amount	50 000
Accident monitoring (1st year of operation)	Global amount	10 000
Noise monitoring (4 campaigns during 3 years)	Global amount	12 500
Service provider to implement HIV/AIDS awareness	Global amount	50 000
Total		572 500

TABLE 3.1- COST OF MONITORING ESMP

Added to these costs will be the ones inherent to the PAR implementation, which are detailed in the appropriate document.

7. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN - SUMMARY

Table below is a summary of the ESMP. It presents in a concise way the possible impacts during the construction and operation phase, mitigation measures, managers and indicators for monitoring. This table does not replace the previous sections of this document it will only summarize it.

TABLE 4.1.–ENVIRONMENTAL AND SOCIAL PLAN: SUMMARY

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	**Social / Environmental Impact**	**Objective**	**Mitigation**	**Manager**	**Indicator**
Pre-construction and Construction Phases					
Environmental License Borrow Pit exploration licence	Breach of national legislation	Ensure compliance with legislation	Check for the existence of all relevant environmental licenses; Obtaining missing licenses.	Contractor, ANE, Resident Engineer	Issued and valid licenses
Access to land / Resettlement			All resettlement, access to land issues will be dealt in accordance with the RPF and RAP developed for the road section of N1/N10 Quelimane-Nicoadala-Namacurra.		
Relocation of existing infrastructures and services	Interruption of services (water, electricity and tele-communications) Economic losses Worsen the quality of life in the communities	Ensure continuity of services Minimize service interruptions	The contractor shall, in the areas, ensure that the existing services are not damaged or disrupted, unless this is essential to the implementation of the project and upon prior authorization of the client/ Resident Engineer; The contractor shall, in coordination with the local authorities and the providers of the service being discontinued, inform affected parties, at least 3 days in advance, using the most comprehensive means of communication; The contractor is responsible for the repair and/or replacement of any damaged infrastructure during the operation phase. Where a damage occurs, the replacement of	Contractor, Resident Engineer Services Providers and Local Authorities	Maintenance of service operations

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	**Social / Environmental Impact**	**Objective**	**Mitigation**	**Manager**	**Indicator**
Pre-construction and Construction Phases					
			the service concerned must be a priority over all other activities; It is the responsibility of the contractor to be familiar with the services and infrastructures that may be damaged during construction. The contractor shall obtain from the suppliers of such services the location of the network/distribution network of any underground infrastructures that may exist.		
Access to public services (Electricity, water, waste collection) and water for construction	Overloading and damage to the public services Worsen the quality of life in the communities	Proper connection to the public services; Protection of existing water sources	Contact EDM and the water supply service provider/FIPAG, if that is the case; Contact the municipal authorities for the hiring of the solid waste collection services; The contractor cannot make use the sources of water used for supplying the population to obtain water for the operations; The use of any natural water source for construction purposes requires the consultation and consent of the communities and the relevant authority (Provincial Water Directorate).	Contractor	Maintenance of services operations Maintenance of existing water sources
Camps and Sites	Land conflict Social conflicts Destruction of vegetation	Installing and operating camps and sites by minimizing environmental and social impacts	All resettlement, land acquisition issues related to establishment of camp sites will be dealt in accordance with the RPF and RAP developed for the road section of N1/N10 Quelimane-Nicoadala-Namacurra.	Contractor, Resident Engineer	Existence of rainwater drainage system; Existence of a potable water distribution system;

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	**Social / Environmental Impact**	**Objective**	**Mitigation**	**Manager**	**Indicator**
Pre-construction and Construction Phases					
	Contamination of waters and soils Dust Noise STDs Increase		The location for the establishment of the contractor's and the Resident Engineer's camps and sites should be determined in consultation with the Resident Engineer and the local communities/authorities, taking into account the following aspects: Be located outside the protection zone of watercourses (100 m) and wetlands; Be located within an acceptable distance from existing residential areas; Not located in areas with intact vegetation; The contractor must first obtain the necessary licences and consents from the local authorities or from the owner of the needed area; Although it is the contractor's decision, it is recommended that whenever possible the camps should be handed over to the administrative or community authorities for future use; The contractor must submit for the prior approval of the Resident Engineer, the implantation design and other project		Existence of toilets provided with running water and septic tanks; Existence of adequate collection, removal and disposal of waste and polluting waste; Existence of fire-fighting means and equipment; Existence of a first aid unity and STI prevention activities

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	Social / Environmental Impact	Objective	Mitigation	Manager	Indicator
Pre-construction and Construction Phases					
			structures and specifications related to the camps and sites that are intended to be built; The contractor shall take all necessary measures and precautions to ensure that the execution of the works is carried out in accordance with environmental, legal and regulatory requirements, including those set out in this document; The contractor shall take all measures and precautions to avoid any disturbance in the local communities and among the users of the road, as a result of the project execution; The contractor shall, whenever possible, apply measures to reduce or eliminate any sources of disturbances. The contractor shall follow the provisions of this document, as well as the applicable legislation and standards, during the use, operation and maintenance of the camps and sites, in particular with regard to water supply and sanitation, solid waste management, handling and storage of dangerous substances, etc.; The areas occupied by the camps and sites must be recovered at the end of the project,		

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	**Social / Environmental Impact**	**Objective**	**Mitigation**	**Manager**	**Indicator**
Pre-construction and Construction Phases					
			when the contractor is demobilized, through the replacement of previously existing conditions, unless other uses are intended.		
Slopes	Destruction of vegetation Loss of income Dust and noise; Contamination of soils and water Erosion Loss of landscape balance	Install and operate slopes minimizing environmental and social impacts	All slopes (soils and aggregates) and its access must be indicated in a plan subject to the approval of the Resident Engineer; Before starting the opening, the contractor must ensure that he/she has the permits for the opening and for the use of slopes (lending chambers and quarries); The operation of the slopes must at all times follow the applicable national legislation; The contractor must notify the local communities and farmers, with at least 14 days in advance, of the intention to start digging in the slopes; Health and safety plans relating to the opening, operation and closing of the slopes must be prepared and submitted for prior approval of the Resident Engineer; The slopes must be properly sealed in order to prevent the entry and movement of people and animals; Slopes should be located more than 100 m away from any watercourse in such a way	Contractor, Resident Engineer	Valid operating licenses Compensations payment receipt Valid license to use explosives Noise levels; Air quality; Water quality.

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	Social / Environmental Impact	Objective	Mitigation	Manager	Indicator
Pre-construction and Construction Phases					
			that the drainage of contaminated water is minimized; As always as possible, the quarries should be located, established and operated more than 500 m away from the communities, in order to minimize the impact of noise, dust and vibrations. If this is not possible, in the case of communities located less than 500 m from the quarries, they must be resettled. The surface soil (20 cm layer) should be removed and kept according to the specifications; Cutting and pruning of the trees should not be allowed outside the present limits. The cutting of trees must be done in such a way that it does not damage the remaining vegetation; Excavations in the slope should avoid reaching the water table. In the case of identifying an underground water source, it should be protected and improved for the future water use by the communities; The inclination of the slopes should be 2:1 or less to minimize susceptibility to erosion;		

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	Social / Environmental Impact	Objective	Mitigation	Manager	Indicator
Pre-construction and Construction Phases					
			Access to the slopes should be restricted to authorized persons; Access to the main road must be properly signalled and regulated in order to avoid significant interference with road traffic; The operation of the slope must take into account the need for dust minimization; The use of explosives in quarries requires the approval of the competent authorities and all explosions must be notified to the competent authorities as well as to the populations, at least 3 days in advance; Rainwater control systems should be in place to avoid surface runoff to watercourses (sedimentation) and erosion, as well as water stagnation; All lorries transporting soils, aggregates and stones must be protected in order to avoid hazards and disturbances to the road users, as well as to avoid the deposition of the materials on the public road; The transportation of the materials must be duly supervised, and it should not occur during the night;		

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	**Social / Environmental Impact**	**Objective**	**Mitigation**	**Manager**	**Indicator**
Pre-construction and Construction Phases					
			The control of the vehicles load must be carried out in order to avoid over-loading; Procedures for the control of dust should be implemented in all housing areas, in schools and in hospitals. Slopes should be smoothed in ways that it minimizes erosion hazards and improves the layout of the area within the surrounding landscape; All affected natural drainage contour should be replaced and standing waters should be avoided; The surface soil initially removed and stored must be replaced. The soil must be spread in such a way as to ensure proper drainage and avoid risk of erosion; The whole area should be replanted; Rehabilitation of slopes should take into account the needs of neighbouring communities.		
Water	Water Contaminations	Prevent public health and environment impact	All fuels, lubricants and bitumen must be stored in confined and marked areas; Maintenance and refuelling of vehicles should be done in workshops to limit lubricant and fuel spillage;	Contractor	Storage and proper handling of polluting substances; Preparation of specific areas for maintenance and washing of

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	**Social / Environmental Impact**	**Objective**	**Mitigation**	**Manager**	**Indicator**
Pre-construction and Construction Phases					
			Washing vehicles along watercourses is prohibited; The contractor shall provide the toilets with septic tanks; The contractor must provide mobile latrines on all work fronts and ensure their correct functioning throughout the duration of the project; Regular collection of solid waste and adequate sanitation should be ensured in the camps.		vehicles, machinery and equipment; Existence of adequate collection, removal and disposal of waste and polluting waste in accordance with local authorities' instructions; Toilets with septic tanks.
Flora e Fauna	Loss of species	Protect vegetation and fauna	Whenever possible, the cutting of existing vegetation should be avoided; If there is need for space to perform activities, the contractor should give priority to areas that are already deforested; The contractor should avoid the removal of the remaining forest areas along the roadway. When there is a need for new access routes, those should not cross forest areas; Whenever necessary, the trees should be pruned and not removed; Workers should not remove trees or medicinal plants, nor hunt or attack wild animals in the area; The use of native plants as a source of energy is prohibited, unless it is collected in approved areas. The contractor shall ensure the supply of oil or electric stoves to its workers;	Contractor	

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	**Social / Environmental Impact**	**Objective**	**Mitigation**	**Manager**	**Indicator**
Pre-construction and Construction Phases					
			The contractor shall not allow the use of domestic animals or livestock on the sites or in camps unless these are maintained in fences. To prevent forest fire, the contractor shall ensure that workers do not smoke in sensitive areas or dispose of cigarettes in the woods in order to prevent forest fires; The materials resulting from deforestation must be properly removed to a suitable location to prevent the occurrence of fires.		
Soils and subsoil	Erosion Contamination	Avoid soil loss due to erosion or contamination	Establish a drainage system to reduce erosion; The contractor shall provide the toilets with septic tanks; The contractor must provide mobile latrines on all work fronts and ensure their correct functioning throughout the duration of the works; The contractor must keep the camps clean and place containers for the collection of solid waste and ensure their collection; Whenever possible, the stored material should be covered to prevent it from being lost; The contractor should, whenever possible, reduce the use of heavy machinery during the rainy season;	Contractor Resident Engineer	An established and functional drainage system in camps and workplaces; Waste management plan; Toilets with septic tanks; Storage and proper handling of polluting substances; Preparation of specific areas for maintenance and washing of

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	Social / Environmental Impact	Objective	Mitigation	Manager	Indicator
Pre-construction and Construction Phases					
			After use, slopes must be rehabilitated to avoid erosion and/or accidents; The contractor shall prepare for the approval of the Resident Engineer, a declaration of methods concerning the disposal of sanitary and other wastes, in such a way that it does not result in any form of pollution or danger to humans and animals; The contractor is required to take all precautions to avoid spills and leaks of materials with potential to pollute land resources; The cleaning of equipment and vehicles must be performed in designated maintenance areas that should be built for such purposes by the contractor; The contractor shall be responsible for cleaning up any type of pollution caused by his activities and shall pay compensation to affected persons whenever such events occur; The contractor shall protect all hydraulic infrastructures against erosion by protecting slopes, compacting soils, revegetation and/or stabilizing with gabions, as defined in the implementation plan; The contractor shall take all reasonable measures to control erosion and shall specify and provide the method for the control of		vehicles, machinery and equipment; Existence of appropriate collection, removal and disposal of waste and polluting waste following the local authorities' instructions.

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	**Social / Environmental Impact**	**Objective**	**Mitigation**	**Manager**	**Indicator**
Pre-construction and Construction Phases					
			rainwater to be approved by the Resident Engineer; The contractor shall take all precautions to avoid erosion or landslide in the slopes, and shall perform slopes compatible with the nature of the soil; Waterproof canvas should be used on the ground if repairs are carried out on machines and equipment that cannot be transferred to the maintenance and repairing place; Contractor shall take all precautions when handling chemicals so that workers do not improperly dispose them of on the ground.		
Air quality	Dust and noise pollution	Reduce the levels of noise and dust in the air	The contractor shall use equipment and machinery which comply with the national and international standards and norms, as well as the regulations on noise, vibration and dust emissions; The contractor shall consider all measures to ensure that the operation of all mechanical equipment and construction processes within and/or outside the work site does not cause unnecessary excessive noise, taking into consideration all environmental requirements; When operating near residential areas, the contractor must carry out his/her activities	Contractor Resident Engineer	Protection equipment distributed; Rule plan; Vehicle Maintenance Book

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	Social / Environmental Impact	Objective	Mitigation	Manager	Indicator
Pre-construction and Construction Phases					
			during the day avoiding uncomfortable situations during the night; The contractor shall apply all measures to suppress dust in order to reduce air pollution. These should include watering the soils; The contractor shall provide his workers with individual safety equipment that reduces the impact of dust and noise, such as masks, earplugs or ear protectors; Works that cause noises higher than 85 dB can only be performed after the approval of the Resident Engineer and from Monday to Friday, from 8:00 a.m. to 5:00 p.m. The contractor must inform the communities living near the source of the noise, at least 3 days before the activity is performed; Schools, hospitals and other noise-sensitive communities must be informed of the activity at least 5 days in advance; Any noisy activity that has to be carried out outside working hours must always be subject to the prior approval of the Resident Engineer;		

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	**Social / Environmental Impact**	**Objective**	**Mitigation**	**Manager**	**Indicator**
Pre-construction and Construction Phases					
			Any complaint received by the contractor must be communicated to the Resident Engineer and promptly answered; Excavation, handling and transportation activities and erodible material should be avoided on days with strong winds; Whenever possible, stored and staked soils should be protected from the winds; The speed of vehicles at work and on access roads should be limited to reduce dust emissions; The contractor must ensure that vehicles, equipment and machinery in general are in good conditions to reduce carbon emissions. The contractor must develop an awareness program on the importance of accident prevention and damage to the environment; Whenever necessary, the contractor must control the moisture content of the soil by watering the surface of the tracks, camps, sites, etc.		
Dangerous substances	Soil and subsoil contamination Water contamination Air pollution	Minimize the risk of accident and environment contamination	The Contractor shall not use or generate any materials in the works that are hazardous to the human, animal or flora health. When the use of substances which may cause harm to the health of workers becomes necessary, the	Contractor Resident Engineer	Hazardous waste management plan;

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	**Social / Environmental Impact**	**Objective**	**Mitigation**	**Manager**	**Indicator**
Pre-construction and Construction Phases					
	Fires		contractor must provide them with adequate individual safety equipment; All liquid fuels, lubricants, bitumen and cement that need to be stored for more than three months, must be maintained on waterproof concrete platforms. The size of the platform should be adequate to the requirements of storage and handling capacity. Spills of fuels and other chemicals should be regularly collected and disposed of in deep wells and distant from any water source or collected by designated collectors in accordance with rules and regulations for hazardous waste management; Burning of used fuel, lubricants and oils is prohibited; The contractor must obtain prior authorization from the Resident Engineer to set the location of the storage areas; The filling of the storage and refilling tanks shall be strictly controlled and subjected to formal procedures;		Storage and proper handling of hazardous substances; Safety equipment distributed; Existence of means of fire-fighting; Existence of adequate signalling.

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	**Social / Environmental Impact**	**Objective**	**Mitigation**	**Manager**	**Indicator**
Pre-construction and Construction Phases					
			The contractor shall take all measures to ensure that no contamination occurs; Precaution and prohibition signs (with fluorescent ink) shall be displayed on storage locations, e.g. "Fire Prohibition", "Danger", "Restricted Area", etc. An adequate number of fire extinguishers of sufficient capacity shall be installed and maintained in appropriate places, and workers shall be trained in their use and handling.		
Works in material exploration areas	Accidents occurrence Exposure to dust and noise pollution	Provide a safe working area	The contractor shall ensure that: All workers within a 50m of any quarry or slope have individual safety equipment (ISE); All workers in stone and gravel exploitation zones use ISE; Avoid performing noisy work during the nights; Any quarrying activity (use of explosives) to be carried out should be previously communicated to local authorities so that they inform the community.	Contractor	Safety equipment distributed
Local and regional economy	Job creation	Maximize employment for the local communities	The contractor must hire locally all semi and unqualified workers, according to their qualifications and experience, and must offer equal opportunities for men and women. It is	Contractor Community liaison committee Traditional leaders	Number of people employed

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	**Social / Environmental Impact**	**Objective**	**Mitigation**	**Manager**	**Indicator**
Pre-construction and Construction Phases					
			recommended that, of the total workforce to be hired locally, at least 25% should be female and 100% of unskilled should be local; The contractor must comply rigorously with the current law prohibiting the use of child labour whether by himself or by the subcontractors; Liaison committees should be set up with the communities affected by the works in order to facilitate the contractor's work and to ensure conflicts resolution, particularly labour disputes that may arise.		Number of women employed Payroll
	Income generation activities	Stimulate income generation activities and small businesses	The contractor should encourage his employees to do their purchases locally in order to increase sales and turnover/the amount of businesses in the area; A program to enhance that positive impact should be institutionalized, and workers should be encouraged to make savings for small business investments;	Contractor	
Protect cultural, historical heritage and/or with archaeological importance	Loss or damage to the heritage Conflicts with the communities	Do the work while minimizing the interference with existing heritage	The contractor shall prepare a statement of methods relating to construction activities that will occur nearby public cemeteries (having identified one in Quelimane and another in Nicoadala), fields and areas of cultural, historical or archaeological interest;	Contractor; Fiscal	Information material

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	**Social / Environmental Impact**	**Objective**	**Mitigation**	**Manager**	**Indicator**
Pre-construction and Construction Phases					
			If any archaeological site (artefacts) or remains are found on the location during excavations, the works must cease and the contractor must inform the Resident Engineer and the relevant authorities (ARPAC or Provincial Directorate of Education and Culture).		
Health and safety at workplace	Accidents Occupational diseases	Create a most safe work environment as possible	The contractor shall comply with all health and safety rules promulgated by the Mozambican law, as well as those arising from good construction practices, including the preparation and implementation of a Safety, Health and Hygiene at Workplace Plan; The contractor must distribute individual safety equipment to the workers, according to the activity being carried out, and make its use compulsory; The contractor shall provide a first aid unity with a suitably qualified and experienced health personnel, equipped with at least first aid and malaria testing kits; The contractor must ensure the existence of first aid kits on the various work fronts, slopes, construction sites and train workers for their us	Contractor	Workers equipped and protected Existence of a properly operational first aid unity; Existence of first aid kits; Training of workers in the area of safety and health

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	Social / Environmental Impact	Objective	Mitigation	Manager	Indicator
Pre-construction and Construction Phases					
			With regard to disease prevention, the contractor should consider the following: Malaria is prevalent in the area. Regular monitoring should be ensured for malaria screening within construction personnel; Eliminate sources of mosquitoes' propagation (standing water); Provide drinking water, sanitation and social centres to prevent cholera outbreak during the rainy season; During the dry season, several drinking fountains should be available onsite to prevent dehydration from overheating/excessive humidity; The contractor shall ensure, through a local service provider, that the team is aware of the risks of contracting and spreading sexually transmitted diseases, particularly HIV/AIDS and other STDs, and prevent such risks; The emergency services telephone numbers must be easily visible in the contractor's camps and offices; Unauthorized firearms are prohibited on the site;		

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	**Social / Environmental Impact**	**Objective**	**Mitigation**	**Manager**	**Indicator**
Pre-construction and Construction Phases					
			All equipment and machinery to be used in the project must be subject to a strict maintenance program.		
Public Health	Increase of STD cases Increase of endemic diseases Risk of accidents	• Reduce the spread of diseases Avoid accidents involving the local population	The contractor shall ensure, through a local service provider, that the team is aware of the risks of contracting and spreading sexually transmitted diseases, particularly HIV/AIDS and other STIs, and prevent such risks; The contractor shall be responsible for protecting the population as well as any public property from any hazards associated with the construction works and should facilitate the movement of pedestrians and motorized traffic in areas directly affected by the project; Areas of work/activities that may be harmful to humans and domestic animals shall be sealed, demarcated or protected in accordance with a plan previously approved by the Resident Engineer; The contractor shall define the speed limits to be complied with at all times and on all access routes and roads used by trucks/lorries. Drivers and operators must ensure that these	Contractor	Number of new STD cases; Number of accidents involving members of local communities

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	**Social / Environmental Impact**	**Objective**	**Mitigation**	**Manager**	**Indicator**
Pre-construction and Construction Phases					
			limits are observed for the safety of the population; The emergency services telephone numbers must be easily visible in the contractor's camps and offices; Unauthorized firearms are prohibited on the site; The contractor shall limit access by outsiders the camps and construction sites in order to prevent theft and accidents; The Contract must contain an article in which the contractor is obliged to minimize the risks on the public road, due to the passage of vehicles and equipment of the project; In coordination with Quelimane and Nicoadala Municipal Councils and the traffic police, the contractor should support road safety awareness campaigns along the road undergoing rehabilitation, especially among the most vulnerable population (e.g. children, public transport drivers, etc.).		
• Road safety	Accidents	Avoid accidents during road construction	The contractor should prepare a declaration of methods for traffic control measures for the entry and exit of vehicles from the works	Contractor Resident Engineer	Number of accidents and number of victims

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	Social / Environmental Impact	Objective	Mitigation	Manager	Indicator
Pre-construction and Construction Phases					
			zone, as well as accommodation of traffic on the road to be rehabilitated (Traffic Accommodation Plan), for prior approval by the public prosecutor; The contractor should maintain appropriate visible signs for the benefit of road users at all times, in accordance with the project design and the approved method declaration; During the execution of the work, the contractor must have a trained team of traffic controllers (flags); Hump and speed limit signs should be placed in densely populated areas, schools and hospitals (Quelimane and Nicoadala); Any complaint received by the contractor concerning traffic disturbances must be communicated to the Resident Engineer and should be promptly answered; An education program for the community (especially children and youth) on road safety should be developed and implemented by the contractor's environment officers with the participation of the traffic police.		

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	**Social / Environmental Impact**	**Objective**	**Mitigation**	**Manager**	**Indicator**
Pre-construction and Construction Phases					
Relationship with the community	Conflicts, crimes and prostitution	Reduce the occurrence of minor crimes, conflicts and prostitution	The contractor shall ensure, through a local service provider, that the team is aware of the risks of contracting and spreading sexually transmitted diseases, particularly HIV/AIDS and other STIs, and prevent such risks; The contractor must ensure that condoms are distributed to the workers; The contractor, with the knowledge of the Resident Engineer and the client, should establish liaison committees with affected communities. The committee should include community leaders, representatives of local authorities, representative of the contractor, representative of the Resident Engineer and representative of the client. The Committee shall meet monthly and whenever necessary in order to keep communities informed of the activities that may affect them. Official community leaders are the contact point for the meetings; If necessary, the contractor shall leave information tables in places, quantities, drawings and dimensions requested by the Resident Engineer;	Contractor Resident Engineer	Plan for the awareness campaigns; Condoms distributed; Contract with the service provider; Number of occurrences reported to the authorities

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN					
Subject	**Social / Environmental Impact**	**Objective**	**Mitigation**	**Manager**	**Indicator**
Pre-construction and Construction Phases					
			The contractor should limit the access of strangers to the workplaces, in order to prevent theft; Workers should in no circumstances be an annoyance to neighbouring communities. Any complaint received must be answered and if necessary the people involved should be suspended from the project.		
Emergency procedures	Emergencies	Reduce chances of fires or other emergency situations	The contractor shall submit to the Resident Engineer a method declaration related to the procedures in an emergency situation regarding the most important activities that may lead to emergency situations caused by accident or negligence. The contractor must ensure that the workers are aware of the procedures to deal with emergency situations; The contractor must also ensure the material and equipment required to deal with emergency situations, and the training of the workers on how to use it; The treatment and rehabilitation of the areas affected by emergencies must be done with the approval of the Resident Engineer, at the expense of the contractor when the latter is responsible	Contractor Resident Engineer	Emergency plan Existence of means of fire-fighting

Subject	Environmental/Social Impact	Objective	Mitigation	Responsibility	Indicators
Operation Phase					
Air quality	Air pollution Noise pollution	Reduce the levels of air pollution Reduce the levels of noise pollution	Vehicles must comply with the rules regarding the inspection of their condition; Speed limits should be established close to the population clusters, schools and hospitals.	Traffic police MITADER ANE	
Soil	Erosion Contamination	Avoid erosion Avoid contamination	The elements and structures of the road drainage must be kept in good condition; Erosion protection measures should be implemented in places where there is evidence of erosion.	ANE	
Road safety	Accidents	Reduce the number of accidents	Vertical and horizontal signs shall be kept in good condition; All signs that are damaged, dropped or removed must be replaced immediately; Compliance with the traffic rules must be guaranteed; The population must be made aware of the rules governing the movement and crossing of the road, as well as the importance of road signs.	ANE Traffic Police Community leaders	

TABLE 5.1: - MANAGEMENT PLAN

Measures for Non-Compliance with the ESMP

- ✓ The Environmental and Social Management plan should be an integral part of the project;
- ✓ The non-implementation will be penalized in accordance with the clauses contained in the agreement regarding non-compliance and ESMP fine and penalties in annex 9 of this ESMP. In general, the following penalties should be implemented in any situation of non-compliance with certain measures in the ESMP:
- ✓ A written notification from the resident engineer 10 days after the agreed date for the submission of the monthly environmental reports if there is no written explanation submitted by the environmental officer of the contractor.
- ✓ Failure to submit a declaration of methods for the operations that request it, the Resident Engineer shall immediately suspend activities that are occurring without this approved document.
- ✓ The employer shall be financially penalized if his workers at the workplace do not have their personal protective equipment (gloves, jackets, boots, etc.).
- ✓ The contracted service providers must be penalized by a written note if they do not comply with the methodology approved for the work. In case of recurrence, the Resident Engineer and ANE will decide on the cancellation of the contract.

ANNEX 1: CONSTRUCTION ACTIVITIES THAT REQUIRE METHOD DECLARATION

Activity	Specifications
Access Roads	Open or improve access roads Temporarily rehabilitate access roads
Use of explosives and rock extraction	Details on the use and storage of explosives Details of chemicals applied to rock breaking
Establishment of camps and sites	Location and layout of camps and sites Put fences on camps, sites and restricted areas inside Prepare the areas for the implantation and construction of structures
Concrete and asphalt blending	Location of plants, lay-out and methods used in the preparation of concrete and asphalt design, including methods for the management of surface water in this area
Water contamination	Plan for the management of contaminated water, including procedures for spills and leaks of contaminated water
Demolitions	Demolition methods
Air contamination	Dust control plan
Excavations	Methods for erosion control during excavation operations Methods to be used in excavations, including manual excavation
Emergency procedures	Emergency procedures definitions
Environmental awareness campaigns	Logistics related to the awareness campaigns for the employees and administrative officers, that include content and timing
Erosion control	Methods of erosion control in areas of construction and extraction of natural materials
Fire and dangerous substances	Handling and storage of hazardous substances • Fire emergency procedures • Methods for disposal of hazardous building material including asbestos, fibres, etc.
Fuels and fuel spills	Storage Area Details Method for supplying vehicles and workshops Details of spill clean-up operations

Activity	Specifications
	Refuelling of construction vehicles in high-flow areas
Rehabilitation	Rehabilitation of degraded areas and revegetation after construction works
Rivers	River diverting methods during construction; Details of downstream sediment control methods Details of erosion control in rivers and lowlands Details of crossing means during construction Details on spill management during construction Piles construction Methods.
Solid waste management	Control and removal of solid waste from camps Methods for the removal of cut vegetation and building materials
Material sources	Detail of materials brought in from outside the area (where applicable)
Sensitive environments	Proposed construction methods for sensitive areas (defined by the environmental expert and in the ESMP)
Traffic	Security measures for entry and exit of traffic; Circulation on public roads; Traffic accommodation plans during construction
Vegetation cutting	Deforestation methods
Washing areas	Location of the vehicle wash stations, maintenance and painting workshops.

ANNEX 2: INITIAL INSPECTION TABLE TO BE COMPLETED BY THE ENVIRONMENT OFFICER

Contract No.: _____

Project: _____

Contractor: _____

Date: _____/_____/_____ filled by: _____

Environmental Issues	Yes /No /N.A	Comments	Action
Negotiations and compensations with the affected parts were carried out satisfactorily.			
The declaration of methods for opening slopes and areas for waste disposal were approved.			
The contractor submitted to the Resident Engineer the construction program for approval.			
The local communities in the neighbouring areas were informed of the program at the beginning of the works.			
The contractor's camp project was elaborated, submitted and approved by the Resident Engineer.			
Sealing of work areas have been placed according to specifications.			
Access roads and equipment parking areas were established and clearly flagged.			
Existence of the ESMP copy in the camp.			
Phone numbers for emergencies are identifiable			
Sensitive areas and restricted access areas are marked.			
Water sources to be use at the construction work are identified and approved.			
There are adequate sanitary facilities			
Established and approved solid waste management system.			

Environmental Issues	Yes /No /N.A	Comments	Action
Wastewater management system is defined and established.			
Mechanisms for controlling pollution by hazardous substances have been established			
All workers have individual safety equipment			
Firefighting equipment exists and is in good condition.			
The contractor developed an environmental education plan for the employees			

ANNEX 3: ROUTINE INSPECTION FORM

Contract No.: _____

Project: _____

Contractor: _____

Date: _____/_____/_____ filled by: _____

Environmental Issues	Yes /No /N.A	Comments	Actions
Contractor and worker camps are clean to acceptable levels			
Solid Waste Control and an established and functioning collection system			
Maintenance of fences, if necessary			
Sufficient firefighting equipment and in good condition			
Disturbance of areas not accessible to strangers, removal of forest areas was avoided			
The construction vehicles are in good mechanical condition, with no spills observed			
Fuels and other flammable materials are stored in accordance with the fire protection recommendations and requirements			
Pollution of groundwater in excavation zones controlled			
Water removal follows the ESMP specifications			
Dust control measures are being implemented.			
Erosion control measures are being effectively controlled and implemented.			
Stored material and surface soils are to be handled according to the ESMP			
Cutting or pruning of trees was approved by the Resident Engineer			
No wild animals were killed by workers			

Environmental Issues	Yes /No /N.A	Comments	Actions
The work areas were approved by the Resident Engineer and demarcated			
Swampy areas were avoided where possible			
• Noise control measures established (where necessary - schools, hospitals - Nicoadala) and work efficiently			
All new employees in the workplace are aware of the ESMP and have had a training on the ESMP			
All fines or penalties were recorded in the workbook			
The ESMP is part of the monthly meeting agenda			
Advertisements for interruption of services (electricity, water, communications, etc.) were given in an appropriate manner.			
Actions to stimulate local and regional economy and capacity building are being implemented;			
Public complaints were received and considered;			
Other			

ANNEX 4: DEACTIVATION INSPECTION FORM

Contract No.:_____

Project: _____

Contractor: _____

Date: _____/_____/_____ filled by: _____

	Environmental Issues	yes/No/N.A	Comments	Action
Demobilisation of the area				

ANNEX 5: SLOPE IDENTIFICATION

[Done by the contractor for the environment specialist]

Operation Stage Report – Date: …… Month……..year……

[There is a Slope Rehabilitation Plan]

Slope Nr. …….

Slope Location (km) ……

	Item	Unity	Details	Comments
	Slope operation starting date (dd/mm/year)			
	Slope total capacity	m^3		
	Use of actual land			
	No. of people living 500m from the slope	No.		
	No. of communities living 200m from the road accessing the slope	No.		
	Slope size	Km^2		
	Distance to the closest water course	Km		
	Quantity of surface soil removed	m^3		
	Details of the surface soil preserved			

Certificate that all information is correct and the form is accompanied by the necessary documents.

Environmental Specialist Contractor

(Supervising Company)

ANNEX 6: INFORMATION ON THE LOCATION AND ESTABLISHMENT OF CAMPS FOR THE EMPLOYEE

[Reported by the contractor for the PIU after the environmental specialist certification]

Construction stage report – Date: …… Month ……. ……..Year……

[Layout of the campsite and work areas attached with the form]

Campsite Location (km _____)

	Item	Unity	Details	Comments
	Campsite Details			
	Campsite area	m^2		
	Distance from the closest house/neighbourhood	m		
	Owner			
	Distance from the water source	m		
	Date in which the camp will receive the employees (dd/mm/year)			
	Current use of the land			
	Trees with 30 cm diameter	No.		
	Details on the removed surface soil			
	Removed soil quantity	m^2		
	Description of the type of soil removed			
	Details of the workforce			
	Total number of employees	No.		
	Total number of male employees	No.		
	Total number of employees with the age bellow 18	No.		
	Total number of female employees	No.		
	Total number of female employees with the age below 18	No.		
	Number of children	No.		

	Item	Unity	Details	Comments
	Details of each compartments			
	Number of compartments	No.		
	Minimum size of the compartments	m^2		
	Number of doors per compartment	No.		
	Minimum doors size	No.		
	Walls	Specify		
	Roof	Specify		
	Floor	Specify		
	Drinking water tank	Specify		
	Capacity of the drinking water reservoir	m^3		
	Size of the drinking water reservoir	m^3		
	Total number of toilets	No.		
	Number of male toilets	No.		
	Size of the toilet	m^2		
	Number of female toilets	No.		
	Size of septic tank	m^3		
	Capacity of the reservoir for the toilets	m^3		
	Details about the facilities			
	Existence of security guards 24hours a day	S/N		
	Campsite fence	S/N		
	Existence of a first aid unity/post	S/N		
	Existence of health centres	S/N		
	Existence of fire protection systems (extinguishers) where the employees are gathered and at the workplaces	S/N		

Environmental Specialist (Supervising Company) | Contractor

ANNEX 7: ROAD SAFETY REPORT

[Draft of the construction area showing the location attached]

Construction stage report – Date: …… Month ……. ……..Year……

Work area No.___ Location (km____)

	Item	Unity	Length (S/N)	Comments
	Details of the construction area			
	Size of the construction area	km		
	Distance between this and the next construction area	km		
	Size of the subarea transition (it should be minimum of 50m to a maximum of 50 km /hr.)	m		
	Size of the subarea in the urban areas (it should be<2 km)	m		
	Size of the work in the subarea in the rural areas (5-10 km)	Km		
	Work distance between the two subareas	Km		
	Signs in the construction area			
	Sign saying “works in progress” placed one km from the transition area			
	Additional signs indicating detours (if any)			
	Signals of “closed road ahead”			
	Compulsory signs for turning right or left			
	Speed limits signals installed			
	Signals close to the working areas			
	Signals about ‘Keep left/right’			
	Highlights throughout the transition zone			
	Signals in the working zone			

	Item	Unity	Length (S/N)	Comments
	Danger signs installed where there are works being done and where de detours start			
	Barricades on working places			
	Signals at the end of working areas			
	Signals indicating the end of the working area at least 120m from the working zone			

Certificate that all the information is correct and accompanied by the necessary documents.

Environmental Specialist Contractor

(Supervising Company)

ANNEX 8: TABLE FOR THE REPOSITION OF DEGRADED AREAS

Report – Date: …… Month ……. ……..Year……

	Point	Location (km)	Unity(m^3)	Quantity of surface soil (m^3)	Comments
	Reposition of surface soil in the campsites				
	Reposition of surface soil in the slopes				
	Reposition of surface soil in the construction areas and landfills				

Certificate that all the information is correct and accompanied by the necessary documents.

Environmental Specialist Contractor

(Supervising Company).

ANNEX 9: FINES AND PENALTIES

The contractor is obligated under this contract to implement this specification and the ESMP. In any case that the contractor does not comply will be fined. The fine is defined as a percentage of the total cost of the ESMP implementation. On the reporting side the ESO of the engineer shall report also about the implementation of these activities selected to be subject to fine.

Typical incident subject to a fine	**Management measures**	**Value of fine (USD)**	**Fine value %**	**Grace period for compliance**
Contractor Environmental and Social Management Plan (CESMP)	Elaboration of CESMP		2	15 days to elaborate
Lack of demarcation of the work place.	Demarcation of the area suitable for implementing the project.		0.05	21 Days to rectify.
Lack of facilities and adequate sanitation services and waste treatment.	Educating workers to make the separation of waste and proper treatment to improve sanitation conditions.		0.04	7 Days
Inefficient education of the team members in relation to environmental issues, site maintenance works and ITS HIV and. AIDS	Contact a service provider, that have experience in project work in order to safeguard the health of workers and residents in the project area.		0.08	15 Days
	It is necessary to give lectures to raise awareness, environmental education and measures to prevent STI, HIV and AIDS workers.			
Pollution of water bodies and soil.	Minimize excavation and destruction of vegetation near the river banks or slopes.		0.09	N
	Avoid stock piling of granular materials (surface soils, sand massive breakdown etc.) Areas susceptible to flooding during the rainy season.		0.06	N
	Ensure that the water sources of the camp (holes etc.) Do not interfere with existing sources (community).		0.02	5 Days
	Inappropriate use of adjacent courses and other bodies of water, eg by unauthorized deviations, washing of vehicles, to undo if liquid waste and for personal use in cleaning.			
	Avoid releasing waste (construction, sewage, water contaminated with oil, etc.) Water courses.		0.08	N

Typical incident subject to a fine	Management measures	Value of fine (USD)	Fine value %	Grace period for compliance
	Monitor the activities wich could increase the suspended solid material		0.01	N
	Adopt best practices for temporary control of erosion during the construction phase. Avoid water pollution (for pile of earth that is usually placed to reduce the phenomenon of erosion).		0.07	7 Days
Oil and fuel leaks.	Minimization of impacts resulting from oil spills and fuel on the ground.		0.07	7 Days
	Minimization of impacts arising out of the repair machinery.		0.06	3 Days
Inappropriate use of litter bins and poor treatment of waste off-site construction.	Should ensure the collection and processing of waste when the container is full to prevent the transfer of the waste that will worsen the health of the population and will alter the aesthetic quality of the project area.		0.05	2 Days
	Mitigation measures to avoid contamination of watercourses.		0.003	N
	It is necessary to ensure that there is water and appropriate places to make washing vehicles, cleaning personnel, etc.		0.001	2 Days
Fires.	Avoid uncontrolled bush fires, wildfires costs shall be borne by the contractor, to prove their responsibility.		0.06	3 Days
	Provide extinguishers in all offices and areas susceptible to fire.			
Failure to provide equipment for emergency situations.	Use of equipment for emergency situations.		0.09	3 Days
Failure to keep track of incidents on the site.	Records of all incidents in the project area.		0.06	1 Day
Building construction site.	The contractor will be penalized due to construction or non-removal sites throughout the agricultural land and near the water lines.		0.04	7 Days
Discharges of waste oils.	The contractor will be penalized due to discharges of oil in inappropriate places, eg (waste oils, waste materials, etc.).		0.09	7 Days

Typical incident subject to a fine	Management measures	Value of fine (USD)	Fine value %	Grace period for compliance
The lack of signs indicating the alternative access during construction, or other signs indicating that there are roadworks.	Placement of signage at all locations required. Possibility of accidents due to lack of signage.		0.07	3 Days
Erosion and loss of productive land.	Minimize surface areas of devastation.		0.01	21 Days
Soil compaction.	Avoid large-scale earthworks during the rainy season severe.		0.01	N/A
Dust and engine emissions vehicles.	Avoid cutting slopes, excavating trenches and landfills.	To cut landfill too prepared.	0.002	N/A
	Greater use of existing road material as much as possible in order to minimize the use and exploration areas.	virgin material for use beyond the existing	0.01	N/A
	Place vegetation in areas that have been affected by erosion as soon as possible.		0.002	21 Days
	Heap and reuse topsoil and topsoil particularly the extension of landfills.		0.002	7 Days
	Rehabilitate borrow pit after the construction phase of pushing back the debris and reduce the slopes of the chambers of the loan.		0.03	15 Days
Noise of the engines of vehicles.	Rake soil that have been compressed by project vehicles for the transport of materials and work in the project area.	0.01% ditch is not rehabilitated.	0.01	7 Days
	Sprinkle water in the soil mix of local limestone and temporary access to less than 300 meters of resettlement.		0.02	N/A
	Cover the entire load of granular material to minimize dust emissions (as well as risk of stroke).		0.02	N/A
	Find places of business outside and downwind in relation to resettlement.		0.05	7 Days
	Suspend construction activities during periods of high wind and in sensitive areas eg hospitals, schools and villages.		0.02	N/A N
	Avoid burning of vegetation and waste during construction.		0.02	N/A
	Reforest the areas near the roads to filter pollution.		0.02	7 Days

Typical incident subject to a fine	Management measures	Value of fine (USD)	Fine value %	Grace period for compliance
	Find offices, parking areas for fixed equipment eg cranes and compressors in the grounds of the camp and outside the population.		0.04	7 Days
	Run the transport of materials and mechanized construction activities during normal business hours and in accordance with the Labour Law No. 23/2007 of 1 August 2007.		0.02	N/A
	Ensuring proper maintenance and calibration of equipment to ensure the lowest possible noise operation, before the arrival of equipment and machinery in the workplace.		0.04	7 Days
	Train all drivers and operators on the use of driving techniques such as eg braking and smooth acceleration that minimizes the noise of vehicles and equipment.	For training is not given during two days of recruiting staff.	0.02	7 Days
	To adopt mitigation measures to safeguard the species, especially those that are endangered.		0.05	N/A
Reduction of species diversity.	It is necessary to seek to avoid areas that are not violated and areas outside the "Row" project for the right of precedence of the state. You should pay more attention trying to avoid the disturbance particularly in closed and open woodlands.		0.05	N/A
Changes in the structure of native vegetation.	It is necessary to avoid whenever possible the removal of vegetation and if the removal is made and needed to plant, trees as close as possible.	No documentation for the observance of the rites or not (if necessary).	0.05	N/A
Access to employment of local people in the project area and training opportunities, limited mainly in women.	Ensure that 100% of unskilled workers (temporary or permanent) are in the area, and 25% are women		0.06	21 Days
Children workers.	It is prohibited the recruitment of children in activities related to execution of the works of the road, unless approved by the engineer.	And over the legal consequences.	1	7 Days

Typical incident subject to a fine	Management measures	Value of fine (USD)	Fine value %	Grace period for compliance
Risk of traffic accident in highway construction.	Driving a car has to be during the day and a maximum speed of 60 km/h in construction zones.		0.002	N/A
Safety and health of the community.	Make appropriate signs all around the workplace to prevent accidents involving users of the highway.		0.02	N/A
	Ensure the availability of fire fighting equipment in all workplaces and workers' camps.		0.002	N/A
	Ensure that workplaces are kept 24 on 24 to prevent the crossing, especially children.		0.002	N/A
	Keep the two directions of traffic whenever possible.		0.01	1 Day
	Install comprehensive security measures in the construction of roads.		0.01	7 Days
Road safety.	Admitting NGO to carry out road safety campaigns in the villages and towns throughout the project.	For lack of campaign one month after starting work).	0.01	21 Days
	When the work is done close to hospitals, schools or densely population, identify an employee to warn the population of the realization of a particular work.		0.01	1 Day
	Install clearly marked crossing points at the intersections of higher traffic.	By not consulting).	0.01	7 Days
	Build barriers between roads/ berms and locations of large agglomerations.	(by not consulting)	0.01	21 Days
	Give employees training on occupational diseases and provide workers with tools for personal protection (gloves, masks, boots, helmets, ear protection, view etc.).		0.05	7 Days
	Ensure that the workers' camps, food, kitchen, and bathrooms are in acceptable sanitary conditions using appropriate disinfectants.		0.003	2 Days
Safety and occupational diseases.	Carrying out medical examinations (including hearing, vision, voluntary testing for HIV/ AIDS at all construction workers).	checks not carried out during two days of recruiting staff.	0.002	7 Days
	Ensuring the presence of officers trained in first aid.	75	0.02	N/A
	Provide mosquito nets to all workers.	60	0.01	3 Days

Typical incident subject to a fine	Management measures	Value of fine (USD)	Fine value %	Grace period for compliance
Discontent of the public due to inappropriate behaviour of construction workers.	Promote lectures to workers include behavioural rules (behaviour worker/worker and worker/ population).	45	0.003	N/A
	Ensure the availability of fire fighting equipment being maintained by competent services, all supervisory staff should also master the use and utilization.	75	0.02	N/A
Pressure on health services due to the influx of population.	Delivering first aid training to all supervisors sector and ensure the availability of first aid kits.	For the training is not given during two days of recruiting local supervisors.	0.003	7 Days
	Ensuring adequate stocks of first aid equipment at all times and in all sectors subject to a daily inspection by the inspector sector.		0.003	1 Day
	Ensuring availability of emergency evacuation plans.		0.02	7 Days
Trafficking in women and children.	Increase surveillance system (police) to prevent the trafficking of women and children in the area of road construction.	For implementation not started one month after the start of work.	0.01	15 Days
	Use of sealed containers for dangerous substances.		0.01	7 Days
	Ensure the availability of equipment and materials appropriate for dealing with spills.		0.002	7 Days
	Use of cans collected during maintenance.		0.002	7 Days
	Cover the floor of the storage areas with toxic sealing surface to prevent penetration of spilled on the ground.		0.01	7 Days
Soil contamination.	Prepare and implement waste management plans on all construction sites and workers' camps.		0.05	7 Days
	Biodegradable waste should be buried in pits at least 2m and 50m away from sensitive receptors (homes, rivers, drainage channel) once covered the hole with the original soil, replanting should proceed.	Management (non-compliance with waste management).	0.04	14 Days
	Immediately clean up oil spills. Remove and collect the soil		0.0001-0.003	5 Days

Typical incident subject to a fine	Management measures	Value of fine (USD)	Fine value %	Grace period for compliance
	contaminated with waste oil for disposal.			
	Conservation of oil burned in barrels sealed visible, clearly labeled, located outside of sensitive areas and properly fenced and placed on pallets of wood flooring based on PVC.		0.01	7 Days
	Awareness among construction workers, road users and communities about the inappropriate use of waste.	Training is not given during two days of recruiting staff.	0.01	7 Days
Waste	Efficient management of waste in places of work and workers' camps, these measures include: collect and store organic household waste, due to the treatment of toxic, corrosive, flammable, tires, scrap metal and oil filters should be clearly visible and should be placed in a sealed enclosure, health post waste must be treated in accordance with Articles 6,8,9,14,17 and 18 Decree n. 8/2003 of February.	For the waste management plan is not prepared one month after the start of work.	0.05	15 Days
Total fine (%)			5.064	

ANNEX 10: EMPLOYER'S CHILD PROTECTION CODE OF CONDUCT

To Be Signed by All Employees, Sub-contractors, engineer, and Any Personnel thereof

I, _____ agree that in the course of my association with the Employer, I must:

- treat children with respect regardless of race, colour, gender, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status;
- not use language or behaviour towards children that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate;
- not engage children under the age of 18 in any form of sexual intercourse or sexual activity (other than in the context of legal unions that took place between parties under the laws of the country), including paying for sexual services or acts;
- wherever possible, ensure that another adult is present when working in the proximity of children;
- not invite unaccompanied children into my place of residence, unless they are at immediate risk of injury or in physical danger;
- not sleep close to unsupervised children unless absolutely necessary, in which case I must obtain my supervisor's permission, and ensure that another adult is present if possible;
- use any computers, mobile phones, video cameras, cameras or social media appropriately, and never to exploit or harass children or access child exploitation material through any medium;
- not use physical punishment on children;
- not hire children for domestic or other labor which is inappropriate given their age or developmental stage, which interferes with their time available for education and recreational activities, or which places them at significant risk of injury;
- comply with all relevant local legislation, including labor laws in relation to child labor;
- immediately report concerns or allegations of child exploitation and abuse and policy non-compliance in accordance with appropriate procedures;
- immediately disclose all charges, convictions and other outcomes of an offence, which occurred before or occurs during my association with the Employer that relate to child exploitation and abuse.

When photographing or filming a child or using children's images for work-related purposes, must:

- assess and endeavour to comply with local traditions or restrictions for reproducing personal images before photographing or filming a child;
- Obtain informed consent from the child and parent or guardian of the child before photographing or filming a child. As part of this I must explain how the photograph or film will be used;

- ensure photographs, films, videos and DVDs present children in a dignified and respectful manner and not in a vulnerable or submissive manner. Children should be adequately clothed and not in poses that could be seen as sexually suggestive;
- ensure images are honest representations of the context and the facts;
- ensure file labels, meta data or text descriptions do not reveal identifying information about a child when sending images electronically or publishing images in any form;

I understand that the onus is on me, as a person associated with the Employer, to use common sense and avoid actions or behaviours that could be construed as child exploitation and abuse.

Signed:

Date: